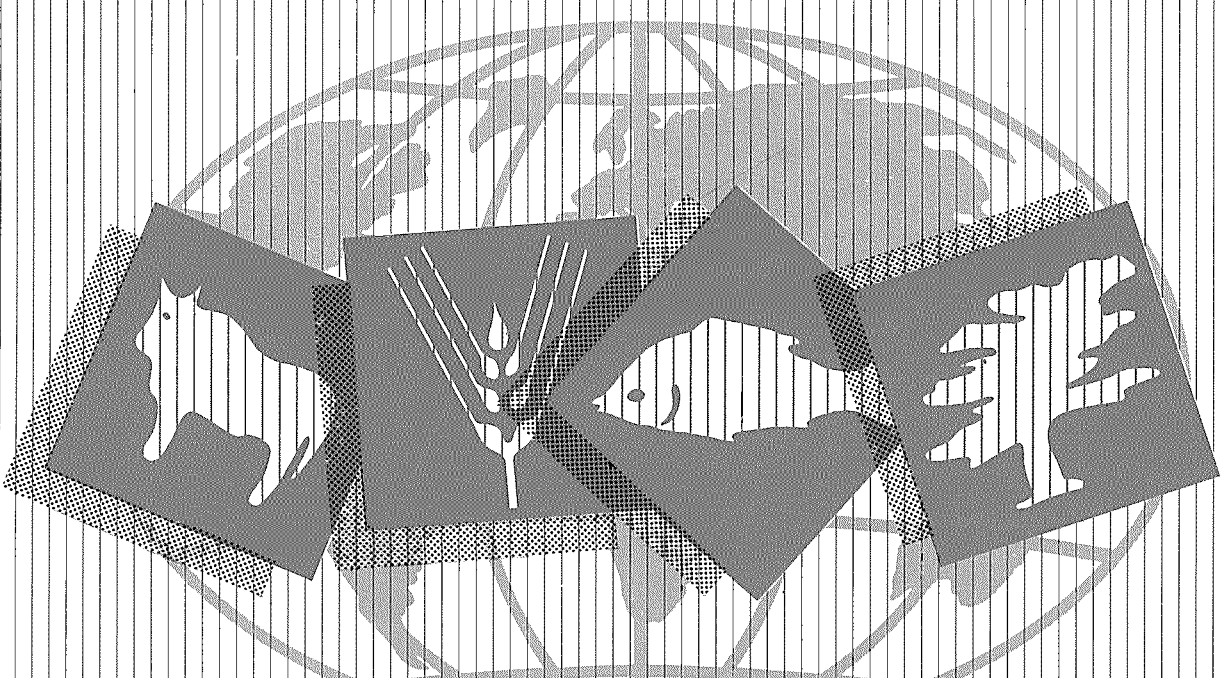
1991

THE STATE OF FOOD AND AGRICULTURE

World and regional reviews
Agricultural policies and issues:
lessons from the 1980s
and prospects for the 1990s



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Special chapters

In addition to the usual review of the recent world food and agriculture situation, each issue of this report from 1957 has included one or more special studies of problems of longer-term interest. Special chapters in earlier issues have covered the following subjects:

1957
Factors influencing the trend of food consumption
Postwar changes in some institutional factors affecting agriculture

1958
Food and agricultural developments in Africa south of the Sahara
The growth of forest industries and their impact on the world's forests

1959
Agricultural incomes and levels of living in countries at different stages of economic development
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Raising agricultural productivity in developing countries through technological improvement
Improved storage and its contribution to world food supplies

1969
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1990
Structural adjustment and agriculture

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
Rome, 1992

The statistical material in this publication has been prepared from the information available to FAO up to August 1991.

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of the Food and Agriculture Organization of the United Nations concerning the legal status of any country, territory, city or area, or of its authorities, or concerning the delimitation of its frontiers or boundaries. In some tables, the designations "developed" and "developing" economies are intended for statistical convenience and do not necessarily express a judgement about the stage reached by a particular country or area in the development process.

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Foreword

While every year presents a mixed picture of positive and negative features, 1991 in particular has been marked by sharply contrasting developments. It was a year of extraordinary instability in the international scene, with economic shocks, political convulsions and a major armed conflict casting uncertainty over the global economic and policy environment. At the same time, however, it was in many respects a year of positive change. The process of historical transformation in the former centrally planned economies gained momentum, along with international *détente* and improved collaboration between East and West, peoples' rights to self determination increased. In the developing world, several countries adopted or consolidated democratic regimes; for some, there were signs that their strenuous structural adjustment efforts would be rewarded; regional or subregional integration and cooperative arrangements were strengthened; and significant steps were taken to repeal the cornerstones of apartheid legislation. These developments have radically altered our perception of the current state of affairs from that of only a few years ago. Despite the enormity of the challenges and uncertainties still facing the world, optimistic expectations have strengthened on the basis of a more peaceful, cooperative and prosperous pattern of international relations.

The momentous events in Eastern Europe and the USSR attracted intense international attention. These countries' transformation into market-based economic systems has been pursued, indeed accentuated, despite growing economic, social and institutional problems and, in some countries, dramatic political events. The dismantling of their previous economic structures and the ensuing disruptions in production and distribution systems have not spared the agro-food sector. Severe shortages of even the most essential products such as food manifested themselves in some of these countries. In the USSR the pace of change has been further accelerated but has been accompanied by growing difficulties and uncertainties.

It is a daunting challenge — but one that must be confronted — for Eastern European countries to maintain the momentum of reform until new economic, financial and legal structures are consolidated; factor productivity and consumer sovereignty improve; and growth and welfare enter a self-sustaining phase. The international community must collaborate decisively in this undertaking, particularly through technical aid and food credit assistance, should the need arise. What is at stake is not only the future welfare of the region's populations, but the consolidation of hard-won gains in international relations.

The year 1991 also witnessed armed conflict in the Gulf which left behind it a range of major problems in the countries directly involved: untold human suffering, shattered economies, environmental damage, shortfalls in food supply and greatly weakened food security. It also transmitted destabilizing and recessionary shock waves worldwide, which were perhaps less severe than had been feared, but still serious enough to threaten many already precarious developing economies.

These developments transcend agriculture but their implications for global and regional food security hardly need emphasizing. At the global level, they place heavy additional demands on the world's pool of technical, financial and food aid resources. Indeed, a major current concern is the possibility of a global shortage of the savings required to satisfy such demands. It is our hope that, as the previous political and ideological barriers break down and expectations of recovery from recession in developed countries are realized, the ensuing peace and growth "dividends" will eventually allow these additional needs to be financed.

Under no circumstance, however, should the international community abdicate or curtail its responsibilities to the poor countries and people. Worrying features in this context are the fact that official aid to development has been stagnating in real terms, while multilateral commitments of external assistance to agriculture continued their downward trend in 1990. Whatever the resources mobilized to restore war-wrecked economies and help Eastern European economies out of their transitional economic malaise, the overall assistance effort in favour of developing countries must not be truncated. This necessity is dictated by the stark reality that the economic, social and food security situations of many developing countries are worsening rather than improving and, consequently, their assistance requirements increasing rather than diminishing.

Adverse forces in 1991 — civil unrest, natural disasters, a generally unfavourable international economic environment and inadequate domestic policies — have continued to prevent recovery in much of the developing world. In several countries, particularly in sub-Saharan

Africa, economic and social regression appears increasingly difficult to arrest, economic survival having priority in these countries' policy agenda rather than objectives of development, equity and environmental protection. The number of poor, particularly the rural poor, increased during the 1980s and there are grounds to fear that the trend has continued, if not worsened, in more recent years. Many developing countries, mainly in Africa and Latin America and the Caribbean, have suffered years of decline in per caput incomes and their agricultural sectors have shared in the overall negative performance. For both regions, 1990 was a bad year for agricultural production, and prospects for 1991 provide little encouragement. Severe food shortages and even the threat of widespread famine are currently affecting large populations in Africa, particularly the horn of Africa, but also some other developing countries.

The current world cereal situation, characterized by tight market conditions, relatively high international prices, low global stock levels and uncertainties surrounding future import requirements — particularly of the USSR — raises concern for the food security prospects of many food-deficit countries. At the same time, food insecurity in many low-income countries is essentially a manifestation of the problems of inadequate access to supplies by the poorer population groups.

Among the many factors, old and new, that have caused the economic and social problems of the 1980s to continue into 1991, I must once again call attention to the persisting problems of deteriorating terms of trade, weak markets for non-oil commodity exports and external debt problems that act as severe constraints on the economic growth and welfare of many developing countries. While acknowledging the merits and, indeed, achievements of debt-relief and debt-forgiveness schemes and initiatives, not all heavily indebted countries, and not necessarily those most in need of debt relief, have benefited from these measures to an appropriate extent. For many developing countries, there is only one sound way to tackle the debt problem and to progress along the path to recovery: this is to generate trade surpluses that are based on export expansion rather than import contraction. However, this course remains barred by the decline in prices of key agricultural commodities and barriers to exports of these commodities, resulting from the excessively high level of support and protection given by many industrialized countries to their own agricultural sectors.

The stakes involved in the Uruguay Round of multilateral trade negotiations under GATT are extremely high. It would be a sad irony if the inclusion of an agricultural dimension to the Uruguay Round, which represented its most distinctive feature and raised the highest expectations among many agricultural trading countries, should be the main cause of its failure. At this point in time, when the Uruguay Round of negotiations has reached a crucial stage, I must once again underline the importance of its rapid and successful conclusion in order to develop a more open, viable and durable trading system that will promote economic growth and development to the benefit of all countries. Commitment to this undertaking should not be eroded by regional or other forms of trading arrangements, regardless of their individual merit in promoting bilateral or intraregional trade.

This year's Special chapter of *The State of Food and Agriculture* deals with agricultural policies and issues, based on the lessons from the 1980s, and assesses the prospects for the 1990s. The 1980s will perhaps be remembered first from the widely quoted epithet that describes them as a decade "lost to development". However, it was also a decade of considerable achievement, at least in some parts of the world. Between the recessionary phase of the early 1980s and that of the beginning of the 1990s, the developed world enjoyed an exceptionally long period of economic growth and stability accompanied by much greater integration. Several developing countries, mainly in Asia, made remarkable headway in fundamental areas of development, not least in food and agriculture. Many others moved toward a more liberal and efficient approach to development. These and other developments are reviewed in the Special chapter in the context of their influences on food and agriculture in the various developed and developing country regions.

In reviewing the policy challenges and opportunities for the 1990s, Part III of the Special chapter focuses on three important issues: poverty, the environment and agricultural trade. Although these issues have been at the heart of the challenge facing the international community for a long time, their importance has gained widespread recognition during the past decade in the light of disturbing trends and developments. As we enter the last decade of the millenium, extreme destitution on a massive and growing scale derides our technical and scientific accomplishments. The destructive exploitation of our ecosystems, which in many developing country situations is inextricably linked to the poor's struggle for survival and to external debt, also raises the crucial question of what the sustainable limits to humankind's interaction with nature are as well as how close we have come to these limits. The high cost, including the environmental cost, of agricultural support and protection measures in many developed countries clearly shows the need for a significant revision, in line with the objectives of the Uruguay Round, of the support and trading systems governing agriculture.

It is my hope that, in highlighting these issues, this year's Special chapter will contribute to an increased awareness of, and help foster appropriate policy responses to, the formidable challenges faced by the world in the key food and agricultural sector in this closing decade of the twentieth century.

Edouard Saouma
DIRECTOR-GENERAL

Main events relating to food and agriculture

3-7 December 1990
GATT Ministerial Meeting (Brussels)

Over 90 ministers and about 1 500 delegates met in Brussels to negotiate final agreement texts in three problematic areas — agriculture, trade-related investment measures and anti-dumping action. Negotiation positions remained rigid on agriculture and it became evident that it would not be possible to conclude the Uruguay Round without an agreement on agriculture. The Trade Negotiations Committee was asked to reconvene in the beginning of 1991 and attempt to conclude the round.

14-15 December 1990
European Council (Rome)

At a meeting in Rome, the European Council agreed to supply emergency food and medical assistance of up to ECU 750 million to the Soviet Union and to grant ECU 400 million in 1991 in technical assistance supporting the reorganization of the Soviet economy.

December 1990
The Andean Pact

Bolivia, Colombia, Peru and Venezuela agreed to eliminate all tariffs within the Andean Pact regional market by 1 January 1991 and to establish common external customs duties by 1995.

5 January 1991
Agreement to dismantle the CMEA (Moscow)

The nine member countries of the Council for Mutual Economic Assistance (CMEA) agreed to dismantle the organization.

20-21 January 1991
Group of Seven finance ministers meeting (New York)

Finance ministers and central bank governors of the seven major industrialized countries (G7) met to review economic policies and global financial markets in light of the Gulf crisis. The group agreed to grant Egypt and Poland a reduction of 33 to 40 percent of their debt, with details to be worked out within the Paris Club framework.

15 March 1991
Paris Club of creditors reduce Polish debt (Paris)

Under the first agreement to be made in favour of a middle-income country, the Paris Club governments reduced the $33.3 billion of outstanding claims on the Polish Government by at least 50 percent — and by 30 percent over the next three years. The agreement is supplemented by a voluntary debt-swap facility which could represent 10 percent of the claims.

26 March 1991
Treaty of Asunción

The presidents of Argentina, Brazil, Paraguay and Uruguay signed the Treaty of Asunción to create a Southern Cone Common Market (MERCOSUR) beginning 1 January 1995. The central aims are: i) the free circulation of goods, services and factors of production; ii) common external tariffs and trade policies *vis-à-vis* third countries; and iii) economic policy coordination between member states.

8 April 1991
United States/Venezuela trade and investment agreement

As a further step toward setting up a free zone for the Americas, the United States Government signed a framework agreement with the Venezuelan Government to expand bilateral trade and investment, also involving the creation of a joint economic council.

15 April 1991
Inauguration of the European Bank for Reconstruction and Development (EBRD) (London)

The EBRD was inaugurated by its 41 shareholders (39 governments, including those of all East European countries except Albania, the EC Commission and the European Investment Bank). The EBRD aims to foster the transition to open market economies and promote private-sector initiatives in Eastern and Central Europe. In the first five years, the Bank plans to devote 60 percent of its resources to the private commercial sector (including privatizations) and 40 percent to improving public infrastructure and rehabilitating the environment.

15-19 April
The Den Bosch Declaration and agenda for action (the Netherlands)

The FAO/Netherlands Conference on Agriculture and the Environment discussed the strategies and tools for sustainable agriculture and rural development (SARD), with particular reference to the developing countries. Senior experts from 124 countries, 17 intergovernmental organizations, 23 non-governmental organizations and 25 independent organizations attended. The conference concluded with the Den Bosch Declaration which defines the essential goals of SARD, contributing to the preparation for the UN Conference on Environment and Development in Brazil in June 1992.

22 April 1991
Gulf Cooperation Council (GCC) establishes development fund

The GCC member states — Bahrain, Kuwait, Oman, Quatar, the Kingdom of Saudi Arabia and the United Arab Emirates — agreed in principle to set up a development fund with an initial capital of $10 billion for ten years to assist private sectors in countries affected by the Gulf war.

29 April 1991
Group of Ten report on Central and Eastern Europe (Washington)

Ministers and central bank governors of the Group of Ten industrialized countries (G10) endorsed the report, Issues Raised by the Transition in Central and Eastern Europe, prepared by the Group of Deputies. The report stressed the following points:
- the primary responsibility for assisting with macro-economic stabilization policies should remain with the IMF and the responsibility for structural reforms with the IBRD, in close coordination with the EBRD, while responsibility for conditionality should be shared between the IMF and the IBRD;
- exceptional official balance-of-payments assistance must be limited and temporary, while official support, although likely to extend well into the medium term, cannot automatically be used to fill private financing gaps;
- debt relief should be available as part of the financing of reform programmes only when necessary — the Paris Club relief package for Poland represents a special case.

25 May 1991
Debt relief in favour of Egypt (Paris)

The Paris Club governments agreed to write off over three years at least one-half of their $20.2 billion of outstanding claims on the Egyptian Government, provided conditions agreed with the IMF are met. The remaining debt is to be rescheduled on favourable terms, including a 30 percent cut in interest payments.

3-5 June 1991
African Economic Community (AEC) established (Abuja, Nigeria)

The Organization of African Unity (OAU) established the AEC, outlining the objectives of the newly formed community in a 79-page document. During its first five years the AEC aims to strengthen the existing regional economic communities. An eight-year period has been established to stabilize existing tariff and non-tariff barriers, customs duties and internal taxes in each of the regional communities. Eventually, a free trade area is expected to be created, with a common market and a common agricultural policy.

4-5 June 1991
Ministerial meeting of the Council of the OECD (Paris)

Ministers from the OECD countries acknowledged limited progress in agricultural reforms since 1987. The ministers noted that support to agriculture, as measured by producer subsidy equivalents (PSEs), increased in 1990 after having declined in 1988 and 1989. The OECD Secretariat estimated transfers from taxpayers and consumers at nearly $300 billion for 1990, slightly above the 1987 peak. The ministers confirmed their commitment to substantial progressive reductions in agricultural support and protection in the context of the GATT Uruguay Round.

5-8 June 1991
World Food Council Ministerial Session (Helsingør, Denmark)

The 17th Ministerial Session of the World Food Council issued a report emphasizing practical ways to realize hunger and poverty alleviation objectives, stressing the need for a new green revolution and highlighting the importance of a successful conclusion to the Uruguay Round of multilateral trade negotiations (MTNs). The 36 member states focused much of their discussion on the situation of the 45 million people, of whom 30 million are in Africa, threatened by famine as a result of war, civil strife and natural disasters and by chronic hunger and malnutrition.

29 June 1991
International Finance Corporation (IFC) (Washington)

Following a compromise agreement between the United States and other major shareholders, allowing the IBRD to lend directly to the private sector without government guarantees, the IFC (which lends to the private sector in developing countries) approved a capital increase from $1.3 billion to $2.3 billion. This should enable the IFC to expand project approvals from $1.5 billion to $4 billion a year by the end of the century.

July 1991
Central American trade agreement (El Salvador)

The Central American Presidents' Summit announced the elimination of tariff barriers on trade in basic grains by the end of 1991. In addition, the countries of the region plan to abandon duties on all agricultural produce by June 1992.

22-26 July 1991
Southeast Asian free trade agreement (Malaysia)

Foreign Ministers from the member states of the Association of Southeast Asian Nations (ASEAN) proposed forming a free trade area by 2000. The free trade area would not only include the ASEAN members of Brunei Darussalam, Malaysia, Singapore, the Philippines and Thailand, but also Cambodia, Laos, Myanmar and Viet Nam.

17-26 September 1991
The Tenth World Forestry Congress (Paris)

More than 2 500 participants from 136 countries met to promote the theme, Forests, a heritage for the future, at the Tenth World Forestry Congress. *Inter alia,* the Tenth Congress recommended that the designation of endangered forest areas as protected zones continue; that appropriate silvicultural techniques, the extension of woodlands and the long-term use of wood be used to contribute to the absorption of atmospheric carbon dioxide; and that agroforestry systems, afforestation and reforestation be developed more actively.

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Glossary

ACP	African, Caribbean and Pacific States
AEC	African Economic Community
AfDB	African Development Bank
AfDF	African Development Fund
AGFCF	Agricultural gross fixed capital formation
AMU	Arab Maghreb Union
ARAP	Accelerated Rain-fed Agricultural Programme
ARP	Acreage Reduction Programme
AsDB	Asian Development Bank
ASEAN	Association of Southeast Asian Nations
BAMB	Botswana Agricultural Marketing Board
BMC	Botswana Meat Commission
BSFF	Buffer Stock Financing Facility
CAEU	Council of Arab Economic Unity
CAP	Common Agricultural Policy
CARICOM	Caribbean Common Market
CBPP	Contagious bovine pleuropneumonia
CCFF	Compensatory and Contingency Financing Facility
c.d.w.	Cold dressed weight
CET	Common external tariff
CFA	Communauté financière africaine
CFCs	Chloro-fluorocarbons
CGIAR	Consultative Group on International Agricultural Research
CITES	Convention on International Trade in Endangered Species
CMEA	Council for Mutual Economic Assistance
COAG	Committee on Agriculture (FAO)
CPEs	Centrally planned economies
DAC	Development Assistance Committee
EBRD	European Bank for Reconstruction and Development
ECA	Economic Commission for Africa
ECLAC	Economic Commission for Latin America and the Caribbean
ECU	European Currency Unit
EEC	European Economic Community
EEP	Export Enhancement Programme
EEZ	Exclusive Economic Zone
EFF	Extended Fund Facility (IMF)
EIB	European Investment Bank
FAC	Food Aid Convention
FACT	Food, Agriculture, Conservation and Trade Act (US)
FAP	Financial Assistance Programme
FDI	Foreign direct investment
FOR	Farmer-owned reserve
FTA	Free Trade Agreement (US-Canada)
GATT	General Agreement on Tariffs and Trade
GCC	Gulf Cooperation Council
GDP	Gross domestic product
GNP	Gross national product
GOSAGRO-PROM	State Agro-industrial Committee (USSR)

GRIP	Gross Revenue Insurance Plan (Canada)
GSTP	Global System of Trade Preferences
HYVs	High-yielding varieties
IBRD	International Bank for Reconstruction and Development
ICA	International Coffee Agreement
ICSEAF	International Commission for the Southeast Atlantic Fisheries
IDA	International Development Association
IDB	Inter-American Development Bank
IDS	International Development Strategy
IFAD	International Fund for Agricultural Development
IFC	International Finance Corporation
IMF	International Monetary Fund
IMR	Infant mortality rate
IPCC	International Panel on Climate Change
IRD	Integrated rural development
ISA	International Sugar Agreement
ITTO	International Tropical Timber Organization
IUCN	World Conservation Union
LDCs	Least-developed countries
LEISA	Low external input sustainable agriculture
LIBOR	London inter-bank borrowing rate
MERCOSUR	Southern Cone Common Market
MGQs	Maximum Guaranteed Quantities
MTNs	Multilateral trade negotiations
MUC	Mercado Unico Cambiario
NDP	National Development Plan
NEP	New Economic Policy
NFIDs	Net food-importing developing countries
NIEs	Newly industrialized economies
NISA	Net Income Stabilization Account (Canada)
NNPC	Nominal net protection coefficient
NPC	Nominal protection coefficient
OAU	Organization of African Unity
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OPEC	Organization of the Petroleum Exporting Countries
PAAERD	UN Programme of Action for African Economic Recovery and Development
PAECA	Economic Action Plan for Central America
PBDAC	Principal Bank for Development and Agricultural Credit
PRONAL	National Food Programme (Mexico)
PSE	Producer subsidy equivalent
SAM	National Food System (Mexico)
SAP	Structural adjustment programme
SARD	Sustainable agriculture and rural development
SDR	Special drawing right
SIDA	Swedish International Development Authority

SPA	State Property Agency
STABEX	Stabilization System for Export Earnings
TFAP	Tropical Forests Action Programme
U5MR	Mortality among children under five years of age
UNCED	UN Conference on Environment and Development
UNCTAD	United Nations Conference on Trade and Development
UNDP	United Nations Development Programme
UNICEF	United Nations Children's Fund
WCARRD	World Conference on Agrarian Reform and Rural Development
WFP	World Food Programme
WHO	World Health Organization
WIDER	World Institute for Development Economics Research

Explanatory note

The following symbols are used in the tables:

—	=	none or negligible
...	=	not available
1990/91	=	a crop, marketing or fiscal year running from one calendar year to the next
1989-91	=	average for three calendar years

Figures in statistical tables may not add up because of rounding. Annual changes and rates of change have been calculated from unrounded figures. Unless otherwise indicated, the metric system is used throughout. The dollar sign ($) refers to US dollars. "Billion", used throughout, is equal to 1 000 million. Excepitions to this rule are those cases where a difference between comparative figures necessitates the use of thousands of millions.

Production index numbers
FAO indexes numbers have *1979-81* as the base period. The production data refer to primary commodities (e.g. sugar cane and sugar beet instead of sugar) and national average producer prices are used as weights. The indexes for food products exclude tobacco, coffee, tea, inedible oilseeds, animal and vegetable fibres and rubber. They are based on production data presented on a calendar-year basis.[1]

Trade index numbers
The indexes of trade in agricultural products also are based on 1979-81. They include all the commodities and countries shown in the *FAO Trade Yearbook*. Indices of total food products include those edible products generally classified as "food".

All indexes represent changes in current values of exports (f.o.b.) and imports (c.i.f.), all expressed in US dollars. If some countries report imports valued at f.o.b. (free on board), these are adjusted to approximate c.i.f. (cost, insurance, freight) values. This method of estimation shows a discrepancy whenever the trend of insurance and freight diverges from that of the commodity unit values.

Volumes and unit value indexes represent the changes in the price-weighted sum of quantities and of the quantity-weighted unit values of products traded between countries. The weights are, respectively, the price and quantity averages of 1979-81, which is the base reference period used for all the index number series currently computed by FAO. The Laspeyres formula is used in the construction of the index numbers.[2]

[1] For full details, see *FAO Production Yearbook, 1990.*

[2] For full details, see *FAO Trade Yearbook, 1990.*

Definitions of "narrow" and "broad"
The OECD definitions of agriculture are generally used in reporting on external assistance to agriculture. The *narrow* definition of agriculture, now referred to as "directly to the sector" includes the following items:

Appraisal of natural resources
Development and management of natural resources
Research
Supply of production inputs
Fertilizers
Agricultural services
Training and extension
Crop production
Livestock development
Fisheries
Agriculture (subsector unallocated)

The *broad* definition includes, in addition to the above items, activities that are defined as "indirectly to the sector". These activities are:

Forestry
Manufacturing of inputs
Agro-industries
Rural infrastructure
Rural development
Regional development
River development

Regional coverage
Developing countries include: Africa, Latin America and the Carribean, Near East,[3] Far East.[4]

Developed countries include:[5] North America; Western Europe, including Yugoslavia; Oceania; Israel; Japan; Republic of South Africa; Bulgaria; Czechoslovakia; Hungary; Poland; Romania; and the USSR. Albania is omitted in this report because of insufficient data.

Country designations used in this publication are those that were current during the period in which the data were prepared.

[3] The *Near East* includes: Afghanistan, Bahrain, Cyprus, Egypt, Islamic Republic of Iran, Iraq, Jordan, Kuwait, Lebanon, Libyan Arab Jamahiriya, Oman, Qatar, Kingdom of Saudi Arabia, the Sudan, Syrian Arab Republic, Turkey, United Arab Emirates and Yemen.

[4] The *Far East* includes the former Asian centrally planned economies: Cambodia, China, Democratic People's Republic of Korea, Mongolia and Viet Nam.

[5] Note that *industrial countries*, as defined by the International Monetary Fund (IMF) include: Australia, Austria, Belgium, Canada, Denmark, Finland, France, Federal Republic of Germany, Iceland, Ireland, Italy, Japan, Luxembourg, the Netherlands, New Zealand, Norway, Spain, Sweden, Switzerland, the United Kingdom and the United States.

PART I
WORLD REVIEW

WORLD REVIEW

OVERVIEW

The overall economic environment was generally unfavourable to agriculture in both 1990 and 1991. The economic slow-down already under way in industrialized countries was accentuated by the effects of the Gulf crisis, which also had negative effects on the economies of many developing countries. Their overall economic and agricultural systems were hit by slower growth of world import demand and higher oil and energy prices. These events exacerbated problems which by now have become typical of many developing countries: heavy external debt; difficult access to developed country markets; and low world prices for many of their main exports, particularly agricultural commodities.

Agriculture has been negatively affected by the economic slow-down through the complex interaction of demand-depressing and supply-constraining influences. While country and regional experiences varied widely, those countries relying primarily on agriculture as a source of growth and export earnings were among the most severely affected.

Although there appears to be a general improvement in economic prospects for 1992 at the global level, it will take several years of sustained growth for many developing countries, particularly in Africa and Latin America and the Caribbean, to recover from the economic losses of the 1980s.

Countries in Eastern Europe and the USSR encountered serious economic, financial and political difficulties in pursuing or, in several cases, intensifying the processes of reform leading to market-based economic systems. Among the various areas of reform, those related to price liberalization and land tenure are having a major impact on their agricultural sectors.

In OECD countries numerous changes have been introduced in agricultural policy instruments, although only limited progress has been made toward greater market orientation. The United States Food, Agriculture, Conservation and Trade Act of 1990 emphasizes greater market orientation and addresses a wide range of important issues regarding world agricultural markets and food security. Deliberations on reform of the EEC's Common Agricultural Policy (CAP) are under way against a background of re-emerging structural surpluses. The EEC is facing another major challenge in integrating the former German Democratic Republic's agriculture into the CAP.

Growth in world food and agricultural production slowed in 1990 from the relatively high rate of 1989. Production growth was lower in developed countries, particularly in North America, while it accelerated in developing countries only because of much improved agricultural conditions in the Near East region. For a large number of developing countries, however, 1990 was a poor agricultural year.

Agricultural trade in 1990 is estimated to have expanded considerably in developed countries but to have remained depressed in developing countries. Agricultural terms of trade are estimated to have deteriorated notably in 1990, thus continuing their downward trend. High levels of farm support and protection, particularly in developed countries, continue to distort resource allocation and international trade. A comprehensive and progressive reduction of agricultural support and protection is a major objective of the Uruguay Round of multilateral trade negotiations (MTNs). However, the outcome of the Uruguay Round remains uncertain and agreement has yet to be reached on specific measures to reduce export subsidies and domestic support, or to achieve greater market access.

The current supply and demand for cereals remains delicately balanced. World cereal stocks increased moderately in 1990/91 but, with production expected to decline slightly in 1991 and to fall below estimated world consumption requirements in 1991/1992, some drawdown of carryover stocks is foreseen.

The deep and worsening socio-economic crisis in sub-Saharan Africa continues to be of great concern. Per caput real income in this region has fallen close to the levels of the early

1970s. Deteriorating economic infrastructures are making recovery increasingly difficult while depressed prices of key export commodities are contributing to the region's progressive marginalization in world trade. In 1990 only nine out of 45 sub-Saharan countries had a positive gain in per caput food production. Seventeen of these countries are currently facing serious food shortage problems while the situation is critical in several others.

Amid major economic and financial problems, also aggravated by the effects of the Gulf crisis, many Latin American and Caribbean countries have continued their adjustment efforts. Deteriorating terms of trade, high inflation and a crippling debt problem have continued to hold economic growth well below its potential. Prospects for sustained recovery remain uncertain despite some progress in stabilizing debt, inflation and external factors. Agricultural performances have also faltered in most countries, with food and agricultural production in the overall region falling well below population growth in both 1989 and 1990. Furthermore, food production in 1990 fell short of the already disappointing growth of the previous year.

Most countries in the Near East were severely affected by the Gulf crisis which broke late in the 1990 farm year. Apart from the massive human and material losses, most countries suffered from higher oil prices, losses in remittances from migrant workers and disruptions to trade, tourism and capital flows. The crisis also disrupted the population's access to food, created acute shortages of food and other essential supplies for large numbers of refugees; and negatively affected agricultural production systems. Although agricultural production rose significantly in 1990, it failed to recover totally from the severe production shortfall of 1989.

While the Gulf crisis and worldwide economic slow-down did not leave Asia and the Pacific untouched, this region's economies continued to expand at robust rates and their agricultural sectors shared in a generally satisfactory performance. However, the region continues to face major challenges in reducing income inequalities and poverty; meeting the nutritional needs of its massive and growing populations; and countering environmental degradation.

A common feature of policies affecting agriculture in virtually all countries has been the recognition of the need for less government intervention and more liberal market, pricing and trade regimes. This tendency, which in many cases is a radical departure from previous policies, is most strikingly demonstrated in the former centrally planned economies (CPEs) of Eastern Europe and the USSR. However, it is also manifest in the developing countries selected for closer study in the Regional review (Part II). The revitalization of old, and the emergence of new, regional and subregional economic integration and cooperation schemes is another general feature of recent policy orientations.

WORLD ECONOMIC ENVIRONMENT

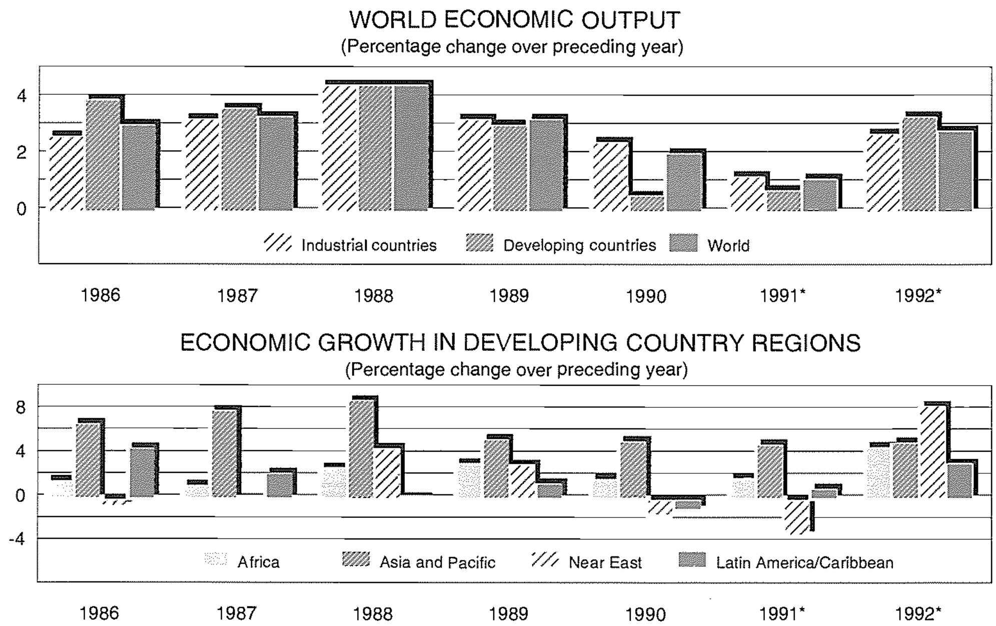
After seven consecutive years of sustained expansion, world economic activity slowed significantly in 1990 and is expected to weaken further in 1991 before picking up again in 1992 (Fig. 1). Earlier expectations of a smooth cyclical downturn in industrialized countries' economic expansion in 1990 were dashed by the Gulf crisis. It caused a sharp, albeit temporary, increase in oil prices as well as political and economic uncertainty that undermined consumer and business confidence. Thus, the slow-down in growth which was already apparent in several industrialized countries, including Australia, Canada, the United Kingdom and the United States, was accentuated during the second half of 1990. Higher real interest rates in several large European countries and Japan also added to the slow-down. At the same time, many oil-importing developing countries, particularly those which are highly indebted, confronted significantly worse external payment situations and adjustment problems. Countries in Eastern Europe and the USSR also faced major difficulties in pursuing their policy reform programmes, thereby further weakening overall economic growth.

Prospects for 1992, however, are for a rebound in economic activity in industrialized countries, arising from greater business confidence, lower oil and non-oil commodity prices, generally declining interest rates and moderate inflation — with consumer and output prices expected to rise at approximately the same rate in 1992. Growth of world trade, which slowed pronouncedly in 1990 and is expected to decelerate further in 1991, is also forecast to rebound in 1992.

As in previous years, the growth in the volume of world trade in 1991 and 1992 would exceed that of output, thus underlining the progressive integration of the world economy (Fig. 2). Such generally optimistic forecasts of recovery in industrialized countries and the world economy at large were echoed in a recent assessment by the Group of Seven (G7),[1] which met in London in June 1991. Many countries that had experienced recession were expected to have begun to recover in the second half of this year.

[1] The G7, comprising finance ministers and central bankers from Canada, France, Germany, Japan, Italy, the United Kingdom and the United States, first met in its "G5" version in May 1973 (Canada and Italy joined in the late 1980s). Unlike the current practice, early G5 meetings were held in secret and did not issue communiqués.

Figure 1



Source: IMF

* 1991: Preliminary - 1992: Forecast

Economic growth in developing countries is also expected to recover significantly in 1992 from the depressed levels of 1990 and 1991. However, these countries' economic performances and prospects vary greatly depending, *inter alia*, on their net trade position for oil; external debt situation; and, more generally, their degree of production and trade diversification. Among the country categories defined by the International Monetary Fund (IMF), the "net debtor fuel-exporting" and the "heavily indebted" countries are the two groups with the most severely depressed economies in 1990 and 1991, although their growth is expected to resume in 1992 — strongly in the former group. As regards countries exporting predominantly agricultural products, the general picture is one of continuous recession with prospects for only a limited recovery in 1992.

A crucial event shaping the current world economic environment was the surge in oil prices following the outbreak of the Gulf crisis. Although temporary, the oil price increase was no doubt a major factor in the economic slow-down that affected much of the developed world. According to the IMF, these events raised industrialized countries' consumer prices by 0.5 percent, reduced their real GDP by 0.2 percent and increased their current account imbalance by US$17 billion in 1990. In the case of developing countries, events in the Gulf have had a generally greater and more lasting impact. For the group of 130 net debtor developing countries these events would have reduced real GDP by 0.3 percent in 1990, 1.1 percent in 1991 and 0.4 percent in 1992. These losses would most often result from the deterioration in these countries' terms of trade in 1990, reduced import demand in industrialized countries and higher debt-servicing costs incurred by higher interest rates.

IMF economic and financial estimates for 1990-91 and forecasts for 1992 include the following: [2]

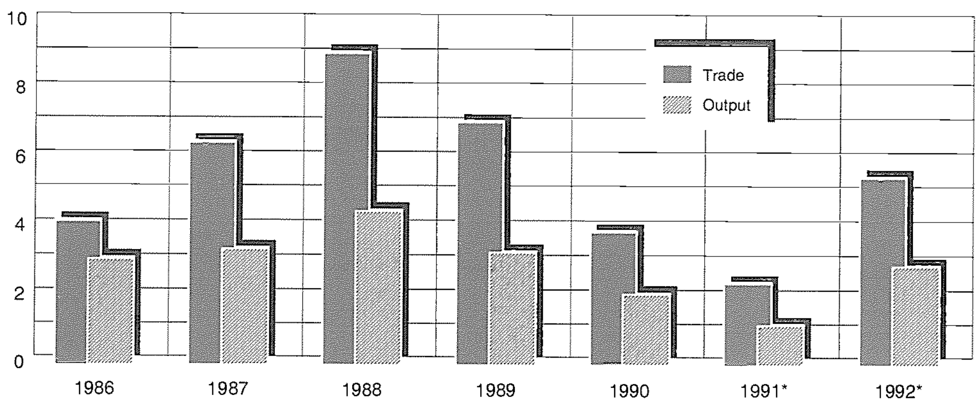
Industrialized countries

- GDP growth is estimated to slow from 2.5 percent in 1990 to only 1.3 percent in 1991. The slow-down is expected to affect all major industrial countries, although Japan and Germany should still maintain relatively high growth rates. GDP is expected to decline in the United Kingdom and Canada while remaining practically stagnant in the United States. Forecasts for 1992 point to a recovery in the industrialized countries' output, which should grow by 2.8 percent. All major industrial (countries are expected to share in this recovery, except Germany where a further slow-down in GDP growth is forecast for 1992 (although it should remain at a healthy level). In the United States, recent economic indicators suggest that the recession may bottom out in the July-September quarter of 1991.
- Consumer price inflation in 1991 should

[2] IMF. *World Economic Outlook*, May 1991.

Figure 2

OUTPUT AND VOLUME OF WORLD TRADE, 1986-1992
(Percentage change over preceding year)



Source: IMF

* 1991: Preliminary - 1992: Forecast

remain similar to 1990 levels at 4.9 percent, and decline to 3.9 percent in 1992. In the year ending April 1991, consumer price increases were between 6 and 7 percent in Canada, Italy, Spain and the United Kingdom; 4.9 percent in the United States; and between 3 and 4 percent in France, the Federal Republic of Germany and Japan.

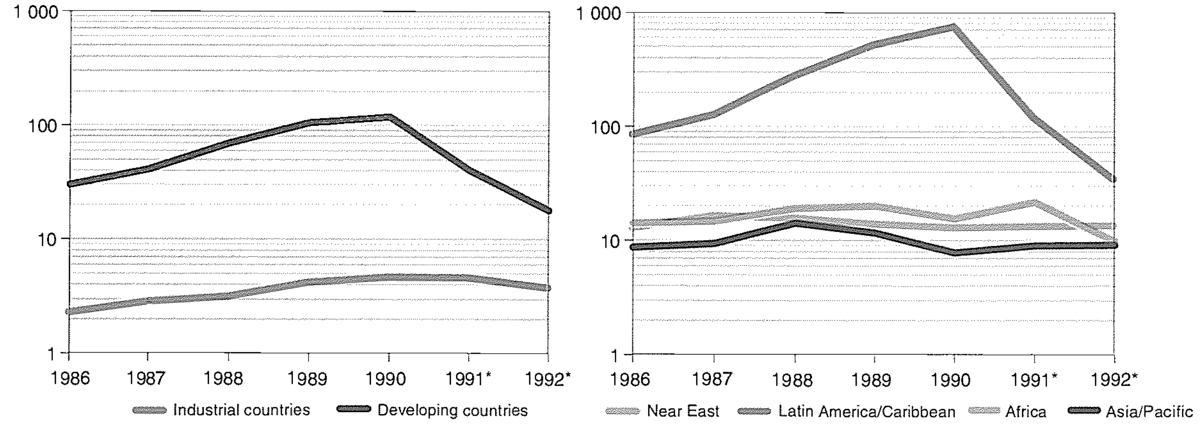
- Average short-term interest rates in the seven major industrial countries increased from 8.7 percent in 1989 to 9.1 percent in 1990, but they had declined to 8.4 percent in March 1991. Interest rates were further reduced in May, particularly in the United States and the United Kingdom. This trend not only augurs well for growth prospects in these countries but also has major positive implications for the many indebted developing countries whose interest payable on outstanding debt is on a floating-rate basis.
- The reduction in the current account imbalances of the three largest industrial countries — the United States, Germany and Japan — was expected to continue in 1991 (although Japan's surplus should increase somewhat). However, imbalances among these countries remain very substantial and are forecast to widen again in 1992.
- Export volumes are expected to increase by 4 percent in 1991 and by 5.2 percent in 1992. In current US dollar terms, exports should increase by 9.0 percent in 1991 and by 6.8 percent in 1992. The increase in the volume of imports would be 3.6 percent in 1991 and 4.3 percent in 1992, while the increase in the value of imports would be 7.6 percent in 1991 and 6.6 percent in 1992.

Developing countries

- After having fallen by 0.6 percent in 1990, per caput real GDP is expected to barely increase in 1991 (0.1 percent), but to increase moderately to 2.7 percent in 1992.
- Consumer price inflation is estimated to slow in 1991, and to do so even more pronouncedly in 1992, largely reflecting strengthened stabilization programmes in Latin America and the Caribbean (Fig. 3).
- Growth in the volume of non-oil exporting developing countries' exports is expected to remain at 3.5 percent in 1991 (the same rate as in 1990) but to pick up to 5.8 percent in 1992. Terms of trade of non-fuel exports should remain broadly stationary in both 1991 and 1992 after the 2.9 percent decline of 1990. Among developing country regions, terms of trade deteriorated in 1990 and 1991 in all regions except Asia but they should improve moderately in 1992 (Fig. 4).
- The aggregate current account deficit of non-oil exporting developing countries is expected to widen significantly, rising from $17 billion in 1990 to $38 billion in 1991 and $43 billion in 1992. As a percentage of their goods and services exports, the current account deficit should increase from 2.2 percent in 1990 to 4.5 percent in 1991 and 4.7 percent in 1992.

Figure 3

CONSUMER PRICES, 1986-1992
(Percentage change over preceding year)
- Semi-logarithmic scale -



Source: IMF

* 1991: Preliminary - 1992: Forecast

- In 1990, the ratio of debt-service payments to total exports is estimated to have declined significantly from the level of previous years but is expected to rise again in 1991.

Eastern Europe and the USSR

Although unequally advanced in the different countries, the process of transition toward market-based economies in Eastern Europe and the USSR has been evolving amid major economic and financial difficulties. These include: large fiscal and external account imbalances; terms of trade losses caused by economic dislocations and the conversion of the Council for Mutual Economic Assistance (CMEA) trade to a hard-currency basis; and strong inflationary pressure requiring tight economic and financial policies. Traditional problems such as shortages of consumer goods, inefficient technology and resource use and production bottlenecks remain and have even worsened in some cases. Great uncertainty surrounds the future pace of reform, particularly in the USSR. The Soviet Government is facing a crucial choice between opening rapidly to the world economy or pursuing a more internally oriented path of reform.

According to the IMF, real GDP in Eastern Europe and the USSR declined by 3.8 percent in 1990 and is expected to decline further by about 4 percent in 1991. In Eastern Europe (Bulgaria, Czechoslovakia, Hungary, Poland, Romania and Yugoslavia), real GDP contracted sharply by an estimated 8.6 percent in 1990 and should continue to decline by 1.5 percent in 1991. Unlike the USSR, however, Eastern European countries are forecast to begin recovering in 1992 as their private sector expands and efficiency improves. (A more detailed discussion is presented in Part II, Regional review.)

External debt of developing countries

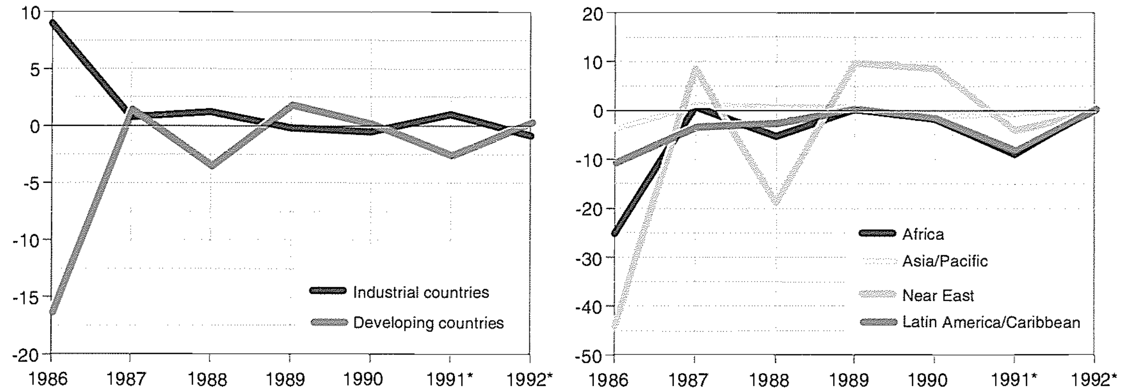
The total external debt of developing countries in 1990 is estimated at $1 341 billion, [3] about $80 billion (6 percent) more than the previous year (Fig. 5). The increase reflects larger net lending flows (about $38 billion) and an appreciation in the dollar value of the stock of debt denominated in other currencies ($46 billion). External debt liabilities of developing countries are expected to increase by more than 3 percent during 1991 and even more in 1992, except in the Latin America and Caribbean region.

Nonetheless, the developing countries' debt-service ratio (payments on interest and amortization as a share of goods and services exports) decreased from 22.1 percent in 1989 to 21.1 percent in 1990. While declining significantly in Latin America and the Caribbean, North Africa and the Near East, it nevertheless remained very high in all these regions. However, it is in Africa south of the Sahara that the stock of debt is highest relative to the size of the economy. In 1990, sub-Saharan Africa's total debt as a share of GDP was about 112 percent, compared with 87 percent for North Africa and the Near East and

[3] Including IMF credits. *Source:* World Bank. *World Debt Tables.*

Figure 4

TERMS OF TRADE, 1986-1992
(Percentage change over preceding year)

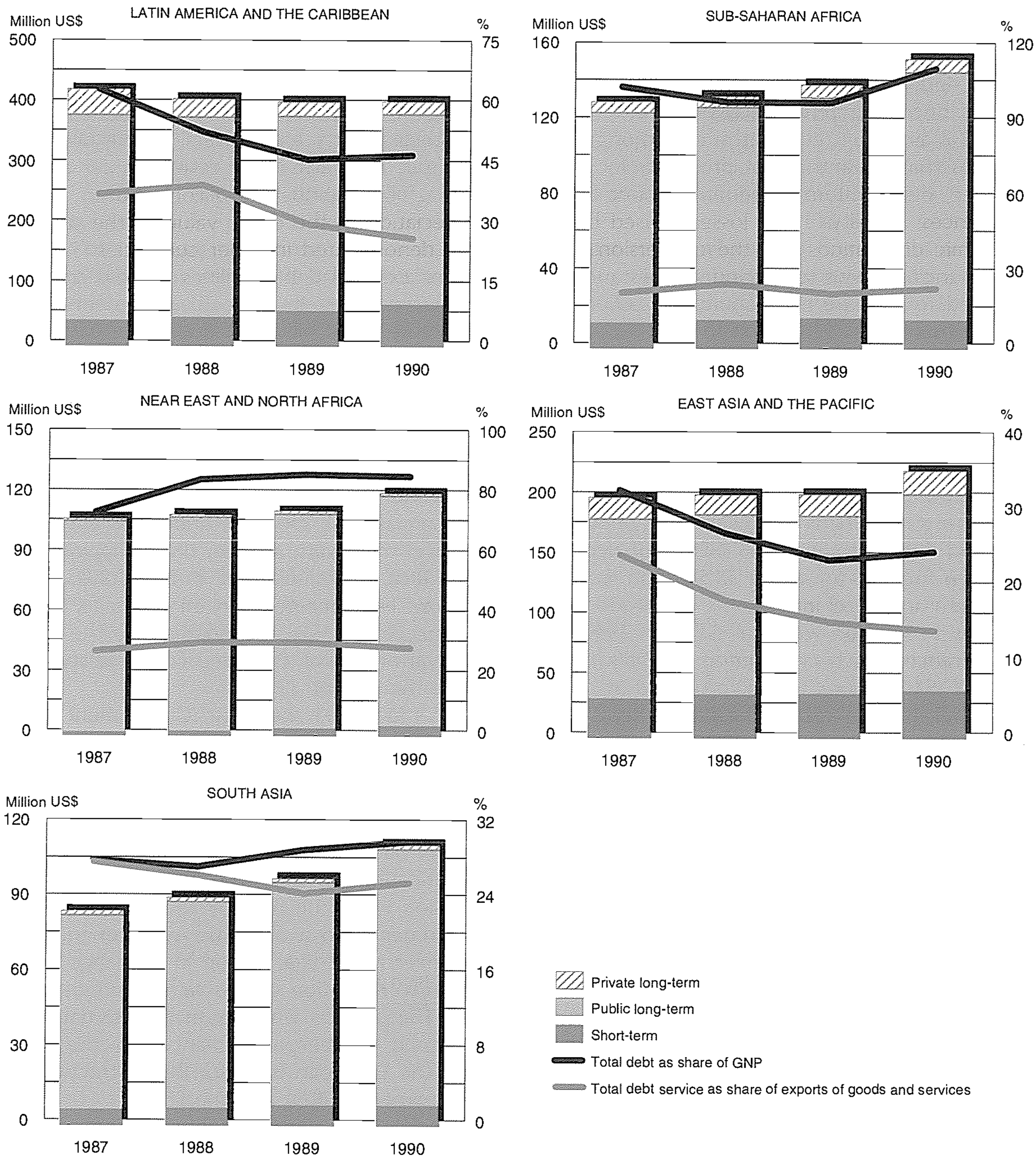


Source: IMF

* 1991: Preliminary - 1992: Forecast

Figure 5

LEVEL AND COMPOSITION OF DEVELOPING COUNTRIES' EXTERNAL DEBT, 1987-1990



Source: World Bank

48 percent for Latin America and the Caribbean.

The liabilities of developing countries to private creditors, estimated at $494 billion in 1990, are likely to continue declining as a result of reduced new bank lending, debt-reduction operations and net repayments by large debtors. Indeed, new net lending by commercial banks is becoming very selective and is directed mainly to creditworthy developing countries that show the best prospects for sustained, medium-term economic performance and political stability.

On the other hand, net lending from official sources is continuing to expand and is projected to increase from about $27 billion in 1990 to more than $30 billion in 1991.

Developments in debt reduction and relief

Among recent measures and programmes aimed at easing the debt burden, several countries benefited from a major increase in the forgiveness of official development assistance (ODA) loans in 1990. While between 1978 and 1989 a total of $5.7 billion of debt had been forgiven (of which $3.5 billion went to severely indebted low-income countries), as much as $4.9 billion were cancelled in 1990 alone. France, which contributed the bulk of the total ($3.3 billion), further proposed in September 1990 to cancel the public debt of all 41 least-developed countries (LDCs), worth F28.6 billion (this was an extension of a proposal made in May 1989 with respect to 35 African countries). In December, Belgium also forgave BF2.5 billion in loans to ten poor African countries cooperating with the IMF or the World Bank. The United States Government cancelled $32 million of Nigeria's debt earlier this year and nearly $7 billion of Egypt's military debt.

In March 1991, the first agreement in favour of lower middle-income countries was signed by the Paris Club [4] of developed creditor countries and Poland. The agreement is to reduce Poland's official hard-currency debt of $33 billion by 50 percent. A similar debt-relief operation was agreed between the Paris Club and Egypt. The two-stage accord, preceded by IMF arrangements on economic reforms, should halve Egypt's official debt of U$20.2 billion. Previously, forgiveness of government-to-government debt had only been available to the poorest countries, mainly in Africa. Poland and Egypt, both lower middle-income debtors, nevertheless carry higher levels of official debt per caput than any other country.

As a follow-up to the 1990 Houston Economic Summit, the Paris Club has extended more favourable terms of repayment to consolidated debt of severely indebted middle-income countries. In 1990, 17 agreements to restructure $15.2 billion of debt were negotiated with the Paris Club. Nine of the agreements were with sub-Saharan countries and almost all of them were under Toronto menu terms. [5]

During 1990 and early 1991, five countries implemented officially supported debt-reduction and service-reduction agreements with commercial bank creditors under the Brady Plan Initiative: they were Mexico, the Philippines, Costa Rica, Venezuela and, in May 1991, Uruguay. Final agreement with Morocco, signed in principle in 1990, is conditional to the approval of an IMF Extended Fund Facility (EFF) before the end of 1991.

On 1 July 1991 the Polish Government started negotiating with the Paris Club of 17 creditor governments with the aim of converting 10 percent of its debt, owed to individual members, into the world's largest debt-for-nature swap. Under this project, aimed at combating pollution, the equivalent of about $3 billion would be paid by the Polish Government into a domestic environmental fund over an 18-year period in exchange for an additional reduction of this same amount in its debt. The project, which is to be internationally monitored, will be partly financed by the World Bank, the European Bank for Reconstruction and Development (EBRD) and the EEC.

In April 1991, the Development Committee (a joint ministerial committee of the Boards of Governors of the World Bank and the IMF) set a mid-1991 deadline for the Paris Club of creditors to complete the review of the existing

[4] The Paris Club is an international forum for the rescheduling of service on debts granted or guaranteed by official bilateral creditors. It has neither a fixed membership nor an institutional structure. Rather, it represents a set of practices and procedures that have been developed over the 35 years since the first ad hoc meeting was convened for Argentina in 1956. Meetings are traditionally chaired by an official of the French Treasury and are open to all official creditors who accept Paris Club practices and procedures.

[5] The Toronto menu allows creditors to choose from various rescheduling options, including a significant writing-off of the amount rescheduled; a reduction in the interest rate on the rescheduled debt; and an extension of the grace period and maturity.

TABLE 1. **Developing countries' agricultural external debt**[1]

Item	1980-83 Average	1984-86 Average	1987	1988	1989
	(..................	....	$ million	....	..................)
Private	7 796	8 090	7 631	5 893	5 171
Official	17 947	32 480	48 183	48 053	48 580
Multilateral	10 637	21 418	33 082	32 881	33 887
Bilateral	7 310	11 062	15 101	15 172	14 693
Bonds	83	37	23	23	23
Total	25 826	40 606	55 838	53 970	53 774

[1] Private, public and publicly guaranteed debt in agriculture (broad definition).
Source: World Bank Tapes, 1991; and FAO.

TABLE 2. **Net external transfers to agriculture in developing countries**[1]

Item	1980-83 Average	1984-86 Average	1987	1988	1989
	(..................	....	$ million	....	..................)
Private	369	−552	−955	−913	−280
Official	2 313	2 362	781	349	88
Multilateral	1 320	1 717	195	−62	−98
Bilateral	993	645	586	411	186
Bonds	−29	−11	−9	−4	–
Total	2 653	1 799	−183	−569	−191

[1] Net transfers = gross disbursements − total debt service.
Source: World Bank Tapes, 1991; and FAO.

options for debt relief and to bring up new proposals for additional debt-relief measures which could be applied to the low-income debtor countries.

External public debt and agriculture

Recent World Bank estimates of the debt arising from agriculture-related projects in 108 countries permit an assessment of the extent to which agriculture has contributed to the debt overhang of developing countries.

In 1989, the long-term external debt of agriculture (broadly defined) amounted to about $53.8 billion in 1989, the bulk of which was in the form of debt to official creditors (Table 1). The share of such debt in the total increased from about 70 percent in the early 1970s to 90 percent in 1988-89.

Given the higher concessions of official credit, this implies a softening in the terms of agricultural borrowing. As a consequence, although agriculture received a significant share of total debt-creating financial flows, agricultural debt accounts for a relatively small 4 to 5 percent of total debt-service payments. Moreover, this share has tended to decline.

Agricultural external debt virtually doubled between 1980 and 1989 but has increased at a rate similar to that of total long-term public and publicly guaranteed debt. Therefore, agricultural debt as a share of total debt has remained fairly stable at about 6 percent.

While the sector had maintained a positive, though shrinking, net transfer position from 1980 to 1986, however, total agricultural debt servicing has exceeded disbursements to agriculture since 1987 (Table 2). In the case of private creditors, net transfers had already turned negative in 1983. On the one hand, this reversal reflected relatively stable disbursement flows throughout the decade, ranging from $5.4 billion to $6.4 billion; and, on the other hand, a steady increase in debt-service payments from approximately $3 billion in the period 1980-83 to more than $6 billion in the period 1987-89.

The macro-economic environment and developing countries' agriculture

The impact of macro-economic developments on agriculture cannot be easily assessed, as it occurs indirectly and with a time lapse and may be offset or accentuated by other factors.

However, the general effects can be traced. A reduction in per caput GDP, higher unemployment and higher inflation — experiences shared by many developing countries — all combine to depress the growth of domestic demand facing agriculture. In order of magnitude, the cumulative decline in per caput GDP between 1990 and 1991 in Africa — about 2 percent — and in Latin America and the Caribbean — about 3.5 percent — would result in an estimated decline in per caput food consumption of 0.8 percent and 1.1 percent in the two regions, respectively. In the case of cereals, the decline would be 0.8 percent in Africa and 0.4 percent in Latin America and the Caribbean; and in the case of meat, 2.4 percent and 1.4 percent, respectively.[6] Apart from their negative implications on the food and nutrition situation of the populations concerned, such reductions in food demand are bound to transmit depressing impulses upstream. Indeed, agricultural growth in many countries is likely to have been seriously impaired by depressed demand in recent years. Even if the optimistic expectations for developing countries' economies in 1992 materialize, it may take several more years of sustained recovery for the domestic demand constraint to turn into a positive influence for agricultural development.

The situation appears little better on the side of external demand. Developing countries' agricultural trade prospects are precarious and uncertain in the face of depressed growth in industrial countries in 1990 and 1991, even though their growth should resume in 1992. The strengthened trade support policies introduced by many agricultural exporters among developing countries have confronted continuing problems of market access and falling prices for several of these countries' key export commodities. At the same time, higher oil and manufactured product prices — the latter reflecting higher energy costs — contributed to a sharp deterioration in agricultural terms of trade in 1990 (see section on Agricultural trade). These problems have translated into grave economic difficulties for the large number of developing countries that rely on agriculture as a major source of export revenue.

The extent of these difficulties is illustrated by the following estimates for countries classified by the IMF as exporters of predominantly agricultural products:[7]

- Per caput real GDP growth in this group is estimated to fall — for the third consecutive year — by 0.3 percent in 1990, to stagnate in 1991 and to rise by less than 1 percent in 1992. By comparison, per caput GDP growth rates in developing non-fuel-exporting countries as a whole should be −0.2 percent, 1.5 percent and 2.1 percent for the same years.
- Their gross capital formation is estimated to represent 16.6 percent of GDP in 1991, up on the 1990 figure of 13.4 percent but well below the average of 24.4 percent for non-fuel-exporting developing countries in 1991.
- Although declining, at the median rates of 11.4 percent in 1990, 9.6 percent in 1991 and 7.8 percent in 1992, consumer price inflation is still estimated to remain above that of non-fuel-exporting countries as a group.
- After a major increase of 11.3 percent in 1990, export volumes should grow by 3 percent in 1991 and 4.1 percent in 1992. Export unit values should virtually stagnate in 1990 and 1991, but increase moderately in 1992. Terms of trade are estimated to decline by 7 percent in 1990, 6.2 percent in 1991 and 0.5 percent in 1992.
- Their overall trade deficit is forecast to increase from $500 million in 1990 to $2.5 billion in 1991 and $2.6 billion in 1992. With net factor income also in deficit, largely because of the heavy debt-servicing obligations of several countries in this group and because of lower remittance inflows, the external payments position is also expected to deteriorate. Thus, the aggregate current account deficit is estimated to widen from $10.6 billion in 1990 to $11.9 billion in 1991 and $12.1 billion in 1992.

[6] These broad estimates assume the following income elasticities of demand as derived from the FAO Food Demand Model. For Latin America and the Caribbean, total food 0.3; cereals 0.1; meat 0.4. For Africa, total food 0.4; cereals 0.4; and meat 1.2.

[7] There are 41 countries (22 in Africa, 11 in Latin America and the Caribbean and eight in Asia and the Pacific) whose exports of primary, mainly agricultural, products accounted for at least one-half of their total exports on average in the period 1984-86.

FOOD AND AGRICULTURAL SUPPLY

Food supplies in a long-term perspective
Per caput food supplies in the developing countries as a whole, measured by calories for direct human consumption, continued to increase in the 1980s, although at a lower rate than in the 1970s (Table 3). Excluding China, progress made in the 1980s was modest compared with the 1970s. The same is true for the groups of low-income and low-income food-deficit countries, while no progress was made on average by the group of LDCs. Average per caput food supplies in the 1980s declined somewhat in sub-Saharan Africa and fell in one-third of the developing countries overall. One-half of the latter were in sub-Saharan Africa and one-quarter in Latin America and the Caribbean. All were countries which had low food supplies to start with.

While, on the one hand, more countries experienced declines in per caput food supplies; on the other hand, the number of countries to reach a relatively comfortable level of more than 2 600 calories per caput per day continued to increase: from 39 in the early 1980s to 56 by the late 1980s (Table 4). China entered the over-2 600 calorie class in the 1980s so that one-half of the developing world's population is now in this class (22 percent, excluding China). At the same time, 12 countries (of which ten are in sub-Saharan Africa) with a total of 220 million inhabitants either remained in or newly entered the class of countries with an average daily supply of less than 2 000 calories per caput.

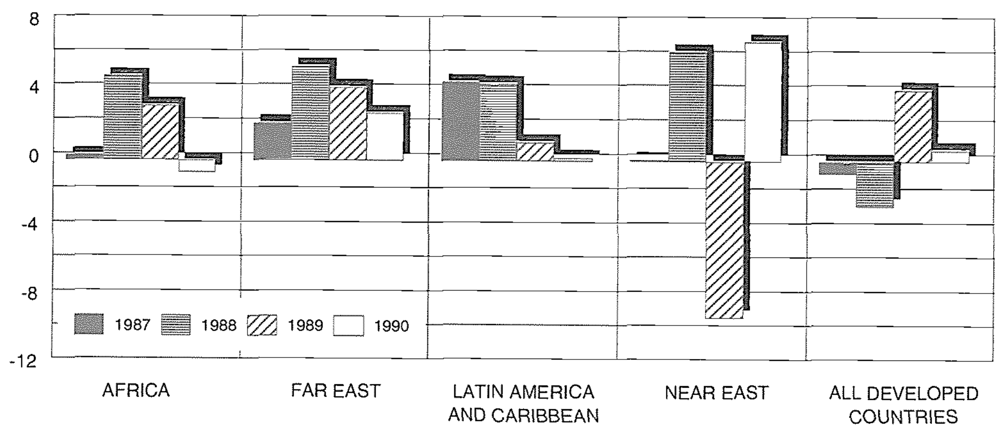
Production in 1990
Within this overall economic environment, current estimates of food and agricultural production indicate an increase in 1990 of around 1.5 percent over 1989. This increase represents a significant slow-down from the high growth rate of 3.2 percent in 1989 (3.6 percent for food) to one which is below both the average for the decade of 2.1 percent and the 1985-1990 average of 1.7 percent (Fig. 6).

The deceleration of global production growth is largely the consequence of the return to a more normal rate of growth in North America, following the strong recovery in 1989 from the 1988 drought. However, it also reflects lower rates of growth in other developed regions. Oceania, where growth picked up after the setback in 1989, was the exception. Production in Western Europe was virtually stagnant in 1990 while it declined in Eastern Europe and the USSR (Table 5).

In the developing countries, agricultural production in 1990 rose by 2.2 percent (2.4 percent for food). This was lower than the 1989 growth rate of 2.5 percent (2.7 percent for food) and also significantly below both the average growth rate of 3.2 percent for the 1980s and the 3 percent average for the period 1985-1990. Furthermore, in all developing

Figure 6

CHANGES IN AGRICULTURAL PRODUCTION, 1987-1990
(Percentage change over preceding year)



Source: FAO

TABLE 3. **Food supplies for direct human consumption**

Country/region	1961-63	1969-71	1979-81	1987-89
	(......................... kcal per caput/day ....)			
World	2 290	2 430	2 600	2 700
All developed countries	3 060	3 220	3 330	3 420
Developed market economies	3 020	3 180	3 290	3 410
Eastern Europe and USSR	3 150	3 320	3 400	3 420
Developing countries	1 930	2 100	2 330	2 470
- ***excluding China***	2 050	2 160	2 340	2 410
- ***excluding China and India***	2 080	2 220	2 440	2 500
Asia	1 820	2 020	2 250	2 430
- ***excluding China***	1 940	2 040	2 190	2 290
- ***excluding China and India***	1 880	2 060	2 290	2 390
Latin America and Caribbean	2 370	2 510	2 700	2 720
Near East and North Africa	2 220	2 380	2 840	3 020
Sub-Saharan Africa	2 030	2 080	2 150	2 120
Least-developed countries	1 930	1 980	2 050	2 050
Low-income countries	1 840	2 010	2 210	2 380
- ***excluding China and India***	1 920	2 040	2 170	2 240
Low-income food-deficit countries	1 970	2 040	2 190	2 260
- ***excluding China and India***	1 950	2 060	2 250	2 310
Middle-income countries	2 230	2 400	2 700	2 770

Note: All data are rounded to the nearest ten.
Source: FAO.

TABLE 4. **Distribution of developing countries by per caput food supplies**

Year	kcal per caput/day						
	Under 2 000		2 000-2 600		Over 2 600		Total population
	Number of countries	Percentage of population	Number of countries	Percentage of population	Number of countries	Percentage of population	
							(....Million....)
1961-63	46	74	75	24	9	2	2 130
1969-71	25	43	89	52	16	5	2 601
1979-81	13	6	77	77	39	16	3 252
1987-89	12	6	62	44	56	50	3 845

Source: FAO.

regions except the Near East, the rate of increase in production for 1990 was significantly below the equivalent figure for 1989 as well as the average growth rates for both the 1980s and the 1985-1990 period.

In the Far East, agricultural production growth slowed from 4.3 percent in 1989 to 2.8 percent in 1990, mainly reflecting declines in production levels in India and Thailand and a slow-down of growth in Pakistan and Bangladesh, while growth accelerated in China.

In Latin America and the Caribbean, agricultural production growth slipped from an already modest 1.1 percent in 1989 to just 0.2 percent in 1990, mainly reflecting a major drop in Brazil and Peru and a less pronounced decline in Argentina. In contrast, Mexican production picked up significantly after the setback of 1989.

In Africa, after a 3.2 percent increase in agricultural and food production in 1989, agricultural production in 1990 is estimated to have declined by 0.7 percent and food production by 0.6 percent. This implies a 3.7 percent decline in per caput food production, following the average annual decline of 0.9

TABLE 5. **Changes in growth rates of world and regional food, agricultural, crop and livestock production, 1988-90**

Country/region	Food		Agriculture		Crops		Livestock	
	1988-89	1989-90*	1988-88	1989-90*	1988-89	1989-90*	1988-89	1989-90*
	(............	....	....	.... %	....	....	....	............)
Africa	3.2	−0.6	3.2	−0.7	3.5	−1.8	2.3	3.1
Far East	4.5	3.1	4.3	2.8	4.0	2.2	4.9	4.7
Latin America and Caribbean	1.5	0.3	1.1	0.5	0.2	—	2.8	2.1
Near East	−9.6	7.3	−9.1	7.0	−12.0	8.8	0.5	1.4
All developing countries	2.7	2.4	2.5	2.2	2.1	1.8	3.7	3.6
North America	11.6	2.7	10.2	3.6	20.0	8.8	−0.1	0.8
Oceania	−2.2	0.6	−1.7	2.9	1.1	3.1	1.9	1.0
Western Europe	1.4	−0.4	1.3	−0.3	2.7	−2.0	−1.0	1.1
EEC (12)	1.3	−0.1	1.2	—	2.2	−1.5	−1.0	1.2
Eastern Europe	0.5	−2.5	0.1	−2.4	−0.5	−3.1	0.3	−0.1
USSR	3.3	−1.1	2.8	−1.2	6.9	1.1	1.8	−0.5
All developed countries	4.7	0.3	4.2	0.7	8.4	2.6	0.1	0.6
World	3.6	1.5	3.2	1.5	4.4	2.1	1.4	1.7

* Preliminary.
Source: FAO, based on information available up to 22 April 1991.

percent during the period 1980-1985 and 0.5 percent during the period 1985-1990.

The slow growth in developing countries' food production in 1990 is reflected by the large number of countries that experienced declines in per caput food production (Table 6). This is most evident in Africa, where food production fell in 1990, and to a lesser degree in Latin America and the Caribbean, where it stagnated. Thirty-five of the 45 (or about 80 percent) developing countries in sub-Saharan Africa recorded declines in per caput food production. For many of these countries, this was but the continuation of a disquieting trend. Thus, for Angola, Botswana, Burundi, Rwanda, Senegal and the United Republic of Tanzania, the pronounced fall in per caput food production in 1990 followed similarly pronounced declines experienced from 1985 to 1989. Among the few positive performances, Kenya continued the moderate progress achieved in previous years and Cape Verde continued its significant expansion of per caput food production.

In the case of Latin America and the Caribbean, two-thirds of the region's countries failed to increase food production in line with population growth — the corresponding average share for the period 1985-1989 being 50 percent. Performances were poor in all the major agricultural producer countries except Mexico and Chile. For several countries, including Haiti, Bolivia, Panama and Venezuela, per caput food production had already been on the decline from 1985 to 1989.

A majority of Asian countries, including such populous ones as India, Bangladesh, Pakistan and Thailand, also failed to raise their food production per caput in 1990. The shortfall in these countries took place after two years of significant progress, however. In China per caput production underwent an impressive increase in 1990.

After the severely drought-affected harvests of 1989, improved weather conditions in the Near East enabled a partial recovery in per caput food output in the main producer countries of the region.

Cereal supply, utilization and stocks

Despite the negative situation mentioned, world cereal production in 1990 increased for the second consecutive year to a record 1.95 billion tonnes, 3.9 percent above the level of 1989. As in 1989, most of the increase was concentrated in the developed countries (+6.7 percent), reflecting a major production increase in North America (11.5 percent) and the USSR (12.9 percent), while production fell in both Western and Eastern Europe.

Cereal production in developing countries in 1990 is estimated to have increased by a modest 1.5 percent. Furthermore, the increase in production was concentrated entirely in Asia where production grew by 3 percent, mainly reflecting sustained increases in China (+5.2 percent). Production is estimated to have declined in India, Thailand and Viet Nam. In Africa, cereal production is estimated to have declined by 7.2 percent as the consequence of a 6.6 percent increase in North Africa and an 11.3 percent decline in sub-Saharan Africa. In Latin America and the Caribbean, production in 1990 is estimated to be 6.1 percent below the level of 1989, mainly because of a major 25 percent decline in Brazil, while production is expected to have increased in Mexico and Argentina. The bulk of the estimated 3.6 percent increase in cereal production in 1990 is attributable to a 9.8 percent increase in global wheat production, mainly reflecting the substantial production increases in North America and the USSR. Developed country wheat production increased by almost 15 percent while the estimated increase in developing countries amounted to 3 percent. Growth in world coarse grain production is estimated at 1.6 percent, reflecting a 2.6 percent increase in developing countries and a 1.1 percent increase in developed countries. World paddy production — 95 percent of which takes place in developing countries — virtually stagnated.

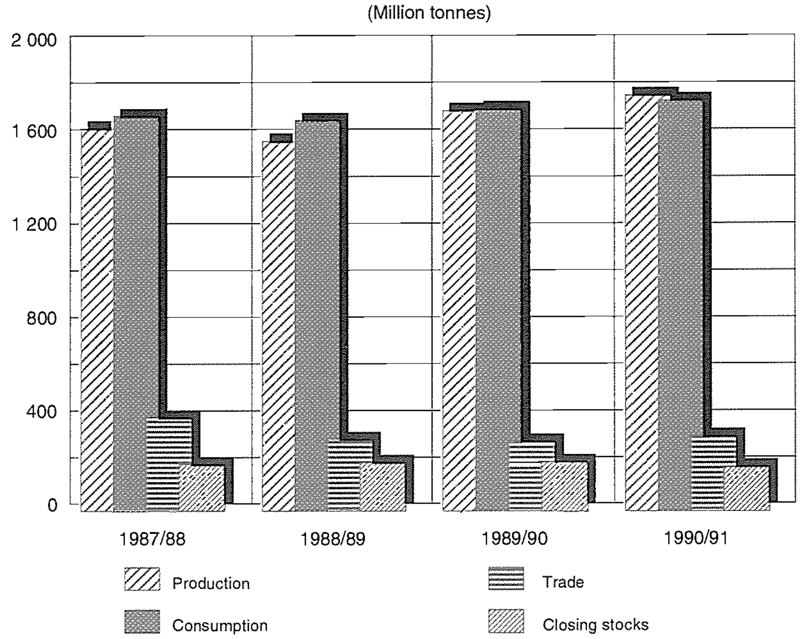
Cereal production in 1990 exceeded estimated world consumption in 1990/91 for the first time since 1986/87, thus allowing for a modest replenishment of stocks (Fig. 7). The small changes in aggregate cereal consumption conceal considerable variations in the different regions, however. In fact, *per caput food utilization* of cereals in 1990/91 is estimated to have declined in all developing country regions except the Far East. In the case of Africa and Latin America and the Caribbean, the decline reflected the fact that poor production performances in 1990 outweighed larger net imports. Conversely, in the Near East a significant recovery in production was more than offset in 1990 by a sharp decline in cereal imports which account for over one-third of the region's total domestic use. In the Far East, the increase in per caput food utilization of cereals was entirely production-based as the cereal production/utilization ratio is well over 90 percent.

Forecasts for 1991 point to a small decline in world cereal production which is to reach 1 929 million tonnes, down from the record level of 1 951 million tonnes in 1990. Assuming regular weather conditions, output of wheat is forecast to decline sharply from 595 million tonnes in 1990 to 560 million tonnes in 1991, mainly because of lower plantings. Coarse grain production is forecast to increase by only 0.8 percent to 844 million tonnes in 1991, while output of paddy is preliminarily forecast to rise by 1.4 percent to 525 million tonnes, provided the Asian monsoon develops normally.

Figure 7

SUPPLY/CONSUMPTION TRENDS IN CEREALS *

(Million tonnes)



Source: FAO

* Including milled rice

TABLE 6. **Rates of change in per caput food production by country, 1989-90**

Percentage rate of change	Developing countries				Developed countries
	Africa	Asia and Pacific	Latin America and Caribbean	Near East	
+5	Reunion Tunisia	China Laos Samoa	Belize Guyana Trinidad and Tobago	Kingdom of Saudi Arabia Syrian Arab Rep. Turkey	Canada Denmark Ireland Portugal Sweden
3.01 to 5	Guinea Mauritania	Bhutan Philippines Sri Lanka	Chile Mexico		Finland
0.1 to 3	Cape Verde Congo Kenya Lesotho Sierra Leone Zimbabwe	Fiji Indonesia Malaysia Tonga Viet Nam	Barbados Guatemala Jamaica Nicaragua	Cyprus Egypt Iraq Islamic Rep. of Iran Jordan	Australia Belgium/ Luxembourg France German Dem. Rep. Netherlands Spain United Kingdom United States
0 to −3	Algeria Angola Cameroon Central African Rep. Chad Comoros Ethiopia Gabon Guinea-Bissau Madagascar Mali Mozambique Namibia Nigeria Uganda Zaire	Bangladesh Brunei Darussalam Cambodia India Korea, Dem. People's Rep. Macau Maldives Myanmar Pakistan Papua New Guinea Solomon Islands	Bolivia Colombia Costa Rica Ecuador El Salvador Honduras Panama Paraguay Suriname Venezuela	Libyan Arab Jam. Sudan	Austria Czechoslovakia Germany, Fed. Rep. Iceland Israel Japan Malta Norway Poland USSR
−3.01 to −5	Botswana Burundi Rwanda Somalia Swaziland	Mongolia Nepal	Argentina Cuba Haiti Uruguay		Albania Hungary Romania Switzerland
−5.01 to −10	Benin Burkina Faso Côte d'Ivoire Gambia Ghana Malawi Mauritania Niger Senegal Tanzania, United Rep. Togo	Thailand	Brazil Dominican Rep. Puerto Rico	Yemen	Bulgaria Greece Italy New Zealand South Africa, Rep. Yugoslavia
Below −10	Liberia Morocco Zambia	Korea, Rep.	Guadeloupe Martinique Peru		

Source: FAO.

As of July 1991, estimates of global *cereal stocks* to be carried forward from the 1990/91 crop years amounted to 321 million tonnes, about 20 million tonnes higher than their opening level (Fig. 8). The bulk of the increase should occur in global inventories of wheat, which were forecast to increase by 20 million tonnes to about 138 million tonnes. Virtually all of this increase would be in the holdings of the major exporters. World stocks of coarse grains are anticipated to decline marginally to 128 million tonnes, while global rice stocks are forecast to increase by about 500 000 tonnes to 55 million tonnes by the end of the 1991 marketing seasons.

Current forecasts indicate that world cereal production in 1991 will not be sufficient to meet expected utilization in 1991/92, thus resulting in a small drawdown in carryover stocks. Virtually all of the decline is anticipated to be in holdings of wheat. FAO's first forecast puts global cereal carryover stocks at the end of the 1991/92 seasons at 316 million tonnes, five million tonnes or 1 percent less than their opening level. Stocks of wheat are tentatively forecast to decrease by 3 percent to 134 million tonnes while those of coarse grains and rice are forecast to be 128 and 55 million tonnes, respectively, i.e. little changed from their opening level. Early indications are that the bulk of the stock drawdown will take place in the developed countries, notably in the USSR. In the major exporting countries as a group, current forecasts point to a small increase in holdings of coarse grains which, however, would remain very low. No substantial change is foreseen in exporters' wheat stocks since the projected drawdown in United States inventories would be offset by increases in those of the EEC. At the forecast level, by the end of the respective 1991/92 crop years aggregate cereal stocks would fall to the lower end of the 17 to 18 percent of the 1992/93 trend consumption which the FAO Secretariat considers the minimum necessary to safeguard world food security.

Even assuming that current cereal production forecasts materialize, global food security will

BOX 1

Food shortages and emergencies

Serious problems of food shortages continue in a number of African countries. In *Ethiopia* the interruption of relief activities following political upheaval caused the further deterioration of an already serious food supply situation, thus creating the risk of widespread starvation in certain regions. Aggregate food aid needs for Somali and Sudanese refugees and returnees in Ethiopia, as of June 1991, were estimated at 240 000 tonnes, with pledges covering 80 percent of requirements but only 70 000 tonnes having been received. Against cereal food aid needs for the Ethiopian population, estimated at about one million tonnes, as of June 1991 donor pledges stood at 500 000 tonnes, but only 330 000 tonnes had been delivered.

In the *Sudan*, the food situation remains precarious in practically all states. As of June 1991, food grain prices were recorded to be increasing on most local markets and were beyond the purchasing power of almost eight million people. While the need for relief assistance was reported in numerous regions, logistical problems were hampering the movement of grain. In the southern Sudan, problems were being exacerbated by the arrival of numerous refugees from Ethiopia. By June 1991, against an overall national cereal deficit of 1.1 million tonnes, pledges covered only one-half of requirements and only one-fifth of these had actually been delivered.

In *Somalia*, too, the food supply situation remains precarious and has been further aggravated by civil strife. As of June 1991, food stocks were depleted in urban areas and malnutrition was widespread. Rural areas also faced severe food shortages with deaths from starvation reported in certain districts. In *Mozambique* a poor harvest has significantly increased food aid requirements for 1991/92, remain finely balanced in the year ahead. Any unfavourable weather conditions affecting crops in the ground could lead to serious consequences for global food security. In addition, regional food supply problems are becoming more acute in Africa and are likely to persist in the coming years — also in parts of Asia — as a result of human-caused and natural disasters.

Fertilizers

After reaching a record 145.7 million tonnes in 1988/89, fertilizer consumption in terms of the major plant nutrients fell to 143.3 million tonnes in 1989/90 (−1.6 percent). This decline might mark the beginning of a medium-term period of a global decline in fertilizer use. World fertilizer consumption is expected to fall by 2.4 percent in 1990/91, to level out in 1991/92 and to resume growth only slowly in the following years.

The least affected among individual nutrients is nitrogen, for which consumption in 1989/90 fell slightly (0.7 percent) after having increased by 5.4 percent in 1988/89. Nitrogen consumption is expected to recover from an estimated drop of 1.7 percent in 1990/91 but to start growing again from 1991/92 onward. Phosphate is foreseen to follow the pattern of aggregate consumption while potash is expected to show the most negative trends. Potash consumption grew by 2.8 percent in 1988/89, fell by 4.3 percent in 1989/90 and is expected to fall by a further 5 percent in 1990/91 and 2.1 percent in 1991/92.

Overall fertilizer production has generally shown higher growth rates than consumption, and this is also true for the individual nutrients. The effects of the Gulf war and the situation in Eastern Europe and the USSR strongly affected nitrogen production and, to some extent, potash and phosphate production.

The short-term outlook for nitrogen fertilizers is for a moderately tight supply situation and stable prices at high levels. Phosphate fertilizers should be in adequate supply and potash fertilizers should continue to show a large surplus.

while logistic difficulties stemming from damaged infrastructure and ongoing civil strife continue to limit the movement of farm produce.

Other African countries facing shortfalls in food supplies in the current marketing year and requiring exceptional or emergency assistance as of June 1991 included: Burkina Faso, Cameroon, Chad, the Gambia, Ghana, Liberia, Malawi, Mauritania, Mozambique, the Niger and Sierra Leone. Requirements had already been met in Angola and Guinea.

In *Bangladesh*, cereal crop losses caused by the cyclone of 29-30 April 1991 were estimated by an FAO/World Food Programme (WFP) mission to be 247 000 tonnes, with other crop losses estimated at 35 000 tonnes. Although rehabilitation requirements were significant, it was considered that the immediate food emergency relief needs of the cyclone victims were adequately covered by an ongoing emergency programme. At the national level, the overall food supply situation remained satisfactory following an above-average cereal harvest in 1990/91.

Serious food shortages were reported to be persisting in *Iraq* as of June 1991. Food rationing continued at a level well below the minimum required to avert malnutrition, and stocks of cereals were virtually exhausted. Prices of most basic commodities had increased more than tenfold since August 1990 and were well beyond the purchasing power of large sections of the population. Many of the 1.8 million Iraqi Kurds, who left their homes in late March 1991 to seek refuge in Iran, Turkey and along the border areas of Iraq and Turkey, were still suffering from inadequate supplies of food, water and other relief items.

Other Asian countries confronting shortfalls in food supplies and requiring exceptional or emergency assistance as of June 1991 included: *Afghanistan, Cambodia, Jordan, Lebanon* and *Mongolia*.

In Latin America, the food supply situation as of June 1991 continued to be tight in *Peru*, reflecting the previous year's reduced cereal harvest and lower cereal imports in 1991. The situation was particularly difficult for large sections of the population whose access to basic food supplies had been affected by the ongoing economic austerity measures. In *Nicaragua* the food supply situation also remained tight as a consequence of a poor cereal harvest the preceding year and the country's difficult financial situation which had reduced its capacity to import. In *Haiti* as well, a tight food supply situation persisted as the result of the preceding year's drought-reduced crop.

Fertilizer consumption in the developing countries continued to increase despite a fall at the world level — a welcome development. Except for potash, consumption of which fell by 5.3 percent in 1989/90, developing countries recorded respective increases of 1.7, 2.6 and 2.4 percent in total fertilizer, nitrogen and phosphate consumption. Conversely, the developed countries recorded falls in consumption in the order of 4 percent for all three major nutrients.

Expectations for the medium term are for a continuation of these general trends — that is, fertilizer consumption increasing in developing regions, especially Asia, but falling in the developed regions, notably Eastern Europe and the USSR.

The world fertilizer situation in 1990 has been strongly influenced by developments in the Near East, particularly the Gulf crisis. Two kinds of effects were observed: the direct reduction or cessation of fertilizer production and exports by countries of the region; and the indirect consequences of oil price rises for fertilizer production and transportation costs worldwide.

Before the crisis started, other factors were already pushing up fertilizer prices, especially for nitrogen fertilizers: they included the low return on investment that even efficient producers were making and the tight supply situation at the beginning of the second half of 1990.

The tension that followed the start of the Gulf crisis in August 1990 affected three interrelated aspects of fertilizer markets: availability, prices and trade. Availability was reduced initially by the United Nations embargo on trade with Iraq and Kuwait. Later, when the war started, the blockade made it impossible to ship products out of the Gulf. Prices in most markets reacted swiftly to the occupation of Kuwait and started to climb further when military operations began in January 1991. However, prices started falling as soon as the market realized that the war would not last long.

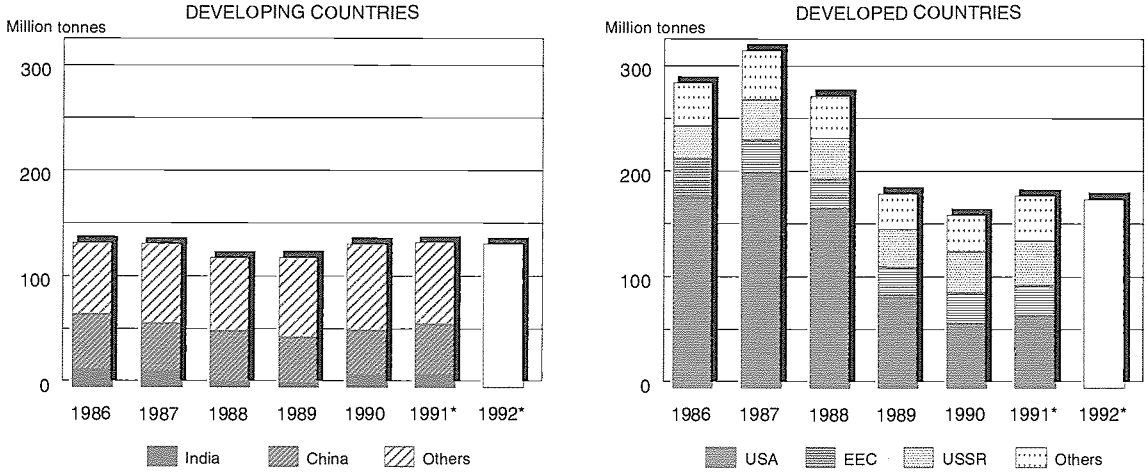
The escalation of the war and the consequent disruption of shipments from the whole region, together with the assumed destruction of plants in Kuwait and Iraq, raised the market uncertainty level. Nevertheless, contrary to what happened in the oil crisis of 1973/74 and 1979/80, the fertilizer market did not react strongly to these events. There appeared to be an implicit agreement and concerted action among the larger suppliers and importers to maintain market stability. Prices were strongly influenced by availability and immediate needs rather than the possible political and economic developments. This resulted from the prevailing view that fertilizer markets operate better when neither sellers nor buyers seek large and immediate gains.

These factors contributed to a decline and stabilization of prices after the end of the conflict, although they remained above pre-crisis levels. Urea prices are likely to remain

Figure 8

CARRYOVER CEREAL STOCKS, 1986-1992

(Crop year ending in the year shown)



Source: FAO

* 1991: Preliminary - 1992: Forecast

TABLE 7. **Prices for selected fertilizers and raw materials**

Product	1990						1991					
	July	August	September	October	November	December	January	February	March	April	May	June
	(.........						$/tonne					.........)
AMMONIA												
f.o.b. US Gulf	87- 90	110-115	125-130	125-131	129-131	129-131	129-131	124-128	100-105	95-100	88-90	95-100
f.o.b. Near East	90- 95	100-105	110-115	115-130	115-130	85-115	...	130-130	115-130	115-125	105-125	105-113
c.i.f. Northwest Europe	112-120	112-120	145-154	154-160	155-160	150-155	145-148	150-160	140-145	140-145	115-120	120-125
c.i.f. Mediterranean	120-130	120-130	130-149	160-175	150-175	145-165	140-150	140-150	140-145	139-142	117-120	120-125
c.i.f. Southeast Asia	142-151	169-174	174-193	193-205	190-193	179-185	179-199	183-199	175-180	175-180	144-164	144-153
UREA												
f.o.b. bulk US Gulf	117-123	...	160-165	160-165	160-165	160-165	160-165	160-165	160-165	160-165	147-155	140-145
f.o.b. bulk Near East	120-122	130-135	145-155	150-160	155-160	150-160	155-165	170-175	165-170	160-165	150-155	148-154
f.o.b. bagged Eastern Europe	120-125	130-135	145-155	148-155	157-162	176-181	162-167	165-170	158-162	155-162	148-155	140-150
DAP												
f.o.b. bulk US Gulf	176-179	171-178	182-186	188-191	186-188	176-179	181-183	184-186	179-182	177-179	173-175	183-185
f.o.b. bulk North Africa	190-195	195-197	197-202	205-210	208-212	220-222	208-211	206-208	206-208	206-208	205-208	193-200
f.o.b. bulk Jordan	190-195	190-195	190-200	198-200	198-200	198-200	198-200	200-210	205-210	200-210	200-210	198-200
TSP												
f.o.b. bulk US Gulf	130-132	135-145	141-150	150-155	150-155	147-151	150-155	150-155	145-150	140-145	129-130	129-130
f.o.b. bulk North Africa	140-145	145-150	150-155	155-163	160-163	160-163	157-163	157-160	157-162	160-162	143-145	140-143
POTASSIUM CHLORIDE												
f.o.b. bulk North America	90- 98	90- 98	90- 98	100-104	100-104	100-104	95-104	95-104	95-112	95-112	95-112	95-112
f.o.b. bulk Western Europe	100-105	100-105	100-105	100-105	100-102	100-102	100-102	100-102	100-110	100-110	100-110	105-110

Source: FAO.

high because of market losses caused by events in the Near East and Eastern Europe and are estimated at 2.5 to three million tonnes of product per year.

The shock waves of the conflict will take some time to subside and fertilizer markets will continue to be affected in the short and perhaps medium term. A slow-down of capacity expansion in the Near East might tighten the supply and demand balance of nitrogen and, to some extent, phosphate fertilizers.

Nitrogen availability was the area most affected by the conflict. The Near East region plays an important role in the markets of both ammonia and urea. It accounted for about 13 percent of world ammonia trade and 17 percent of world urea trade in 1989. In the same years Kuwait and Iraq together accounted for about 3 percent of ammonia and 7 percent of world urea trade. These quantities are assumed to be lost to the market in the short term.

The effects of the oil price rise were also strongly felt by the nitrogen industry. Natural gas is the primary feedstock for ammonia production, with over 80 percent of world production coming from gas-based plants. The price of natural gas in Western Europe is indexed to the price of fuel oil with a time lag of six months. In Eastern Europe, natural gas that used to be imported from the USSR at advantageous prices is now also linked to oil prices. In the developing countries the price of gas is not related to oil prices. The present gas surplus in the United States has driven gas prices for ammonia below its equivalent energy price when it is related to fuel oil. However, this surplus is expected to disappear in the near future, thereby bringing gas prices in line with those of alternative fuels. Thus, the conflict caused a temporary change in the competitiveness of ammonia producers in the various regions, generally weakening the position of the United States and European producers and favouring those based in the developing countries.

Table 7 shows the evolution of selected fertilizer products and raw material prices from August 1990, the period of the invasion of Kuwait, to June 1991.

In a long-term perspective, the economic and political transformations under way in the USSR and Eastern Europe are likely to influence the world fertilizer supply and demand balance as well as the international fertilizer markets much more than the Near East crisis. One consequence of the problems faced by those countries has been a decline in both fertilizer consumption and production, with a reduction in exportable surpluses.

The most important factor affecting the fertilizer industry in East European countries is the increase in energy and feedstock prices resulting from the hard-currency market prices they now have to pay for oil and gas imported from the USSR, in contrast to the former favoured prices in non-convertible currencies. It is also reported that future oil and gas supplies would be limited in volume.

The uncertain prospects for agriculture in the region are aggravated by higher fertilizer prices which have to be aligned with new production costs; the removal of subsidies on fertilizers; and the reduced product availability caused by lower plant operating rates.

As regards the USSR, it will be some time before the transition to a market economy transmits positive signals to the agricultural sector. Until such a time, farmers will have no incentive to use more fertilizers and the cut in fertilizer subsidies will only depress demand further. Meanwhile, the transportation and distribution system in the USSR needs to be overhauled to allow the efficient movement of fertilizers and agricultural products.

On the supply side, production will be constrained by the inefficiency of plants; problems related to plant maintenance; and political pressure from environmental protection groups to close or reduce the activity of polluting plants. However, the promotion of fertilizer exports remains a priority in view of their importance as a source of foreign exchange.

AGRICULTURAL TRADE

Agricultural trade in 1990
Full information on world agricultural trade in 1990 was not yet available at the time of writing. However, preliminary estimates suggest that agricultural trade showed considerable dynamism in developed countries but that it was generally depressed in developing countries.

For developed countries, estimates may be derived from a sample of 21 countries which together account for 93 percent of total developed country agricultural exports and 75 percent of their imports. In 1990, the value of crop and livestock exports from these countries rose by about 11 percent, and imports by 13 percent, which was significantly more than the average yearly growth of developed countries as a whole during the 1980s (3.5 percent for exports and 3.2 percent for imports). Such expansion would have arisen primarily from higher volumes of shipments and possibly a higher value of processed product exports. Indeed, the prices of developed countries' primary commodity exports rose only moderately in the aggregate, with some of their main export commodities, notably wheat and skim milk powder, showing pronounced price declines (see the section, World trade in cereals).

The strong growth in crop and livestock exports was widespread among developed countries. Particularly sharp increases were recorded in European countries: about 20 percent in Denmark, Italy, Switzerland and Spain; and 13 to 17 percent in Austria, France, Germany, the Netherlands and Sweden. Booming exports were also recorded in Canada (+17 percent), exceeding the peak level of 1988. On the other hand, exports rose by only 2.4 percent in the United States although this occurred after three years of strong expansion. Overall, in 1990 only five countries failed to expand their agricultural exports further than the previous year's level: Australia, Finland, Iceland, New Zealand and Norway.

While the country sample is less representative on the side of imports — complete data for Japan, the world's second largest importer of agricultural products, are not yet available — it appears that developed countries also expanded their crop and livestock imports significantly in 1990. In terms of volume, the most significant case was Germany's 21 percent increase in purchases of these products, which accounted for about one-fourth of the aggregate increase for the country sample. Other import rises that significantly exceeded the average rates of the 1980s were those of France, Italy, the United Kingdom and Belgium/Luxembourg. While comparatively smaller, the increase in the United States (about 7 percent) also exceeded the average of the 1980s.

While information for the developing countries is too limited for an overall quantitative estimate to be made, it appears that their agricultural trade in 1990 was far less buoyant than that of developed countries. Unlike the latter, their commodity export prices were estimated to have fallen overall. Furthermore, for several of the developing countries' key export commodities, depressed prices were combined with stagnating or declining export volumes. For example, coffee prices collapsed and export volumes increased only slightly; and for both sugar and tea, export volumes are estimated to have declined slightly along with depressed prices.[8] Higher prices of meat, especially pig-meat, bananas (particularly on German markets), fibres and cotton are likely to have only partly compensated. Indeed, pig and poultry meat and bananas are among the few developing country crop and livestock exports which may have undergone a notable increase in value in 1990. On the other hand, export prices of fishery and forestry products, which account for a significant share of developing countries' total agricultural exports (about 10 percent in recent years), rose significantly in 1990.

As regards agricultural imports, food-deficit developing countries may be expected to benefit considerably from the pronounced decline in cereal prices, particularly those of wheat (this commodity represents about 10 percent of their total imports of agricultural, fishery and forestry products) and skim milk powder (2 percent of the total).

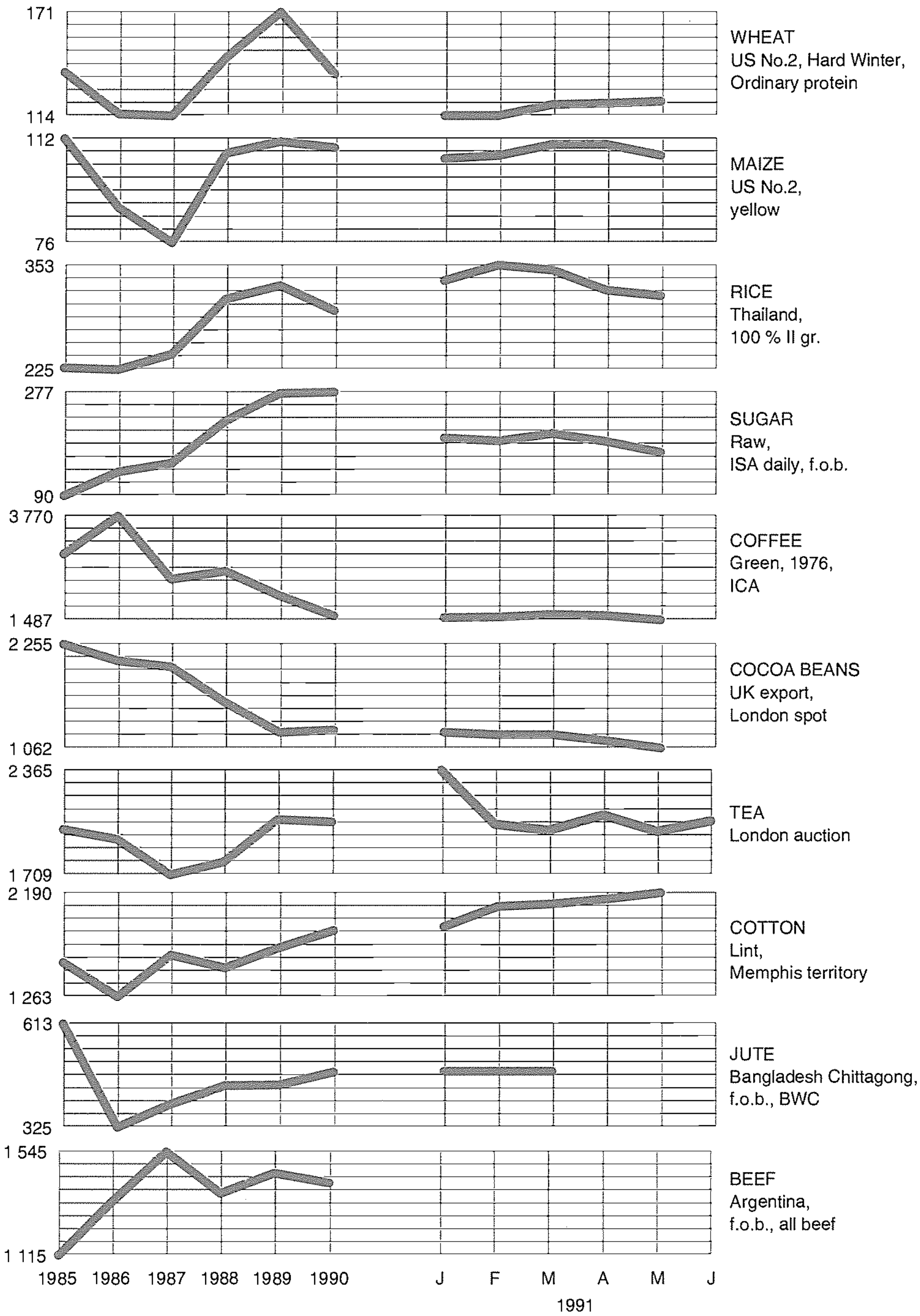
World trade in cereals in 1991/92
World trade in cereals in 1991/92 (July/June) is preliminarily forecast to reach 193 million tonnes, up from the estimated 187 million tonnes of 1990/91, but still the second lowest

[8] Coffee, cocoa, tea and sugar accounted for almost one-fifth of total developing country exports of agricultural, fishery and forestry products in 1989. For Africa the share was 39 percent and for Latin America and the Caribbean 29 percent.

level since 1987/88. Major uncertainty surrounds the likely volume of grain purchases by the USSR. The above estimate assumes that imports of wheat and coarse grains into the USSR in 1991/92 will rise to 29 million tonnes from 25 million tonnes in the 1990/91 season. The global forecast reflects an increase in total cereal imports by developing countries from 114.5

Figure 9

EXPORT PRICES OF SELECTED COMMODITIES, 1985-1991
(US$/tonne)



Source: FAO

million tonnes to 120 million tonnes, and a marginal increase in developed countries from 72.5 to 73 million tonnes.

World imports of wheat are expected to increase from 91.5 million tonnes in 1990/91 (July/June) to 94 million tonnes in 1991/92. Larger imports are forecast for Asia and the USSR, although the forecast for the USSR in particular is highly tentative. Overall, wheat imports by developed countries should increase from 25.5 million tonnes in 1990/91 to 26.4 million tonnes in 1991/92, mainly reflecting an increase of two million tonnes in the USSR and a decline of one million tonnes in Eastern Europe. Total developing country imports are forecast to increase by 1.6 million tonnes to 67.6 million tonnes as the net result of a 3.1 million tonne increase in Asia, a 0.6 million tonne increase in Latin America and the Caribbean and a 1.9 million tonne decline in Africa.

World trade in coarse grains in 1991/92 (July/June) is provisionally forecast to be 87 million tonnes, 3.5 million tonnes above the level of 1990/91. The bulk of the increase should arise from increasing imports by the USSR, reflecting the expectation that domestic production and state purchases will decline more than consumption. Imports into Eastern Europe are forecast to fall sharply for the second year in a row, mainly because of falling domestic consumption and declining competitiveness on international markets for livestock products, a situation that will reduce demand for grains for animal feeds. Imports into Western Europe are also forecast to decline in 1991/92. Among the developing regions, Asia's imports are forecast to increase by 1.4 million tonnes, partly as a result of Iraq's expected re-entrance to international markets. A very slight increase is forecast in imports into Latin America and the Caribbean and Africa.

World rice imports in calendar year 1991 are forecast at 12 million tonnes, compared with 11.1 million tonnes in 1990. The increase reflects a larger import demand expected from Asia, Latin America and the USSR.

Export prices and terms of trade

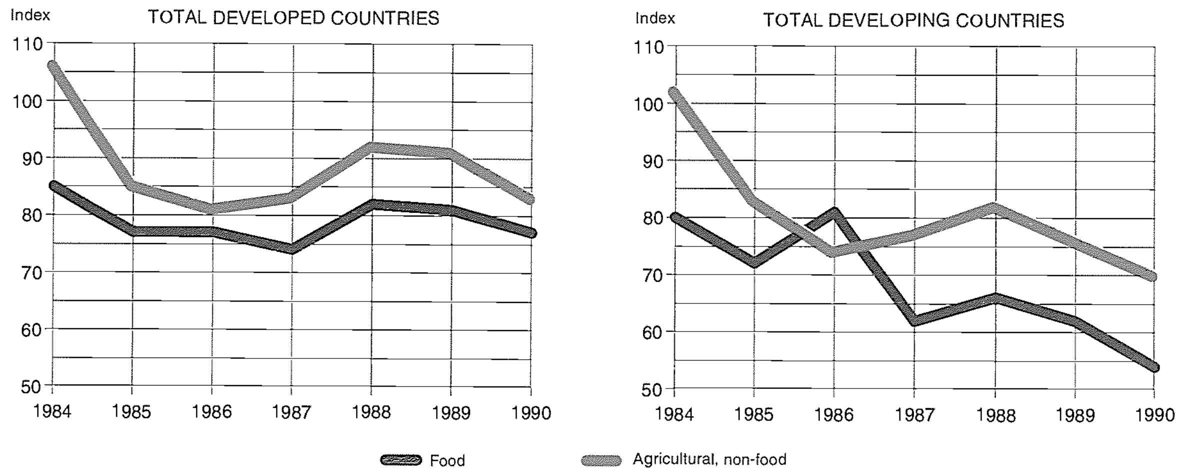
International prices (in US dollars) of the main trade commodities fell significantly in 1990 and the first months of 1991 (Fig. 9).[9] In particular, average prices of wheat in 1990 were 20 percent below the average levels of 1989, and those of skim milk powder 30 percent lower. For rice the decline was 9.5 percent, and for maize 2 percent. Although wheat and maize prices strengthened during the first months of

[9] The decline in commodity prices denominated in US dollars was accentuated by the depreciation of the US dollar during the period reviewed. It began depreciating in the middle of 1989 but, after falling to a low in February 1991, has tended to strengthen since. Between January and December 1990, however, the US dollar depreciated almost 8 percent against the SDR.

Figure 10

NET BARTER TERMS OF TRADE OF AGRICULTURAL PRODUCTS, 1984-1990

(Index numbers, 1980 = 100)



Source: UN Monthly Bulletin of Statistics and FAO

1991, their level remained below that of a year earlier. Among tropical products the sharpest decline was in coffee prices, which fell by more than 20 percent and tended to weaken further in 1991. Overall, the UN export price index shows a 2.3 percent decline in developing countries' agricultural, fishery and forestry export prices in 1990 relative to 1989 levels; and a 2.9 percent increase in those of developed countries.

In a context of such generally depressed agricultural commodity prices, the UN index shows sharp increases in 1990 of 15 percent and 8 percent, respectively, in the prices of crude petroleum and manufactured goods. These developments led to a deterioration in the terms of trade for both food and non-food agricultural products in developed and developing countries, although the trend was more pronounced in the latter (Fig. 10).

The impact of this deterioration cannot yet be fully assessed, given the lack of data on agricultural export volumes. However, with expectations of less than buoyant export performances by developing countries in 1990, a significant decline is likely in the purchasing capacity of their agricultural exports as well. For many of these countries, such losses would represent the continuation of a disquieting trend. By 1989, Africa's earnings from agricultural exports had already fallen to levels that would enable the region to purchase only 72 percent of the manufactures and crude petroleum that it was able to finance in the period 1979-81. For Latin America and the Caribbean, the equivalent figure was 82 percent.

EXTERNAL ASSISTANCE AND FOOD AID

Commitments of external lending to agriculture
Total commitments of external lending to agriculture were estimated at about $14.7 billion in 1989, the latest year for which complete coverage is available.[10] At nominal prices, this amount is 8 percent less than in 1988 and only slightly higher than the 1986 and 1987 levels. When total commitments are deflated by prices of manufactured goods, in real terms 1989 shows decreases of 8 percent, 5 percent and 15 percent in relation to 1988, 1987 and 1986, respectively (Table 8). During the last few years, however, there has been an increase in the share of grants in total commitments from 23 percent in 1986 to 30 percent in 1989.

From 1986 to 1988, total commitments to agriculture rose slightly as increases in bilateral commitments from the Organisation for Economic Cooperation and Development's Development Assistance Committee (DAC) more than offset the declines in multilateral commitments.

Japan's efforts to raise its share of official development assistance helps to explain the increases in bilateral commitments during this period, including the 27 percent rise in 1988. But in 1989, bilateral commitments fell by 13 percent. EEC lending in 1989 decreased by about 20 percent in relation to 1988.

For multilateral loans, estimates are available through 1990. Estimated to be $7.2 billion in 1990, multilateral commitments of external assistance to agriculture fell by almost 18 percent from their 1986 levels. In 1990, however, World Bank lending increased by about 8 percent, reflecting a strong increase in soft-term International Development Association (IDA) lending that more than offset a decline in International Bank for Reconstruction and Development (IBRD) commitments.

Overall, lending by regional banks fell in 1990. The Asian Development Bank approved a very low level of commitments, which contrasted with higher levels of commitments signed by the Inter-American Development Bank (IDB).

[10] For a more detailed discussion of external assistance to agriculture, see *International Agricultural Adjustment*, Seventh Progress Report, Guideline 12, C91/18.

TABLE 8. **Commitments of external assistance to agriculture (broad definition)**

Donors	Total commitments					Concessional commitments					Non-concessional commitments				
	1986	1987	1988	1989	1990[1]	1986	1987	1988	1989	1990[1]	1986	1987	1988	1989	1990[1]
	(............ $ million ....)														
AT CURRENT PRICES															
Total commitments	14 405	14 491	15 997	14 720	...	8 057	10 191	12 172	10 954	...	6 348	4 300	3 825	3 766	...
- of which grants	3 294	4 450	4 963	4 469	...	3 294	4 450	4 963	4 469	...	—	—	—	—	...
Bilateral	5 683	6 757	8 592	7 488	...	5 497	6 411	8 187	7 297	...	186	346	405	191	...
- of which grants	2 715	3 888	4 323	3 800	...	2 715	3 888	4 323	3 800	...	—	—	—	—	—
Multilateral	8 722	7 734	7 405	7 232	7 185	2 561	3 782	3 985	3 657	3 918	6 161	3 952	3 420	3 575	3 267
- of which grants	579	562	640	669	670	579	562	640	669	670	—	—	—	—	—
World Bank	5 520	4 045	3 951	4 045	4 354	884	1 413	1 762	1 449	2 017	4 636	2 632	2 189	2 596	2 337
IBRD	4 636	2 632	2 189	2 596	2 337	—	—	—	—	—	4 636	2 632	2 189	2 596	2 337
IDA	884	1 413	1 762	1 449	2 017	884	1 413	1 762	1 449	2 017	—	—	—	—	—
IFAD	131	216	176	240	302	108	214	155	189	291	23	8	22	53	11
Regional development banks	2 091	2 663	2 483	2 077	1 792	748	1 393	1 334	1 182	913	1 344	1 271	1 149	894	879
OPEC multilateral	425	272	216	280	147	270	230	155	242	107	159	44	61	41	40
UNDP/FAO/CGIAR	551	530	578	590	590	551	530	578	590	590	—	—	—	—	—
AT CONSTANT 1985 PRICES[2]															
Total commitments	12 004	10 734	11 109	10 222	...	6 714	7 549	8 453	7 607	...	5 290	3 185	2 656	2 615	...
- of which grants	2 745	3 296	3 446	3 104	...	2 745	3 296	3 446	3 104	...	—	—	—	—	—
Bilateral	4 736	5 005	5 967	5 200	...	4 581	4 749	5 685	5 067	...	155	256	282	133	...
- of which grants	2 262	2 880	3 002	2 639	...	2 262	2 880	3 002	2 639	...	—	—	—	—	—
Multilateral	7 268	5 729	5 142	5 022	4 519	2 134	2 801	2 767	2 540	2 464	5 134	2 928	2 375	2 482	2 054
- of which grants	483	416	444	465	421	483	416	444	465	421	—	—	—	—	—

[1] Preliminary data.
[2] Deflated by UN unit value of exports index for manufactured goods: 1985 = 100.
Source: Statistics Division, FAO and OECD.

TABLE 9. **Disbursements of external assistance to agriculture (broad definition)**

Donors	Total disbursements					Concessional disbursements					Non-concessional disbursements				
	1986	1987	1988	1989	1990[1]	1986	1987	1988	1989	1990[1]	1986	1987	1988	1989	1990[1]
	(........							$ million							........)
AT CURRENT PRICES															
Total disbursements	11 934	12 206	14 187	12 360	...	7 873	8 270	9 960	8 634	...	4 061	3 936	4 227	3 726	...
- of which grants	4 120	4 980	5 675	4 989	...	4 120	4 980	5 675	4 989	...	—	—	—	—	—
Bilateral	5 160	5 790	6 690	6 225	...	5 050	5 590	6 480	6 025	...	110	200	210	200	...
- of which grants	3 550	4 430	5 070	4 360	...	3 550	4 430	5 070	4 360	...	—	—	—	—	—
Multilateral	6 774	6 416	7 496	6 135	6 460	2 823	2 680	3 480	2 609	3 008	3 950	3 736	4 016	3 526	3 452
- of which grants	570	550	605	629	630	570	550	605	629	630	—	—	—	—	—
World Bank	4 163	3 882	4 749	3 380	3 716	1 379	1 350	1 806	1 176	1 392	2 784	2 532	2 943	2 204	2 324
IBRD	2 787	2 532	2 943	2 204	2 324	3	—	—	—	—	2 784	2 532	2 943	2 204	2 324
IDA	1 376	1 350	1 806	1 176	1 392	1 376	1 350	1 806	1 176	1 392	—	—	—	—	—
IFAD	244	234	203	194	198	234	218	195	184	184	11	16	8	10	14
Regional development banks	1 665	1 620	1 784	1 743	1 726	589	512	819	579	762	1 075	1 108	966	1 164	964
OPEC multilateral	150	150	180	228	230	70	70	80	80	80	80	80	100	100	100
UNDP/FAO/CGIAR	551	530	580	590	551	530	580	590	590	—	—	—	—	—	—
AT CONSTANT 1985 PRICES[2]															
Total disbursements	9 944	9 042	9 852	8 583	...	6 561	6 126	6 917	5 996	...	3 384	2 916	2 935	2 588	...
- of which grants	3 433	3 689	3 941	3 465	...	3 433	3 689	3 941	3 465	...	—	—	—	—	—
Bilateral	4 300	4 289	4 646	4 323	...	4 208	4 141	4 500	4 184	...	92	148	146	139	...
- of which grants	2 958	3 281	3 521	3 028	...	2 958	3 281	3 521	3 028	...	—	—	—	—	—
Multilateral	5 644	4 753	5 206	4 260	4 063	2 350	1 985	2 417	1 812	1 892	3 296	2 767	2 789	2 448	2 171
- of which grants	475	407	420	437	396	475	407	420	437	396	—	—	—	—	—

[1] Preliminary data.
[2] Deflated by UN unit value of exports index for manufactured goods: 1985 = 100.
Source: Statistics Division, FAO and OECD.

Disbursements of external lending to agriculture
Total disbursements of external lending to agriculture dropped to about $12.3 billion in 1989. At nominal prices, this was 13 percent less than in 1988 and 1 percent more than the 1987 levels. When total commitments are deflated by prices of manufactured goods, the 1989 level declined by 13 percent, 5 percent and 14 percent in relation to 1988, 1987 and 1986, respectively (Table 9). The share of grants in total disbursements increased from 34 percent in 1986 to 40 percent in 1989.

The increase of DAC bilateral assistance from 1986 to 1988 was followed by a decline in 1989 when it dropped by more than 7 percent compared with 1988. In 1989, Japan accounted for about 23 percent of total DAC disbursements.

Estimates of multilateral disbursements are available up to 1990. For this last year multilateral disbursements of external assistance to agriculture were valued at $6.5 billion, down by almost 14 percent from 1988. In 1990, IBRD disbursements increased by about 5 percent, and IDA disbursements by about 18 percent.

Regional bank lending fell slightly in 1990, mainly reflecting the low level of disbursements from the African Development Fund (AfDF) and African Development Bank (AfDB).

Recent developments in agency funding
During 1990, the IBRD reactivated its relationship with most East European countries. The IBRD was also active in facilitating debt and debt-service reduction agreements between Mexico, the Philippines, Costa Rica and Venezuela and their respective commercial creditors. It also launched programmes designed to integrate poverty-reduction activities with country assistance strategies.

The European Bank for Reconstruction and Development (EBRD) was established in early 1991 with pledged capital funding of $11.4 billion. The EBRD plans to support a variety of programmes, including: the strengthening of infrastructure; reform of financial sectors; the privatization of banks and state-owned enterprises; the promotion of small-scale enterprises; the promotion of foreign investment; and environmental improvement.

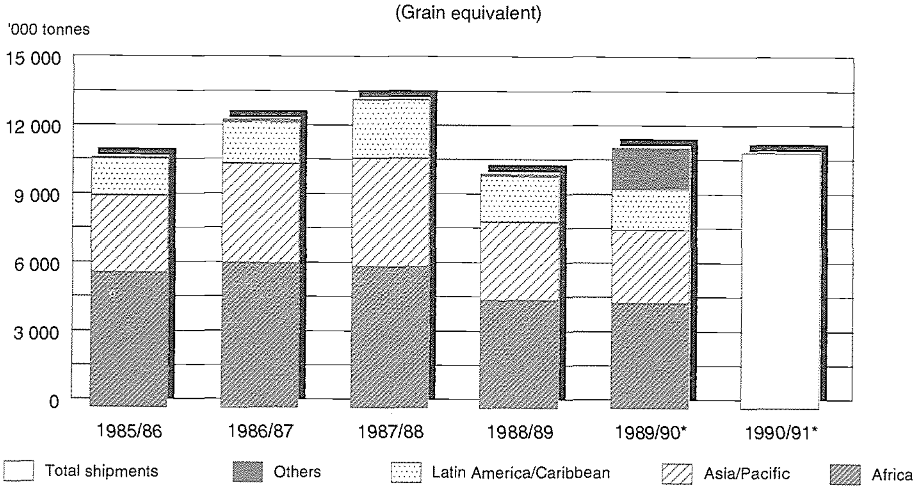
The IDA's ninth replenishment of resources started on 1 July 1990 for a three-year period with a set target of $15 billion (SDR 11.68 billion). In addition, if repayment of earlier loans is taken into consideration, the total amount should rise to about $17 billion. Priority areas for IDA funding are: poverty reduction; the promotion of sound macro-economic and sectoral policies and programmes; and environmental programmes.

The International Fund for Agricultural Development (IFAD) declared its third replenishment of resources effective as of 24 December 1990 at a level of $540 million for a three-year period.

The IDB's seventh general increase in resources went into effect on 24 January 1990.

Figure 11

FOOD AID IN CEREALS
(Grain equivalent)



Source: FAO

* 1989/90: Preliminary - 1990/91: Estimates

It will enable the IDB to approve loans of up to $22.5 billion during the period 1990-1993.

Japan maintained its leading role in bilateral development cooperation programmes in 1989, although resources for these programmes sharply declined in relation to 1988.

Food aid[11]

As of June 1991, total shipments of food aid in cereals to be made available during 1990/91 (June/July) were estimated to be 11.2 million tonnes, only slightly down from the 11.4 million tonnes shipped in 1989/90. This figure is significantly more than total shipments of 10.2 million tonnes in 1988/89 but well below the record shipments of 13.5 million tonnes in 1987/88. The increase in shipments in 1989/90 compared with the previous year, however, resulted entirely from major quantities of food aid in cereals being supplied to East European countries. Shipments to developing countries, on the other hand, were reduced by more than 400 000 tonnes down to 9.8 million tonnes. During 1990/91 small quantities of cereal food aid relating to earlier commitments were shipped to East European countries (Fig. 11).

Among the important recent policy developments with implications for food aid, mention should be made of the new United States Food, Agriculture, Conservation and Trade Act of 1990. The act has brought about several important changes to United States food aid policy and administration as established in Public Law 480 (see Regional review, Developed countries).

Overall, under the new United States legislation a greater percentage of food aid should be provided in the form of grants.

The Food Aid Convention (FAC), which is part of the International Wheat Agreement (1986), was recently extended for two years to 30 June 1993.

[11] See *International Agricultural Adjustment*, Seventh Progress Report, Guideline 11, C91/18.

FISHERIES

Production in 1989

In 1989, the increase in world fish production, which has been a regular feature of the sector since the early 1970s, slowed significantly. Although the world catch reached the record level of 99.5 million tonnes in 1989, it was only 0.8 percent more than the previous year (Table 10). The increase was almost entirely the result of larger landings of small pelagic species in the southeastern Pacific and resulted in an overall rise in the developing countries' catch of almost three million tonnes, or 5.5 percent. Elsewhere, fish harvests generally remained at about the same level as the previous year or showed a decline, most notably in the case of relatively high-value cod and haddock.

For the first time since 1984, when FAO began collecting aquaculture statistics separately, total aquacultural production fell by 1 percent. The decline was solely in the production of aquatic plants, which fell by 350 000 tonnes, or 10 percent. Production of fish and shellfish increased by about 2 percent to a record 11.1 million tonnes. In Africa, there was an encouraging increase of almost 25 percent to 95 000 tonnes. Second to Oceania, Africa remains the region with the lowest production of farmed fish, although the increase it recorded in 1989 was by far the largest to date. Total production of aquaculture in Asia amounted to 8.7 million tonnes of fish and shellfish and three million tonnes of aquatic plants. Overall, this represented 85 percent of the world's production from aquaculture. In 1989, the major share of the decline in aquatic plant production occurred in Asia while fish and shellfish production in this region increased by less than 1 percent. Production in North America increased by 7.6 percent, in Latin America by 9.5 percent, and in Europe by 6 percent. In the USSR, however, aquacultural production fell by almost 3 percent, mainly in freshwater fish.

After a strong recovery in 1988 following adverse changes in the El Niño current the previous year, catches of small pelagics in the southeastern Pacific increased by a further 1.4 million tonnes in 1989. The increase was not evenly distributed among countries, however. Catches in Chile increased by 24 percent to 6.4 million tonnes while Peruvian catches increased by only 3 percent to 6.8 million tonnes because of a fishing ban in August and September and

TABLE 10. **Annual changes in catch and culture of fishery products,[1] 1986-1990**

Item	1986	1987	1988	1989	1990[2]	1986	1987	1988	1989	1990
	'000 tonnes					%				
WORLD CATCH AND CULTURE OF FISH AND SHELLFISH	92 730	94 226	98 762	99 535	95 535	7.3	1.6	4.8	0.8	−4.1
Catch and culture in inland waters	11 761	12 729	13 404	13 777	...	9.9	8.2	5.3	2.8	...
Catch and culture in marine waters	80 969	81 497	85 358	85 758	...	7.0	0.7	4.7	0.5	...
- by principal producers:										
USSR	11 260	11 160	11 332	11 310	10 310	7.0	−0.9	1.5	−0.2	−8.8
China	8 000	9 346	10 359	11 220	11 700	18.0	16.8	10.8	8.3	−4.3
Japan	11 976	11 849	11 967	11 174	...	5.0	−1.6	1.0	−6.6	...
Peru	5 614	4 584	6 638	6 832	6 000	35.7	−18.3	44.8	2.9	−12.2
Chile	5 572	4 815	5 210	6 454	4 970	16.0	−13.6	8.2	23.9	−23.0
United States	5 167	5 986	5 937	5 744	5 650	4.4	15.8	−0.8	−3.3	−1.6
- by main group of species:										
Carp, barbel, etc.	3 902	4 431	4 895	4 974	...	19.8	13.6	10.5	1.6	...
Miscellaneous freshwater fish	5 286	5 455	5 600	5 783	...	5.4	3.2	2.7	3.3	...
Cod, hake, haddock	13 556	13 785	13 641	12 831	...	8.7	1.7	−1.0	−5.9	...
Redfish, bass, congers	5 956	5 694	5 646	5 907	...	14.4	−4.4	−0.8	4.6	...
Jacks, mullet, saury	7 474	8 299	9 137	9 243	...	−10.1	11.0	10.1	1.2	...
Herrings, sardines, anchovies	23 955	22 314	24 113	24 574	...	13.5	−6.9	8.1	1.9	
Tuna, bonitos, billfish	3 465	3 586	3 993	4 010	...	8.4	3.5	11.4	0.4	...
Mackerel, snoek, cutlass fish	4 010	3 644	3 846	3 826	...	4.7	−9.1	5.5	−0.5	...
Salmon, trout, smelt	1 047	1 043	1 162	1 437	...	10.7	−0.3	11.4	23.7	...
Miscellaneous marine fish	9 168	9 563	10 036	10 129	...	7.3	4.3	4.9	0.9	...
Shrimps, prawns	2 233	2 364	2 518	2 443	...	4.6	5.9	6.5	−3.0	...
Squid, cuttlefish, octopus	1 752	2 312	1 255	2 537	...	−2.0	32.0	−2.5	12.5	...
WORLD PRODUCTION AND CULTURE OF SEAWEEDS	3 863	3 547	4 140	4 340	4 400	−0.4	−8.2	16.7	4.8	...

[1] Including all aquatic organisms except aquatic mammals.
[2] Preliminary.
Source: FAO. Fisheries Department, FAO.

TABLE 11. **Disposition of world catch, 1986-1989**

Item	1986	1987	1988	1989	1986-87	1987-88	1988-89
	(.................... '000 tonnes			..................)	(................ %		................)
WORLD CATCH	**92 776**	**94 273**	**98 762**	**99 535**	**1.6**	**4.8**	**0.8**
Human consumption	**64 076**	**67 110**	**68 744**	**69 215**	**4.7**	**2.4**	**0.7**
Fresh	**19 565**	**21 960**	**22 613**	**21 744**	**12.2**	**3.0**	**−3.8**
Freezing	**22 565**	**22 692**	**23 497**	**23 784**	**0.6**	**3.5**	**1.2**
Curing	**10 276**	**10 676**	**10 621**	**10 975**	**3.9**	**−0.5**	**3.3**
Canning	**11 670**	**11 782**	**12 013**	**12 712**	**1.0**	**2.0**	**5.8**
Other purposes	**28 700**	**27 163**	**30 018**	**30 320**	**−5.4**	**10.5**	**1.0**
Reduction	**27 000**	**25 763**	**28 518**	**28 820**	**−4.6**	**10.7**	**1.1**
Miscellaneous	**1 700**	**1 400**	**1 500**	**1 500**	**−17.6**	**7.1**	**—**

Source: FAO.

fishermen's strikes in October and November. In Ecuador catches fell by 6 percent to 724 000 tonnes.

Fish production in China increased substantially for the sixth consecutive year. At 11.2 million tonnes, China's production was at the same level of that of Japan. Asia's other leading fish-producing countries showed virtually no change in their fish harvests, the only exception being India where production rose by almost 500 000 tonnes or 15 percent.

Catches by African countries remained at about 3.8 million tonnes. In Morocco, catches declined by almost 6 percent to 520 000 tonnes, mainly as a result of a fall in sardine catches. Production in other African countries generally showed little change from the previous year.

Fish production in the developed countries fell by over two million tonnes (5 percent) to 43.6 million tonnes. The major producing countries, Japan and the Republic of South Africa, decreased their catches by nearly 7 percent to 11.2 million tonnes and by more than 32 percent to just less than 880 000 tonnes, respectively. Almost all other developed countries experienced a fall of 3 to 5 percent, primarily as a result of lower catch rates and reduced quotas for the higher-priced demersal species in the North Atlantic. A notable exception was Greenland where catches increased by one-third to 162 000 tonnes. Norway was also able to increase its total production, despite a decline in cod catches, as a result of increased shrimp and capelin catches as well as farmed salmon. In Oceania, New Zealand again recorded an increase, as has been the case since the 1960s. In 1989, however, the increase was only marginal (2 percent), bringing production to 514 000 tonnes. After two good years, Australian catches fell by 18 percent to 176 000 tonnes.

The quantity of fish used for direct human consumption increased in 1989 by almost 500 000 tonnes, or less than 1 percent (Table 11). The amount of fish used for meal and oil also increased by 1 percent, largely as a result of the increased catches of small pelagics in the southeastern Pacific. Here, Chile again became the leading producer of fish-meal, with a record production of more than 1.3 million tonnes compared with just less than 1.1 million tonnes recorded by Peru and Norway. As a result, world fish-meal production increased by about 70 000 tonnes to reach a record output of nearly 6.9 million tonnes.

Trade in 1989

After a number of years characterized by a sustained, high growth rate, in 1989 world trade in fishery products showed an increase of just more than 1 percent. This was a result of price falls for a number of fishery products (Table 12). Nevertheless, the developing countries increased their exports by about 2 percent to $15 billion.

The United States in 1989 maintained its position as the world's leading exporter of fishery products, with its export values increasing by about 4 percent to more than $2.5 billion compared with an increase of almost one-third in 1988. Among the other leading exporting countries, only Thailand was able to increase its exports, predominantly canned tuna — by 20 percent. However, Thailand's favourable balance of trade in fishery products increased by only 13 percent because of its reliance on imported raw tuna for the canning industry. Canada, Denmark and Norway experienced setbacks in their exports as a result of lower cod catches in the North

TABLE 12. **Trade in fisheries, 1986-1989**

Country	1986	1987	1988	1989	1986-87	1987-88	1988-89
	('000 tonnes			)	(%		)
World							
Exports	23 069	28 223	32 370	32 784	22.3	14.7	1.3
Imports	24 255	30 537	35 325	35 896	25.9	15.7	1.66
Total developing countries							
Exports	10 510	12 914	15 120	15 435	22.8	17.1	2.11
Imports	3 056	3 728	4 756	4 959	22.0	27.6	4.3
Total developed countries							
Exports	12 558	15 309	17 251	17 352	21.9	12.7	0.6
Imports	21 199	26 809	30 569	30 937	26.5	14.0	1.2
Major exporters							
United States	1 481	1 825	2 441	2 532	23.2	33.7	3.7
Canada	1 752	2 092	2 207	2 051	19.4	5.5	−7.1
Thailand	1 012	1 261	1 631	1 959	24.6	29.3	20.1
Denmark	1 381	1 751	1 856	1 745	26.8	6.0	−6.0
Taiwan, Province of China	1 375	1 742	1 752	1 592	26.7	0.6	−9.1
Korea, Rep.	1 171	1 540	1 784	1 538	31.5	15.8	−13.8
Norway	1 171	1 475	1 608	1 563	26.0	9.0	−2.8
Major importers							
Japan	6 594	8 308	10 658	10 127	26.0	28.3	−5.0
United States	4 749	5 662	5 389	5 757	19.2	−4.8	6.8
France	1 510	2 022	2 244	2 194	33.9	11.0	−2.2
Italy	1 265	1 738	1 899	1 984	37.4	9.3	4.5
Spain	722	1 322	1 726	1 816	83.1	30.6	5.2
United Kingdom	1 216	1 387	1 577	1 612	14.1	13.7	2.2
Germany, Fed. Rep.	1 112	1 270	1 429	1 479	14.1	12.5	3.5

	1985	1986	1987	1988
	(%			)
EXPORTS AS SHARE OF CATCHES				
Total developing countries	8.9	11.4	13.8	14.9
Total developed countries	11.2	13.3	16.5	17.6

Source: FAO.

Atlantic. The value of exports from the Republic of Korea declined, mainly because of lower shipments (−14 percent), while exports from Taiwan, Province of China, were strongly influenced by lower shrimp prices. The combined exports of South American countries, which accounted for the greater part of their catches, increased by 12 percent to more than $2.5 billion.

Almost all major importing countries increased the value of their imports in 1989 but, compared with recent years, the increases were small, largely because of the lower prices of most important traded products.

Although imports by Japan declined by 5 percent in 1989, they still accounted for 28 percent of world fish trade. The EEC accounted for 33 percent, including intra-Community trade. The United States, the third largest importer with purchases worth $5.8 billion, increased its imports by 7 percent in 1989 but, even so, its share of world trade in the same year fell to 16 percent compared with 20 percent in the mid-1980s.

In 1989 prices were weak for shrimp, yellowfin tuna, squid and octopus, fish-meal and fish oil and, for the first half of the year, skipjack tuna.

International shrimp trade in 1989 was strongly influenced on the demand side by high cold storage holdings and a low level of demand in Japan; and, on the supply side, by strong production from aquaculture. Yellowfin tuna prices fell to particularly low levels during the year, primarily as a result of an embargo by the United States on imports of tuna caught with dolphin. Squid prices were depressed because of high stocks carried over from the previous year and higher catches in the southwest Atlantic, while octopus prices were under pressure because of the competition from low-priced squid.

Prices of canned small pelagics showed an upward trend during the year. Developing country producers continued to take an increasing share of this market. Morocco remained the largest world supplier, accounting for over 17 percent of total world trade. Similarly, other developing country producers, notably Chile, and to a lesser extent Peru, and also some Southeast Asian countries, increased their market shares — Thailand in particular. The developed countries' share, chiefly that of Japan, declined.

Although the increase in fish-meal production was relatively small, prices fell from their 1988 peak, partly as a result of a reduction in stock levels but also in response to the progressive substitution of fish-meal with soymeal, particularly on the United States market. Aquaculture now meets a significant part of the demand for fish-meal. It is currently estimated that global use of fish-meal in fish feeds is approaching 15 percent of fish-meal production, mainly for the farming of prawns and salmonids. Fish oil prices continued their decline, which had begun mid-way through the previous year, strongly influenced by high catches of small pelagics in the southeastern Pacific during the first half of the year. A partial recovery was recorded in the latter part of 1989 but fish oil prices continued to be relatively depressed in the face of competition from vegetable oils.

Preliminary estimates for 1990

Preliminary information shows that world fish production declined by over four million tonnes to 95.2 million tonnes in 1990, the first significant fall in world catches since 1972. The major contributory factors were a fall of some two million tonnes (25 percent) of shoaling pelagics in the southeastern Pacific and a further decline of more than one million tonnes of relatively high-priced demersal fish — caused by overfishing. Catches of cephalopods and tuna also declined. The decrease in fish production was also partly attributable to unforeseen economic difficulties affecting the USSR as well as some East European countries.

In recent years many reports made by FAO and other organizations on the situation and outlook for world fisheries have emphasized the fluctuating nature of stocks of small pelagic species as well as the threat posed by overfishing to sustained production. In reports on global fish production, the significance of overfishing has been masked by the recent increases in catches of shoaling pelagics, particularly in the southeastern Pacific. Ninteen-ninety was the first year in which the fall in fish catches resulting from overfishing coincided with a fall in shoaling pelagic catches.

FORESTRY

Production in 1990
In 1990 total world roundwood production reached 3 491 million m^3, an increase of 0.8 percent above 1989, reflecting a 1.7 percent increase in production in developing countries and a 0.3 percent decrease in developed countries (Table 13).

World production of fuelwood and charcoal increased by 1.3 percent in 1990, with a 2 percent increase in developing countries (which account for 85 percent of total production) more than offsetting a 2.2 percent decline in developed countries. Fuelwood accounts for about 17 percent of total energy consumed in developing countries although, in some rural areas, the share is much higher and, in certain African countries, the share of energy derived from fuelwood may reach 80 to 85 percent.

The rapid increase in population has often resulted in the overcutting of available fuelwood resources, thereby creating local shortages and undermining ecological stability. Although in recent years the developing countries' commercial energy consumption has grown at a much faster rate than their fuelwood consumption, rural populations still often have limited access to commercial energy products.

Industrial roundwood production virtually stagnated in 1990, increasing by only 0.2 percent over 1989. This was mainly the result of a stagnation in developed country production, as the slow-down in economic growth and construction activities in some major countries led to a reduction of demand for wood. An unprecedented storm which hit Central Europe in early 1990 blew down about 100 million m^3 of roundwood trees, of which 67 million m^3 were in Germany alone. This contributed to increased removals of logs in Central Europe and consequently offset the large production decreases occurring in North America and Eastern Europe.

Production of *mechanical wood products* in 1990 declined markedly in the developed countries. The decrease was concentrated mainly in North America, Eastern Europe and Oceania, while in Western Europe the situation varied among countries. Production increased marginally in the developing countries, reflecting an increasing demand from growing populations. Housing starts in the United States dropped to 1.2 million units, the lowest level since 1982. Canada's production of coniferous sawnwood, the third largest in the world, recorded a decrease of about 4 percent as a result of diminished domestic demand and the reduction of exports to the United States. In Eastern Europe and in the USSR, the pattern of stagnant or declining production continued and the situation is not likely to change unless these countries make a major effort to restructure their industries. Australia experienced a marked decrease in output. This was associated with economic recession and a sharp drop in housing starts.

Production of mechanical wood products increased considerably in Central Europe, fuelled by the strong performance of the building industry in Germany; and output also rose in Austria and France. The Scandinavian countries, on the other hand, experienced very modest growth as building activity in these countries was stagnant and exports to the United Kingdom decreased considerably.

A different picture emerged in 1990 for the *paper* sector. Increased production was again recorded for all products and in most regions, thus continuing the sector's uninterrupted growth which began in 1983. The rate of growth in output was slower than in previous years, however, and in the later part of 1990 further signs of a deceleration appeared. As in previous years, in response to the dynamic performance of the communication and service sectors, most of the growth was in the output of graphic grades. Major production growth was experienced by countries in Central Europe, the United States and Japan, while Canada and the Scandinavian countries experienced more constrained growth. Signs of stagnation were observed in certain developing countries; China, the Republic of Korea and Brazil, for example, where output had grown rapidly in recent years.

Output of pulp for paper decreased marginally in 1990. The concomitance of a contraction in pulp production and expanding paper production reflected an increasing trend in the utilization of recycled waste paper by the industry. Many firms were making substantial investments in waste paper recycling facilities, often supported by government subsidies on waste paper recovery or encouraged by regulations requiring a percentage of recycled fibre content in paper products. Production of mechanical wood pulp continued to increase more rapidly than that of chemical pulp, as thermomechanical and

BOX 2

Non-wood forest products

In addition to timber and fuelwood, forests generate a large number of other valuable products, several of which enter the international market while others are consumed locally by rural populations. In recent years these products have received increasing attention because of their potential to generate income and employment for local communities as well as for the direct benefits they can provide to these communities.

Non-wood forest products that find a place on the international market include: gums and resins; bamboos; various oils; rosin and turpentine; tanning materials; honey; seeds and spices; wildlife products; barks and tree leaves; and medicinal plants. Still more products, such as bushmeat, cola nuts and palm wines, are traded at the regional level among some African countries.

Rattan has recently become an important earner for some exporting countries in Southeast Asia, with the furniture industry sustaining strong demand on the international market. Rattan exports from Malaysia, Indonesia and the Philippines were estimated to be about $200 million in 1988. The Indonesian Government is seeking to support local processing and manufacturing of rattan products by banning exports of unprocessed rattan.

Gum arabic, a product of the *Acacia senegal*, is still an important export commodity for some arid African countries, particularly the Sudan, which is the largest producer, and to a lesser extent Mali, Mauritania and Senegal. Total annual world trade in gum arabic is in the order of $80 million.

Exports of *cork* have traditionally been a significant source of foreign exchange earnings for Mediterranean countries, particularly Portugal and Morocco, but also Spain, Tunisia and Italy. Total exports of cork and derivatives are valued at about $600 million.

A recent example of development in the economic exploitation of forestry resources is provided by the Republic of Korea which, through the implementation of community forestry programmes, has developed the cultivation of edible fungi as a viable economic activity. Production is mainly geared toward the international market and mushroom exports are valued at approximately $50 million.

Rural communities have always been substantially dependent on forests as providers of food, fuel, medicinal herbs and extracts, building materials, material for handicrafts, animal fodder, perfumes, dyes, etc. Such products can be of particular importance to people living in remote forest areas with little or no access to products on the urban or rural markets.

Forest wildlife also contributes directly to the food supply of rural communities. In tropical West Africa and Latin America it is a major food item in forested areas where substitutes are not available. In the Cameroonian forest zone, bushmeat supplies approximately 70 to 80 percent of the animal protein consumed by local people. In an evaluation of a forestry project in Ghana it was found that 95 percent of the local rural population considered the worst impact of forest destruction in the area to be the loss of bushmeat.

Non-wood forest products are often collected and traded in local rural and urban markets, thus providing labour-intensive work and an additional source of income during the off-peak agricultural season. In India, for instance, tendu leaves are used as wrappers for *beedies* (indigenous cigarettes). Collecting and processing tendu leaves is a labour-intensive activity which offers numerous employment opportunities in certain states. It is estimated that about 500 000 people are employed in the collection and processing of tendu leaves for at least one month a year, while about 200 000 are engaged in wrapping *beedies* throughout the year.

The role of women is particularly important in the collection of non-wood forest products both for domestic use and for processing and sale in local markets. In many rural communities women bear the major burden of providing their families with food, medicines and cash from sales derived from these products.

In many countries the collection of non-wood forest products is subject to local communities' established common property rights. In other cases, it is regulated through licensing systems. At times, new or alternative ways of exploiting forests may conflict with these customary activities, while the clearing or felling of forests and the restriction of access may result in severe hardship for communities who depend on non-wood products for their livelihood.

Governments, however, can take special action to protect the interests of local communities. By creating what in the Amazon are termed "extractive reserves", as was recently done by the Brazilian Government in the State of Acre, governments can offer long-term usufruct agreements to people who agree to live in harmony with the forest, taking from it only what is necessary for their livelihoods and ensuring the rejuvenation of valuable species. This approach assumes that, by stimulating the sustainable utilization of a wider range of these extractive products, there will be greater incentive for those who reside in and near forests to protect them from encroachment by outsiders and to maintain forest productivity and biodiversity over the long term.

TABLE 13. **Output of main forest products in developed and developing countries, 1987-1990**

Product	1987	1988	1989	1990
	(Million m^3			)
Roundwood	3 380	3 433	3 463	3 491
Developing countries	1 854	1 889	1 920	1 953
Developed countries	1 526	1 544	1 543	1 538
Fuelwood and charcoal	1 736	1 760	1 786	1 810
Developing countries	1 459	1 488	1 518	1 548
Developed countries	277	272	268	262
Industrial roundwood	1 644	1 672	1 677	1 681
Developing countries	395	401	403	405
Developed countries	1 249	1 271	1 274	1 276
PROCESSED WOOD PRODUCTS				
Sawnwood and sleepers	505	506	501	490
Developing countries	112	113	114	115
Developed countries	393	393	387	375
Wood panels	121	127	129	131
Developing countries	22	24	25	26
Developed countries	99	103	104	105
	(Million tonnes			)
Paper and paperboard	213	225	231	235
Developing countries	32	35	36	37
Developed countries	181	191	195	198
Pulp for paper	153	159	162	161
Developing countries	20	20	21	21
Developed countries	133	139	141	140

Source: FAO.

chemo-thermomechanical pulp production capacity was further expanded.

Trade and prices

Global trade in forest products decreased in 1990 compared with 1989, particularly in the later months of the year (Table 14). This largely reflected the economic slow-down in several major OECD countries. In the United Kingdom, Europe's largest importer, there was a marked decrease in the number of housing starts, which affected coniferous sawnwood imports in particular. Scandinavian exporters suffered most as a result. In Germany, France and Central European countries, the expansion in consumption of mechanical wood products was mainly met by increased domestic output. In North America, the downturn in the United States housing industry affected Canadian exports, which are mainly oriented toward that large market.

In Japan, the world's largest importer of wood and wood products, consumption in 1990 remained at the same level as in 1989, thus reflecting sustained activity in the construction industry. However, during the year signs of a slow-down appeared in the economy. This had a marked impact on wood trade, as there was a tendency to meet domestic needs by running down stocks and reducing wood imports, including those of manufactured wood products which had increased steadily over the previous four years.

Exports from tropical developing countries were negatively affected by the emerging recession in some of the major markets. In addition, exports were affected by measures — recently introduced by major exporters such as

TABLE 14. **Value of exports of main forest products from developed and developing countries, 1987-1990**

Product	1987	1988	1989	1990
	(...............................	$ billion	....	)
Industrial roundwood	7.34	8.47	8.92	8.88
Developing countries	2.51	2.55	2.64	2.65
Developed countries	4.84	5.92	6.28	6.23
Sawnwood and sleepers	13.67	15.67	17.42	17.66
Developing countries	2.25	2.62	3.21	2.99
Developed countries	11.42	13.05	14.21	14.67
Wood-based panels	7.27	8.34	9.35	9.32
Developing countries	3.21	3.74	4.24	4.14
Developed countries	4.06	4.64	5.11	5.18
Wood pulp	12.48	15.35	17.31	16.85
Developing countries	0.84	1.18	1.18	1.22
Developed countries	11.64	14.17	16.13	15.63
Paper and paperboard	32.21	38.74	41.49	43.27
Developing countries	1.41	2.07	2.08	2.31
Developed countries	30.81	36.67	39.41	40.96

Source: FAO.

Indonesia, the Philippines and Malaysia — aimed at discouraging trade in primary wood products in order to encourage domestic processing. Thus, the high export levy, imposed by Indonesia on sawnwood exports and designed to stimulate further processing of sawnwood, has significantly limited exports of this product. In 1990, peninsular Malaysia, the world's largest exporter of tropical sawnwood, announced the introduction of an export levy and export quotas on 22 sawnwood species. In the same year, Ghana introduced a duty of 50 percent on the exports of certain species of logs and sawnwood.

In contrast to the constriction of trade in mechanical wood products, trade in paper grew further in 1990, although some signs of a slow-down appeared during the last months of the year. Canada saw a considerable reduction in its newsprint exports because of a serious labour dispute but other major exporters enjoyed general increases. Of particular relevance was the 18 percent growth in exports from the United States, stimulated by the low exchange rate of the US dollar.

Trade in pulp, on the contrary, declined after several years of uninterrupted growth. In 1990 new capacity came on stream in a number of major producing countries, both developed and developing, but because of diminished demand, capacity utilization rates fell markedly while the major producers' pulp inventories increased significantly. A factor behind the reduced demand for pulp is the utilization by some mills of higher percentages of recycled fibres. This, on the other hand, increases trade in waste paper: it is estimated that Western European and Asian imports of waste paper grew by some 15 percent in 1990.

Prices for major forest products showed varying trends in 1990, depending on the market situation for specific products and countries.

In the United States the sharp downturn in the number of housing starts in 1990 led to a marked decrease in prices of wood products utilized by the building industry. Prices for mechanical wood products tended to be firmer in continental Western Europe, reflecting the good performance of the building and furniture industries in a number of countries. For wood pulp, the development of excess production capacity, combined with slackening demand, led to a major setback in prices in 1990, following four years of sustained increases.

Tropical forests

For the first time, the 1980 FAO/UNEP Tropical Forest Resources Assessment Project included an estimate of changes in forest areas. The importance of monitoring the state of forests is reflected in the current Tropical Forest Resources Assessment 1990 Project. Preliminary results of the latter assessment indicate that the loss of tropical forest in the 1980-1990 period may have averaged 1.2 percent per year.

International concern over the pervasive loss of tropical forest led to the launching in 1985 of the the Tropical Forestry Action Plan (TFAP, now known as the Tropical Forests Action Programme). In response to the TFAP, 83 developing countries have begun formulating national plans in cooperation with the international community of donor agencies and non-governmental organizations (NGOs). Twenty countries have completed their plans and presented a portfolio of project proposals to the donor community.

BOX 3

Environmental concerns and trade in forest products

Environmental concerns are focusing increasingly on tropical timber production, both in consumer and producer countries. Various types of trade-related action are being suggested in order to halt the process of deforestation. The motives behind the proposals cover a wide spectrum, including protection of the global environment (with particular reference to the reduction of global warming); maintaining the lifestyle of forest dwellers; and ensuring the long-term flow of tropical timber to export markets.

Proposed measures include consumer boycotts of tropical timber; limiting timber purchases to wood derived from sustainably managed sources; differential tariff levels; and import surcharges to finance assistance to tropical forest management. Some of these suggestions are based on the rationale that a reduction of international trade in tropical wood products should reduce incentives to cut down tropical forests, while other advocates consider trade levies as a means of raising funds for improved forest management.

As an example of international action, both consumer and producer countries belonging to the International Tropical Timber Organization (ITTO) have pledged their commitment to the goal of all tropical timber exports (logs, sawnwood and panels) being required to come from sustainably managed sources by the year 2000.

The likelihood of successfully reducing deforestation with trade restrictions is doubtful, however, since only 6 percent of all wood harvested in the developing countries enters international trade. By far the bulk of tropical wood production is used domestically. Furthermore, the harvesting of timber either for fuelwood or commercial wood uses is only one cause of tropical deforestation. The clearing of land for agricultural settlement is recognized as having a significant impact, although estimates vary as to its exact extent. Unless such causes are also addressed, any beneficial effects from measures relating to international trade in tropical timber may be relatively minor.

Environmental concerns are also affecting trade in forest products in temperate regions. In the United States, for instance, wood harvesting in the states of Washington and Oregon is expected to decline because of moves to protect the habitat of endangered species such as the spotted owl. Concern over the supply of timber to domestic processors has also led to legislation that will substantially reduce softwood log exports from public lands in these two states. Canadian paper exports to the United States are affected by United States newspaper publishers' increasingly strong call — often stirred by national environmental regulations — for newsprint to contain a proportion of recycled waste paper. This trend is requiring investment in appropriate processing capacity and is generating a new import trade in waste paper to the United States.

PART II
REGIONAL REVIEW

I. Developing country regions
II. Developed country regions

REGIONAL REVIEW

I. Developing country regions

Using the approach introduced in last year's issue of *The State of Food and Agriculture*, the developing country review in this publication focuses on selected countries from each region. In the case of Africa, the discussion centres on two similar mineral-livestock economies, Namibia and Botswana, thus continuing the survey of southern Africa begun last year. Namibia's accession to independence in March 1990 marked an important step in the political evolution of southern Africa. The Asian review examines the recent experiences of Viet Nam and Laos, two countries that have undertaken bold economic, organizational and institutional reforms with far-reaching repercussions on agriculture. The Latin America and Caribbean review discusses the cases of three Andean countries, Bolivia, Ecuador and Peru, which exemplify the economic problems and disappointing policy experiences as well as the convergence of policy orientations that characterized the region during the 1980s. Algeria, Morocco and Tunisia, three Maghreb countries in the Near East region, are reviewed in the context of their economic and food security dependence on external conditions; their varying experiences in introducing economic reform; and their integration efforts.

AFRICA: SUB-SAHARAN AFRICA

Regional overview

According to estimates issued by the Economic Commission for Africa (ECA), sub-Saharan Africa's economic growth in 1990 was 2.6 percent, down from 3.3 percent in 1989. With current population growth estimated to be 3 percent, economic activity in 1990 therefore declined in per caput terms, and the fragile economic recovery that took place in 1988-89 proved to be short-lived. Economic activity in 1991 is expected to grow at approximately the same pace as it did in 1990. Although the IMF projects economic growth to accelerate in 1992, real per caput GDP would still remain at approximately the same level as 20 years earlier.

Meeting in Addis Ababa in May 1990, the ECA Conference of Ministers on the Review and Appraisal of the Lagos Plan of Action and the 1980-1990 UN Programme of Action for African Economic Recovery and Development (UN-PAAERD) drew attention to Africa's continuing socio-economic crisis; worsening economic infrastructure; and marginalization in global trade. The economic malaise experienced in the 1970s had continued into the 1980s and, according to virtually all development indicators, Africa performed worse in the 1980s than did the other developing regions: its per caput GDP fell from $854 in 1978 to $565 in 1988; its external debt rose from $48 billion to $423 billion during the same period; there were only 17 least-developed countries (LDCs) in 1978, but 28 by 1988. Furthermore, by 1987, between 55 and 60 percent of Africa's rural population was considered to be absolutely poor, representing the highest share of all developing regions. Prospects for the 1990s were also bleak.

The poor economic performance of 1990 reflected an overall unfavourable agricultural year as well as mixed results in the mining sector, arising from sharp increases in the price and production of oil. Apart from oil, the prices of the three categories of commodities of major importance to African countries — beverages, agricultural raw materials and minerals — declined. The difference in economic performance between the oil-importing and oil-exporting countries, which had been exceptionally narrow in 1989, reverted to its normal, wider disparity.

The year 1990 had initially presented promising conditions for African agriculture, with rainfall following relatively normal patterns. This earlier optimism proved misplaced, however, as climatic conditions deteriorated in several countries, particularly in the Sahel, the Sudan, Ethiopia and some southern African countries. Unfortunately, in several countries such situations coincided with wars and civil unrest, factors which remain a major disruptive

BOX 4

Africa: UN-PAAERD and economic integration

The UN General Assembly was to hold a special two-week session of an *ad hoc* Committee of the Whole in 1991 (3-13 September) to review the UN Programme of Action for Africa's Economic Recovery and Development (UN-PAAERD), 1986-1990, and to propose further measures for the promotion of economic recovery and development. The African countries, themselves, had called for a new international agenda for cooperation and support for the region at the ECA Conference of Ministers held in May 1991. They considered UN-PAAERD to have very little positive impact on Africa's economic performance during the period 1986-1990 and to have failed to mobilize adequate support from the international community. Indeed, fear was expressed that another programme such as UN-PAAERD, which treated Africa as a special case, might worsen Africa's marginalization from global trade and financial flows.

The main concern expressed at the ECA meeting was the need for: tangible signs of donor support, such as the cancellation of previous bilateral debt and export credit repayments; a disassociation of debt relief from structural adjustment conditionality; efforts to diversify African economies away from an overreliance on a few primary commodities; and a "substantial" increase in financial assistance. Under UN-PAAERD, it had been estimated that Africa would require $9.1 billion a year in addition to the net annual flows of resources existing in 1986 (approximately $26 billion). In fact, total net resource flows to Africa declined during the programme's five-year period to an estimated $22.6 billion a year. During this same period, Africa's terms of trade fell by one-third. There was increased support from multilateral institutions but official development assistance (ODA) stagnated in real terms and private foreign direct investment (FDI) declined sharply while debt-servicing costs rose.

The disappointing achievement record of UN-PAAERD pointed to the need for African countries to explore alternative development strategies. Among these, economic integration has received prominent attention. A significant development in this context was the adoption at the June 1991 session of the Organization of African Unity (OAU), held in Abuja, Nigeria, of a new treaty establishing a timetable for the creation of an African Economic Community by 2025. The treaty was adopted under the conviction that no African country could proceed alone in the world of the 1990s and that economic integration was one way of solving the continent's economic and social difficulties.

The treaty foresees the creation of the Community as a gradual process, consisting of six interlinked parts, each of which should take from two to ten years to implement. The six parts are: the strengthening of existing regional economic African groupings, of which there are currently seven major examples with overlapping memberships (five years); stabilization of tariffs and other barriers to intra-Community trade and the strengthening of sectoral integration (eight years); the setting up of free trade areas (ten years); the establishment of a pan-African customs union (two years); the establishment of an African Common Market (four years); and completion of the Community, involving the creation of an African monetary union and a pan-African parliament (a further five years).

force and inhibit Africa's economic and social progress. The ECA estimates that agricultural value added in Africa stagnated in 1990 after having grown by 3.6 percent in 1989 — such poor performances necessarily have a depressing effect on the manufacturing sector. Other estimates of agricultural performance in 1990 include:

- Agricultural production declined by almost 1 percent in 1990, with 17 countries recording declines in production compared with 1989. Particularly sharp falls in production were recorded in Liberia, Zambia and Senegal. On the other hand, Guinea and the Congo staged significant recoveries after the heavy losses of 1989.
- Food production fell by almost 4 percent in per caput terms, the worst year-to-year decline since 1983. Only nine out of 45 sub-Saharan countries achieved some amount of gain in per caput food production.

Namibia

Namibia gained its independence in March 1990, following more than 100 years of colonial or quasi-colonial rule or occupation. Its economy is one of striking contrasts: aggregate GDP is about $1 200 per caput, one of the highest in sub-Saharan Africa. Yet there are extreme disparities in income, with a minority enjoying per caput incomes comparable to those in Western Europe, while the great majority subsist through agriculture or informal occupations and have an average annual income estimated to be less than $100. Namibia's agricultural sector, itself, also shows great contrasts.

The Namibian Government is in the process of evolving a development strategy for its interim three-year development plan which is based on its general policy statement "The Reconstruction and Development of Namibia", prepared for its first donor conference in June 1990. The overall policy aim is to revive and restructure the economy, which suffered a protracted recession from the late 1970s to the mid-1980s because of a decline in the mining industry, which still dominates Namibia's economy, and a severe drought that ended in 1986. Economic growth has since remained only moderate. Nevertheless, Namibia has: significant mineral resources; access to one of the world's richest fishing areas; major tourist attractions; a relatively well-developed infrastructure; and potential for the production of livestock and forest products. Its economy, however, remains undiversified and exposed to the instability of international markets for primary products. A major issue is agriculture's contribution to future growth and rural development, something that will require a restructuring of the rural economy. Another key and delicate issue in this process will be access to land, which was discussed at a land conference held in June 1991.

Namibian agriculture: crop and livestock production

Although commercial agriculture currently contributes only about 11 percent to Namibia's total GDP and approximately the same percentage of its merchandise exports, it employs about 19 percent of the formal work force and is second to mining as the most important sector in the Namibian economy. The agricultural sector either directly or indirectly supports about 70 percent of the country's estimated 1.7 million people,[12] most of whom are living at subsistence levels. By including agricultural subsistence production, an additional two to three percentage points might be added to the sector's contribution to GDP.

Namibia is currently about 50 percent self-sufficient in cereal staples (pearl millet, sorghum, white maize and wheat). The favourable rains of the 1990/91 season, coupled with an apparent decline in demand which is probably linked to the reduction in the number of military personnel following Independence and the scaling down of military activities in neighbouring Angola has increased the country's self-sufficiency in staple foods, particularly white maize. Namibia is entirely self-sufficient in beef. However, imports of processed food, which are almost entirely from the Republic of South Africa and thus linked to the food distribution system dominated by that country in urban areas, remain at high levels. Nevertheless, undernourishment is a common feature in rural households, particularly in the small, communal farm areas.

Livestock farming contributes a very large share of the value of commercial agricultural production but is very susceptible to drought conditions such as those experienced in the period 1978 to 1985. The national cattle herd

[12] The official 1989 estimate is 1.3 million. Unofficial estimates for 1991 put the figure nearer 1.7 million. A population census is to be undertaken in September 1991.

declined by almost one-half between 1979 and 1984, dropping from 2.5 to 1.3 million head, but it has since recovered to about two million and should continue to increase thanks to the favourable grazing conditions of 1990/91. Most cattle are shipped on-the-hoof for slaughter in the Republic of South Africa under quotas arranged between the two countries' respective meat boards. About 187 000 head were shipped in 1987 but the export quota for 1990 was reduced to 100 000. Namibia also has an annual quota of 13 000 tonnes with the EEC, equivalent to 65 000 to 70 000 head of cattle. The Republic of South Africa is also the main market for Namibia's exports of small stock, primarily mutton sheep, for which the 1990 quota was 500 000 head.

Namibia's agricultural sector has a dual structure composed of distinct commercial and communal subsectors. There is extreme inequality between the two in terms of access to resources, technology, inputs, services and markets.

The commercial sector consists of about 4 200 farmers on about 36 million ha of privately held land, with an average holding size of 8 600 ha. This export-oriented sector is well serviced, highly developed and capital-intensive. Until recently, it had access to capital at favourable interest rates. Beef cattle and sheepskins (Karakul pelts) accounted for about 98 percent of the value of agricultural production in the late 1980s. The commercial sector's capital, infrastructure and skills represent a valuable national asset. Nevertheless, despite some recent increases in crop production, this sector has stagnated in recent years, mainly as a result of unfavourable weather and market prices, particularly for Karakul pelts.

The communal sector is subsistence-based and labour-intensive and it uses few external inputs and little advanced technology. Hence, productivity is low. Nevertheless, the communal sector comprises about 120 000 individual farmers (some 95 percent of the total) on 23 million ha of land. To underline the disparities in access to land, about 800 000 people, nearly 50 percent of the population, are concentrated on about 2.3 million ha of farmland in the northern regions. It also lacks access to markets, inputs and services, while many of its communities are continually engaged in a struggle for survival. There is, however, considerable potential for increased production, given both the current low levels of input use and technologies employed. If it were achieved, this potential would fulfil the important social objectives of raising incomes, mitigating poverty and improving food security.

Northeastern Namibia contains valuable commercial timber species, mainly Kiaat and Rhodesian teak, and there is a forest reserve of 160 thousand ha in Caprivi. Tree density is low, however, and the native forest diminishes from east to west as rainfall declines. Current extraction of commercial timber is only a small fraction of estimated sustainable timber yields, although accurate data are lacking. Similarly agroforestry is a large yet unexploited sector of the economy.

Namibia's fishing grounds are rich in pelagic fish such as pilchards and anchovies as well as demersal species such as hake and other white fish. Traditionally, a number of consortia and companies from the Republic of South Africa have dominated pilchard canning; the production of fish-meal at Walvis Bay; and the processing of rock lobster at Luderitz. Foreign trawler fleets from the 17 members of the Madrid-based International Commission for the Southeast Atlantic Fisheries (ICSEAF) were formerly active in Namibia's deep sea fishing areas. In 1988, ICSEAF members caught 630 000 tonnes of mackerel and 309 000 tonnes of hake in the three zones of the Namibian deep sea region, yet Namibia received no revenue at all for the catch. ICSEAF ended in mid-1990 when, following Independence, the Namibian Government proclaimed a 200-mile Exclusive Economic Zone (EEZ).

Estimates suggest that Namibia could earn up to $1 billion annually in royalty payments from foreign fishing fleets and fish landed and processed by Namibian vessels. The fishery sector's current contribution to GDP is low, however, because of the exclusion of economic activity in the Walvis Bay enclave. The exclusion of manufacturing in Walvis Bay,[13] which is still being negotiated with the Republic of South Africa, detracts the equivalent of about 5 to 10 percent from Namibia's GDP.

Notwithstanding this considerable potential, Namibia's agricultural sector still faces serious development constraints. Only about one-half of its land area can be used for agricultural

[13] The Republic of South Africa purportedly annexed the port of Walvis Bay and a surrounding enclave of 969 km^2, together with 13 offshore islands, by a special proclamation in September 1977, although these areas had been administered from Windhoek since 1922.

activities. Moreover, low and erratic rainfall, which varies from 100 mm to more than 500 mm a year, combined with high rates of evaporation, limits arable farming to small areas, primarily in the north of the country.

There are no internal perennial water systems and the rivers are mainly located along the country's international borders, which seriously limits their management and use for the benefit of Namibia. Although there is ground water, its exploitation is increasingly limited because of the falling water-table. There are also inadequate facilities to store surface water in the northern regions during the rains. Hence, limited surface and underground water, the high energy cost of water extraction and high evaporation rates constitute a serious constraint to the development of crop production.

The existing, unbalanced land-tenure system is also a major constraint. It can be divided into three main groups:

- commercial land (44 percent of the total), characterized by exclusive ownership;
- communal land (41 percent of the total), characterized by customary and often insecure property rights which are allocated by individual communities, including grazing rights and access to water holes;
- state land (about 15 percent of the total), mostly national parks, the reserved mining areas and desert.

Institutional deficiencies in the provision of agricultural training and extension services, appropriate technologies and access to credit and inputs are particularly marked in Namibia's communal areas.[14] Agricultural product markets are also limited by the lack of effective demand, in turn derived from the low productivity of the rural economy. Severe budget restrictions, which were imposed in 1991, make the task of addressing these problems still more difficult.

Constraints to the livestock sector include: a lack of investment opportunities in the communal areas, which leads to overstocking and, as a result of poorly defined property rights, to overgrazing; and the absence of a controllable border with Angola, a drawback which greatly hampers the control of livestock diseases, particularly contagious bovine pleuropneumonia (CBPP). This lack of control is slowing the northward shift of the veterinary cordon — the so-called red line designed to control the spread of infectious livestock diseases — further into the communal areas. This shift is desirable on political and equity grounds to allow communally owned cattle to gain access to higher-priced markets further south. Throughout the livestock area, poor management of the rangelands is contributing to bush encroachment and a reduction in livestock carrying capacity.

In forestry, the main problem is the lack of a forestry policy and the means to control access to forests. This is leading to the uncontrolled felling of trees, with potentially serious environmental consequences. Despite felling, there is a shortage of fuelwood and building poles.

In fisheries, a major difficulty is Namibia's inability to exercise its rightful control over access to the fishery resources of its EEZ, as well as the fact that the Republic of South Africa still retains economic control over the Walvis Bay enclave, the main centre of marine fishery activities.

The Namibian Government recognizes the need to reduce the disparities between the communal and commercial agricultural systems. It also recognizes that the country is far from being self-sufficient in its basic food requirements, even though it has potential for reducing its dependency on external sources of food. Furthermore, while export trade remains a priority area, it also emphasizes the importance of increasing the domestic supply capacity of the agricultural sector as a means to promote small- and medium-scale rural industries, thereby increasing the output of value-added products and stimulating employment. There is also the need to diversify production as a protection against declines in export markets, diseases — especially of livestock — and other natural disasters. Behind these objectives is the prime need to integrate the commercial and communal farming communities, thereby promoting social equity and a more rational management of the country's scarce natural resources, notably water and rain-fed land.

Botswana

Botswana, which has been independent for 25 years, shares some similarities with Namibia. It, too, is a sparsely populated country with about

[14] FAO is assisting the Namibian Government in preparing a rural credit study.

1.3 million people, compared with Namibia's 1.7 million. Its economy is also dominated by mining, but to an even greater extent than Namibia's. It has an agricultural economy dominated by the livestock sector, where the distribution of cattle ownership is highly unbalanced. It is estimated that 40 percent of households do not have ownership of this major resource, while less than 10 percent of households, including those in both traditional and commercial farming activities, own about 60 percent of the national cattle herd of about 2.5 million head. The Botswana economy is open and fragile. Diamonds accounted for 80 percent of merchandise exports in 1990 and other minerals, such as copper and nickel, for a further 8 percent. Beef exports, the sole agricultural export commodity, accounted for 4 percent of total exports.

Aware that diamond mining will not be everlasting, the Botswana Government recently undertook a review of its agricultural sector. It also undertook an environmental policy assessment which, after several years of deliberations, culminated in the National Conservation Strategy, approved by parliament in December 1990.

The Agricultural Sector Assessment of 1988/89 provided the basis for a draft policy paper that was discussed at the Agricultural Consultative Policy Conference from 28 May to 1 June 1990. This national conference was followed by another 12 consultative meetings held throughout the country. The concluding document was entitled *Botswana's agricultural policy: critical sectoral issues and future strategy for development*. The resulting "white paper" was approved by parliament in February 1991 and will be incorporated in the Seventh National Development Plan, 1992-1996, currently in preparation.

Although the crop subsector receives considerable government attention and resources, it is the livestock subsector that raises the most intractable issues regarding the use of natural resources.

The national cattle herd more than doubled from about 1.25 million head at the time of Independence in 1966 (a low, drought-affected figure) to a maximum of three million in 1982 before drought conditions again set in. The number fell to 2.3 million in 1987 but has been climbing since and, given the excellent grazing conditions of 1991, is likely to continue rising. This progression was largely the result of considerable government intervention, particularly through animal disease control, the provision of boreholes and credit and marketing facilities. Productivity has stagnated, however, with calving and offtake rates not only being significantly lower in the communal than in the commercial areas but remaining largely unchanged over the past two decades. For example, despite major efforts made in breed improvement, at 208 kg, cold dressed weights (c.d.w.) of slaughtered cattle were exactly the same in the years 1966-68 as they were 20 years later.

The national sheep and goat herd has also grown rapidly and is currently more than two million head. Numbers increased particularly rapidly during the drought years of 1982/83 to 1986/87 as sheep and goats were better able to survive the harsh conditions than cattle, and producer prices were raised in 1984.

Poultry output has also expanded greatly despite the high cost of feed, but dairy output has stagnated, possibly because the Financial Assistance Programme (FAP) that funded the purchase of dairy stock did not permit non-nationals to invest in fresh milk production.

The key policy issue in the livestock subsector is the sustainable size of the national livestock herd, given the highly variable grazing conditions which are linked to rainfall; the shortage and high cost of pumping ground water; and the alternative use of the range for wildlife and tourism. Under the Lomé IV Convention, Botswana has an annual beef quota of 18 916 tonnes, unchanged from Lomé III. Although on occasions this quota cannot be fulfilled because of inadequate supplies, it is a valuable market and provided 42 percent of the Botswana Meat Commission's (BMC) annual sales during the latter half of the 1980s. Furthermore, the remitted EEC levies to the BMC make a significant contribution to the producer bonuses which accounted for nearly 20 percent of cattle producers' returns during the late 1980s. EEC sales also account for a significant share of BMC throughput and therefore serve to hold down average processing costs.

Production in Botswana's arable subsector is dominated by cereals, about 70 percent of which is sorghum. Two factors influence the subsector's performance: the difficult climatic conditions over most of the land area with any potential for arable farming; and the presence of relatively cheap and, in most years, ample supplies of cereals and other food products from the neighbouring Republic of South Africa.

Botswana is a member of the South African Customs Union which is designed to facilitate the easy flow of goods between the contracting partners. Nevertheless, Botswana controls the imports of some horticultural products through licensing.

Planted areas increased significantly from about 200 000 to 240 000 ha in the mid-1960s to an average of 300 000 ha by the late 1980s, but yields have remained very low, particularly in the communal areas, and domestic production falls far short of consumption in most years. The deficit is compensated with imports, including food aid in exceptionally difficult drought years.

One such drought period was from 1981/82 to 1986/87 when production of the major cereal crops averaged only 18 000 tonnes, while imports, including food aid, amounted to 165 000 tonnes a year. As a result of the drought, the Botswana Government introduced drought-relief programmes, largely funded from increased mining revenues, including rural works and other programmes designed to raise food production such as the Accelerated Rain-fed Agricultural Programme (ARAP) and the FAP, which also assisted livestock producers.

As a result of government encouragement and the return of much more favourable weather conditions, production of cereals, and sorghum in particular, recovered dramatically in 1987/88. Consequently, sorghum stocks built up rapidly and could only be disposed of at a considerable financial loss; indeed, some stocks still remain.

Botswana's critical policy issues are as follows:

- *Efficiency of resource use*. Since the 1988 mid-term review of National Development Plan VI and the agricultural sector assessment of the following year, there has been a shift in food policy from the aim of self-sufficiency to that of attaining food security. The latter has not yet been articulated with precision but it is based on targeted food subsidies; the development of appropriate technologies; human resource development; and effective land-use planning.
- *Low productivity in the livestock and arable subsectors*. It is hoped that productivity may be raised through technological development, but also through diversification away from cereals where average production costs are normally double those of imports. Livestock productivity is expected to increase through improved calving rates as these are currently low, especially in communal areas. But this would not address the existing problem of excessive livestock numbers. The rising number of small stock is of particular concern because markets are lacking and the stock tend to be owned by farmers who have relatively fewer or no cattle. The objective is also to raise range productivity by allowing ranchers, whether they be individuals, groups or communities, to fence grazing land and to determine ranch size according to grazing quality, and hence carrying capacity, rather than following the standard size of 6 400 ha as determined by the Tribal Grazing Land Programme established in the mid-1970s. The main difficulty is that individual rights may take precedence over common property rights, thereby worsening inequality in cattle ownership and increasing the pressure on the remaining grazing "commons".
- *Water development*. This is another critical area because, without irrigation, crop production is subject to a highly erratic rainfall. The consequent lack of watering points means that livestock are concentrated in a few areas that are generally heavily overgrazed. Yet, the main sources of surface water are mainly found in the northwest of the country around the Okavango Swamp, an area that is rich in wildlife and serves as a tourist attraction. The government is currently preparing a national water master plan to handle this issue. A central part of the new policy would appear to be that agriculatural users pay for water.
- *Price incentives and subsidies*. Farmers are free to sell their produce on the domestic markets at prices determined by supply and demand. The Botswana Agricultural Marketing Board (BAMB), however, serves as a buyer in the last resort of cereals and oilseeds. Two recent studies have recommended import parity to guide BAMB support pricing for these products, and this has been accepted as government policy.[15] Nevertheless, given that it has a large and relatively efficient cereal producer as a neighbour as well as an over-valued exchange rate, Botswana's adoption of import parity pricing may drive

[15] *Agricultural Sector Assessment* and *Review of Subsidies and Price Incentives in Foodgrain Production and Marketing in Botswana*, 1989.

down domestic market prices of cereals and oilseeds and thus have adverse consequences for producer returns.[16] The government is also determined to reduce the burden put on the budget by production subsidies. It has been proposed that they focus more specifically on the control of major animal diseases and pests, where externalities lead to social benefits as a result of government intervention.

- *Human resource development.* The continual scarcity of skilled agricultural labour has focused attention on the need for human resource development with increased emphasis on in-service and continuing education. The government has taken the policy decision to train people for employment in both the public and private sectors.

Finally, the government has clearly stated its policy concerning the appropriate roles of the public and private sectors in promoting agricultural development. It has carefully avoided undertaking direct production activities, intervening heavily in markets or providing inputs. Instead, the idea is to limit government intervention to those areas where the private sector is constrained by inadequate technical or financial resources. Nevertheless, the Botswana Government has an array of parastatals, the National Development Bank, the BAMB, the BMC, the Botswana Livestock Development Corporation, the Botswana Cooperative Bank and the Botswana Development Corporation, which still enable it to intervene heavily in the agricultural sector.

The key policy issue remains the role of Botswana's agricultural sector, which is dependent on a geographically extensive but limited and fragile natural resource base, in the country's development strategy. The recent publication of the National Conservation Strategy shows the government's commitment to achieving sustainable development by balancing economic growth with resource conservation; involving the development of multipurpose, rather than single-purpose, natural resource use; diversifying the rural economy; and balancing population growth with the supply of natural resources.

[16] Boosted by its booming mining exports, the exchange rate of Botswana's currency (the pula) is high compared with those of its main trading partners, particularly the South African rand.

ASIA AND THE PACIFIC

Regional overview

Despite the significant slow-down in economic activity worldwide, growth was sustained in the Asia region as a whole in 1990. The impact of the Gulf crisis and slower growth of world import demand on Asia's economies was less severe than in other regions, although a number of Asian countries experienced slower growth rates and widening budget and current account deficits. On the whole, prospects for the short and medium terms remain promising in view of the successful economic restructuring achieved by several countries, together with their increasingly diversified economic bases, intensified exchanges and strengthened domestic markets. These achievements have enhanced the capacity of Asian economies to adapt to changes in the overall economic environment. The following Asian Development Bank (AsDB) estimates reveal the region's general economic trends:

- The average GDP growth rate for the region was estimated at 5.8 percent in 1990 (3.5 percent in per caput terms), about the same as that recorded in 1989. Growth is expected to continue at similar rates in 1991 and to accelerate in 1992.
- Among the oil-importing countries, Bangladesh, the Republic of Korea, Pakistan, and Sri Lanka achieved improved growth rates over 1989. The other oil-importing countries experienced declines.
- The growth in export value remained strong in 1990, increasing by 10.4 percent compared with 11.5 percent in 1989. In China, exports increased by 18 percent, and in India by 15 percent.
- The strongest agricultural GDP growth rates in 1990 were recorded in China (6.9 percent), Bangladesh (7.7 percent), and Laos (6.3 percent). Sri Lanka, Myanmar, Malaysia and Nepal achieved increases of between 3 and 5 percent.
- India, Pakistan, Indonesia, Viet Nam and the Philippines recorded agricultural GDP growth rates between 1 and 2.7 percent. Thailand recorded a 2.5 percent decline in agricultural GDP, the only negative rate in the Asia region. Viet Nam, Thailand, Indonesia and the Philippines were all affected by poor weather, including typhoons in Viet Nam and the Philippines.
- Two-thirds of the countries in the region achieved gains in per caput food production in 1990. Sri Lanka's per caput food production, in particular, rose by more than 4 percent, one of the country's best performances for the 1980s. Bhutan, China, Laos and Malaysia also recorded significant increases in per caput food production, the latter for the seventh consecutive year. On the other hand, India, the Republic of Korea, Nepal and Thailand recorded sharp losses in per caput food production in 1990.

Viet Nam and Laos: bold strategies for economic reform

The successful market liberalization and export-led growth strategies followed by the newly industrialized economies (NIEs) and most Southeast Asian countries attracted the continuous attention of policy analysts during the 1980s.[17] The remarkable economic performance of these countries helped developing Asia to maintain its status as the fastest growing region in the world. Likewise, the past decade witnessed significant policy reforms in China, here again resulting in impressive economic progress. In the late 1970s, China's reorganization of its agricultural sector included price reforms that allowed market mechanisms to operate legally for the first time in over 40 years.

Less noticeable, however, were the broad and far-reaching economic, organizational and institutional reforms that began in the late 1980s in Laos and Viet Nam. Unlike the Southeast Asian countries, which adjusted policies within an existing economic system, and unlike China, which implemented reforms partially and sequentially, Laos and Viet Nam completely restructured their economic systems. While important policy changes affecting these two countries' economic management evolved steadily during the 1980s, the scope and pace of the reforms increased significantly in the later years of the decade. After 1987, both countries began comprehensive market-oriented reforms, known as the "New Economic Mechanism" in Laos, and the "Renovation" in Viet Nam. They included the following measures:

- most price controls and subsidies were eliminated;

[17] The NIEs include: Singapore; the Republic of Korea; Taiwan, Province of China; and Hong Kong Territory.

- multiple exchange rates were unified and maintained at competitive levels;
- private sector activities were given an enlarged role and backed by appropriate legislation;
- foreign investment was encouraged through legislation permitting profit and capital repatriation and guarantees against expropriation and nationalization; and
- banking systems were restructured with the capacity to foreclose on bad loans and maintain positive real interest rates.

Although both countries are attempting to transform their economies in much the same way, they are fundamentally very different. Viet Nam has a relatively large population of 66 million; a high population density of 195 inhabitants per km^2; several large urban centres (the population of Ho Chi Minh City is greater than the total population of Laos), and a long, 3 200 km coast. Laos is land-locked with a small population of 4.1 million and a population density of only 17 inhabitants per km^2 (one of the lowest in the world).

There are also important differences between the agricultural sectors of the two countries. While both countries depend heavily on rice production, Viet Nam has nearly 30 percent of its cropland under irrigation, compared with only 2 percent in Laos. Most rice farmers in Viet Nam are accustomed to planting high-yielding varieties (HYVs) and to using fertilizers and pesticides. In addition, many Vietnamese farmers have experience in growing and marketing surplus production. Laos is a much more subsistence-oriented rural culture. HYVs, mineral fertilizers and pesticides are rarely used and few farmers have experience with formal credit or product markets. More than 35 percent of the rice crop in Laos is cultivated under slash-and-burn techniques on steep hillsides.

Over time, Viet Nam has developed a highly organized government sector, capable of marshalling resources throughout the country to take advantage of opportunities and respond to problems that arise. Laos has only incipient public sector institutions and currently lacks the resources and capacity to carry out agricultural research and provide efficient extension services. With most of the population living in remote areas, Laos is also constrained by an extremely limited transportation system and a shortage of other basic infrastructure.

What both countries used to have in common was a stagnating agricultural sector, which prompted the first round of major policy changes in the early 1980s. These initial policy measures focused on reorganizing production units to improve management structures and incentives. In turn, various combinations of state farms, collectives, cooperatives and household contract systems were used in an attempt to gain greater economies of scale and to improve administrative structures. Production units evolved further, decision-making was decentralized and new worker incentives were created to increase output and capture additional surpluses.

During this early reform period, the state's primary mechanisms for obtaining agricultural commodities remained favourable prices and obligatory procurement quotas. Government interventions continued to control the farm labour systems as well as access to land, credit and inputs. Furthermore, rigid market controls set the terms of trade between agriculture and the rest of the economy, while also governing the relative prices of different crops.

This first cycle of reforms did not bring about the improvements required to raise rural incomes, increase agricultural exports or absorb excess labour. In fact, in most years domestic food requirements were not met. Per caput food production declined in both countries between 1983 and 1987. During the same period, real agricultural GDP grew by less than 1 percent per year in Viet Nam and by only 2.5 percent per year in Laos.

Recognizing that a successful economic growth strategy depended on a strong agricultural performance, Viet Nam and Laos made agriculture the centrepiece of much more ambitious reform programmes. The 1988 agricultural policy reforms included: eliminating compulsory production and delivery quotas; allowing markets to determine agricultural prices; making the farm household the basic production unit; and issuing families inheritable, long-term property rights as well as allowing them the possibility of renting land.

Although it is still too early for a conclusive assessment, a more detailed picture of the scope of these reforms and their impact on the agricultural production systems is now emerging.

Viet Nam: agricultural policy trends and performance

Viet Nam is predominantly an agricultural economy based on paddy rice production.[18] Agriculture accounts for 50 percent of national income and 60 percent of total export value. More than 80 percent of the rural labour force and 60 percent of the total labour force is employed in agriculture.

Agriculture occupies just over 20 percent (about seven million ha) of Viet Nam's total land area. Some 25 percent of the country is still forested, although an expanding agricultural base is the primary cause of deforestation. At present, over two million ha of land are irrigated. Studies indicate that an additional 2.8 million ha are potentially cultivable, one million of which could be irrigated.

Food grains and vegetables account for 55 percent of gross agricultural production; livestock production for about 25 percent; and various industrial crops, rubber, tea, coffee and fruit-trees, for 20 percent. Rice is planted on 80 percent of the annual crop land. Over 70 percent of the rice is grown in two fertile and expansive river deltas, the Mekong delta in the south, and the Red River delta in the north. The Red River delta is one of the most densely populated areas in the world and can only produce enough food to meet local needs in good climate years. The other northern communities beyond the Red River delta are rice-deficit areas. The Mekong delta normally produces a large surplus but transporting rice to the north remains a formidable task. The long distances and poor roads throughout the country lead to high transport costs.

During the 1988-90 period, both total GDP and agricultural GDP registered a 4.5 percent annual growth rate. In 1989, Viet Nam produced a record rice harvest of 18.9 million tonnes, which made the country the world's third largest rice exporter for that year. Rice production increased slightly again in 1990, reaching 19.1 million tonnes. The total area planted in food grains expanded by 1 percent, but a lack of fertilizer and poor weather conditions reduced total production by 0.5 percent from the 1989 level.

Total agricultural exports increased from $720 million in 1989 to $800 million in 1990. The country exported 1.4 million tonnes of rice in 1989, earning $316 million. While rice exports increased to 1.5 million tonnes in 1990, export earnings declined to an estimated $300 million because of lower rice prices. Besides rice, important agricultural exports included rubber, tea, coffee, peanuts, shrimps and forest products.

The government credits the recent agricultural sector reforms for increasing farm production and exports. In addition, the broad economy-wide reforms are credited with reversing the substantial sectoral and regional imbalances that resulted from the long period of government prioritization of industry, centralized planning and administered prices.

At the same time, the market-oriented reforms, especially the decontrolling of prices and wages, resulted in extremely high inflation rates: 310 percent in 1988; 76 percent in 1989; and 90 percent in 1990. This is a problem that is continuing to cause major difficulties.

It is now the Vietnamese farm household that determines production, investment and marketing decisions. A fixed tax system has replaced crop procurements and contracts, and families have long-term property rights (up to 50 years). Many cooperatives are selling their equipment and machinery to private individuals employed under direct contract with the farmers. The cooperatives now concentrate more on providing financial services, input sales, product purchases, storage facilities and related services. They are also responsible for collecting taxes. The current role of state farms is to open up new lands and introduce new crops. After the new land has been cleared, the state farms lease parcels to farmers and negotiate prices for land, seedlings and other inputs.

For the 1990s, agriculture is Viet Nam's top priority sector, for which the three main objectives are: adequate food production to meet internal demand; agro-industrial development to create rural employment and increase export earnings; and expanded exports of traditional and non-traditional commodities. Government officials recognize, however, the formidable marketing, extension, communications and transport problems the country faces during its transition to a more market-oriented economy.

The changing economic relationship and consequent trading pattern with the USSR and East European countries are making the market transition even more difficult. For example, Viet Nam received 80 percent of its fertilizers on concessional terms from the USSR during the past decade. With the USSR undergoing similar policy reforms, hard-currency exchanges at

[18] The information on Vietnamese agriculture is drawn from: official government sources; FAO's *Agricultural Sector Review*, 1989; the UNDP and Viet Nam State Planning Committee's *Report on the Economy of Viet Nam*, Hanoi, December 1990; and *Doi Moi: Economic Reforms and Development Policies in Viet Nam*, SIDA, Stockholm, 1990.

world prices replaced subsidies and barter trade in 1990. While one tonne of rice bought one tonne of fertilizer in 1989, falling rice prices and increasing fertilizer prices meant that two tonnes of rice were required to buy one tonne of fertilizer in 1990.

There are also problems at the regional and local levels. For instance, in the Red River delta, HYVs, fertilizers, and pesticides are commonly used but price and profit incentives for their wider distribution are lacking. Wholesalers, retailers, bankers, transporters and the host of other private sector operators who are necessary for building market institutions capable of replacing the existing system are not yet in place.

In the south, where most farmers apparently resisted "cooperativization" after 1975, the development patterns may be completely different but the basic distribution problem is the same. The government has directly provided most of the required inputs for the past decade. Developing new mechanisms for delivering inputs, credit and services takes time. In addition, even though private investment opportunities exist, most farmers have too little savings or resources available other than labour to take advantage of the opportunities.

Government planners have made a major effort to identify and address agricultural sector problems. Officials have identified the regions where ageing and poor-quality cash crops — tea, coffee, rubber and pineapple — are producing unsatisfactory and low-quality yields. For the 1990s, the challenge remains to develop appropriate market mechanisms and government programmes to promote agricultural investment.

Laos: economic overview, policy trends and performance

Laos is one of the most subsistence-oriented economies in the world.[19] Rice is planted on over 85 percent of the cultivated area, mostly under rain-fed conditions. Only 2 percent of the rice crop is irrigated and average yields are among the lowest in Asia. Most of the crop consists of traditional glutinous varieties with nearly 40 percent produced on mountain slopes under shifting cultivation. Population pressure has led to shortened slash-and-burn agricultural cycles (from ten to three years), diminished forest areas and threatened wildlife. Each year, 100 000 ha of forests are cleared for the planting of rice and other annual crops.

Three-fourths of the country is mountainous, and many regions remain isolated with insufficient physical infrastructure. Nevertheless, Laos has great potential for developing a sustainable agricultural sector. Even though rice yields are low, the country can be self-sufficient under favourable weather conditions. Its abundant water resources are largely untapped, while its uneven physiography provides numerous opportunities for small-scale irrigation projects and aquaculture.

Overall growth has been strong in the past two years and real GDP increased by 11 percent in 1989, and 9 percent in 1990. But, like Viet Nam, decontrolling wages and prices has had an inflationary impact on the economy: the inflation rate increased from 12 percent in 1988 to 68 percent in 1989. Restrictive monetary policies introduced in late 1989 helped to reduce inflation to 18 percent in 1990.

Total export value expanded by 15 percent in 1990, reaching $63 million but remaining at just less than 10 percent of GDP. Forest products and electricity are the two most important exports. Forest product exports expanded by 15 percent in 1990, and accounted for about 35 percent of export earnings. Partially replenished reservoirs allowed electricity exports to increase by 40 percent in 1990, representing 30 percent of total export earnings. Thailand is committed to purchase all the electricity that Laos produces in excess of its domestic demand. Coffee exports accounted for an additional 10 percent of total export revenue.

The industrial sector accounts for only about 16 percent of GDP and is directly linked to agricultural and forestry production. Agro-industrial activities represent one-half of manufactured products, beverages, tobacco and wood products.

The agricultural sector in Laos produces nearly 60 percent of the country's total output, employs over 80 percent of the labour force, and accounts for 50 percent of total exports. Agricultural GDP increased by 4.3 percent in 1989 and 6.3 percent in 1990. After a two-year drought that ended in 1988, rice production increased by 40 percent in 1989 and 6 percent in 1990. The 1990 paddy production was a record harvest of 1.5 million tonnes.

[19] The information for this section is based on official government sources; the FAO Country Information Brief for Lao PDR, April 1991; and the UNDP *Development Cooperation Report*, August 1990.

Besides being the largest export earner in Laos, forest products are an important source of food, jobs and income. One recent FAO report highlighted the importance of forests to local communities, documenting the gathering and hunting of more than 140 different types of forest products. Non-wood forest products offer additional export opportunities and include cardamom and benzoin, stick lac and other resins. Most studies suggest that high-value timber exports can be maintained and expanded.

At present, the limited public resources available for research, extension and training are focused on improving forest management and providing hillside farmers with appropriate technical expertise and additional land. With proper management practices, forest resources can provide an increasing amount of food, jobs, income and exports.

While recent agricultural policy reforms in Laos are similar to those in Viet Nam, there is an important difference in the general intention of the reforms. In Laos, the transition is more one from a subsistence agricultural sector to a market-oriented and sustainable rural sector rather than from a planned rural economy to a market economy as is the case in Viet Nam. The "cooperativization" of agriculture in Laos peaked in the early 1980s and never reached more than one-half of farm families. Because transport, storage and financial services are so limited, and because the majority of the farm households produce at subsistence levels, many of the prior government regulations affecting rice trade and prices were of little effect.

The current development strategy allows markets to determine input and product prices while government programmes focus on expanding research and extension programmes; providing technical support for farmer-owned irrigation systems; improving livestock disease prevention programmes; and providing support for community forest management efforts.

LATIN AMERICA AND THE CARRIBEAN

Regional overview

The recessionary situation that characterized most countries in Latin America and the Caribbean region during the 1980s persisted in 1990, a year of major difficulties in containing inflation and restricting aggregate demand. Argentina, Brazil, Nicaragua and Peru were faced with hyperinflation and recession, while most other countries faced lower inflationary pressure than in 1989 but continuing depressed growth. Progress on the debt front remained limited and debt servicing continued to absorb much of the region's considerable trade surplus. The increase in oil prices during the second half of the year also had negative repercussions on most countries. Against such a depressed economic background, overall food and agricultural performances were particularly poor in several of the largest producing countries and in the Andean region. Economic prospects for 1991 appear somewhat brighter, however, as growth is expected to resume and possibly strengthen its pace in 1992. Noteworthy developments in 1990 were:

- Regional GDP declined by nearly 3 percent in per caput terms, bringing the cumulative decline for 1981-1990 to almost 10 percent.
- Apart from a few countries, including Bolivia, Panama, Haiti and Trinidad and Tobago, inflation rates remained a major problem and reached extremely high levels in several countries.
- Debt servicing represented about 29 percent of total exports.
- Despite a positive trade balance of $29.2 billion in 1989 and $26.5 billion in 1990, the current account deficit rose from $8.4 billion in 1989 to $12 billion in 1990.
- Food and agricultural production in the region as a whole rose by less than 1 percent in 1990, falling well below population growth. Per caput production of staple food (cereals, pulses and roots and tubers) fell in 1990 for the third consecutive year, mainly reflecting particularly unfavourable trends for cereals.
- Only a few countries, including Mexico, Trinidad and Tobago and Chile, achieved significant increases in per caput food production in 1990. Except for the case of

Chile, however, these gains followed heavy production shortfalls in the previous year. Overall, the region only recorded a marginal gain in per caput food production between 1981 and 1990.

Andean countries: the cases of Bolivia, Ecuador and Peru

Despite geographic proximity and historic, ethnic and cultural ties, the Andean countries present wide socio-economic contrasts. This diversity also applies, though to a lesser extent, to the three Andean countries considered in this section — Bolivia, Ecuador and Peru. Per caput GDP ranges from about $1 500 in Peru to $600 in Bolivia. Industry and service sectors account for about 86 percent of GDP in Ecuador and Peru compared with 77 percent in Bolivia. The share of agricultural population in the total population is 43 percent in Bolivia compared with about 37 percent in the other two countries.

These three countries also present wide variations in agricultural resource endowments, infrastructure and levels of technology. For instance, Peru's irrigation network is fairly intensive by regional standards while Bolivia's is very undeveloped. Fertilizer use is well below the regional average in all three countries but is rapidly expanding in Ecuador.

Beyond these diversities, however, their economies and agricultural sectors have shared similar experiences since the early 1980s: particularly poor economic performances, except for a few short-lived recoveries such as that of Ecuador in 1988; an inconclusive search during the 1980s for an appropriate economic policy, in some cases having adverse effects on agriculture; and, more recently, a convergence of general policy orientations. At present, all three countries are committed to liberalizing markets and reducing government intervention. Bolivia and Peru have introduced rigorous adjustment strategies while Ecuador has pursued a more gradual approach. Bolivia and Ecuador have achieved a remarkable degree of stabilization, but growth has not yet followed. In Peru, both stabilization and growth remain elusive goals.

The following review summarizes recent policy developments in each country.

Bolivia

The general principles of the New Economic Policy (NEP), introduced in 1986, have continued to be applied by the new government elected in 1990. These principles include: exposure to international and domestic market forces; maintaining a market-determined exchange rate; removing the majority of price controls and subsidies; controlling public sector wages; and maintaining rigorous discipline in fiscal accounting and the management of nationalized institutions. Recently, the government reduced trade barriers further, enacted new investment laws to attract foreign capital and privatized state enterprises.

The economic stabilization achieved since 1987 has generally been consolidated. Inflation remained moderate (18 percent in 1990), a remarkable feat in view of the pre-NEP situation and given the hyperinflation affecting some of Bolivia's main trading partners. Inflation rates tended to lag behind nominal currency devaluation (5.9 percent and 6.8 percent, respectively, during January/July 1990), although a sharp rise in petrol prices in mid-1990 accentuated inflationary pressure. The public sector deficit remained relatively low at 3.5 percent of GDP. Debt servicing absorbed 30 percent of exports in 1989 and 26 percent in 1990, compared with an average 42 percent during the 1982-1988 period. Following a successful renegotiation of its debt with industrialized country creditors under the Toronto terms, as well as with Argentina and Brazil, Bolivia was able to reallocate significant resources to more productive activities.[20] Despite such positive developments, annual GDP growth is officially estimated to have been about 2.5 percent since 1987, barely enough to keep pace with population growth.[21] Sluggish capital formation, particularly in the private sector, has inhibited recovery. Private investment has remained well below the annual rate of $250 million to $300 million, the amount that the government estimates to be required for an economic "take-off".

Agricultural performance has also been poor, not only in relation to domestic requirements, but also relative to what could be expected from the country's rich and varied resource base. Per caput agricultural production

[20] Agriculture may benefit significantly from additional resources. The budget of the Ministry of Agriculture and Campesino Affairs was increased by 285 percent in real terms in 1990, thus increasing its share of the total national budget from 1.4 percent in 1989 to 3.34 percent in 1990.
[21] Real growth performances are difficult to assess in view of the importance of the informal coca-based economy which may be at least as large as the formal one.

stagnated during the 1980s and fell by a cumulative 3 percent in both 1989 and 1990 — years of severe drought. Export crops, particularly soybeans, generally fared better than domestic food crops, the latter being dampened by the effect of austerity measures on incomes and hence food demand.

On the supply side, serious structural problems remain. Although Bolivia was one of the pioneers of agrarian reform in the region, its land-tenure system remains far from equitable. The peasant sector — which contributes 80 percent of the country's agricultural production and virtually all of its food production — has only marginal access to inputs, credit and technology, although it is recognized that it makes a highly efficient use of its meagre resources. Modern agriculture, mainly associated with the export sector, is increasingly concentrated in the tropical lowland zones. The agricultural export sector showed considerable dynamism during the 1980s, but the economic importance of agricultural exports tended to decline.[22] Furthermore, gains from expanded agricultural export volumes have been severely eroded by depressed prices.

Beyond its macro-economic objectives, the NEP was also intended to reduce basic constraints to agricultural development. After an initial shock period, the NEP was expected to reallocate resources efficiently and equitably and to stimulate a positive response from domestic supply. However, five years after the programme began, the sector has been unable to recover from the shock. Already precariously poised, the domestic farm economy found itself largely deprived of official support and exposed to competition from abroad. Imported food, in many cases subsidized by the exporting country and benefiting from artificial differentials in exchange rates, entered the country freely, thereby depressing domestic production further. At the same time, the abolishment of price supports and input subsidies constrained the domestic farm economy. Price liberalization failed to translate into an incentive for farmers because of depressed domestic demand. There was a striking deterioration in agriculture terms of trade after 1987,[23] particularly for its traditional component, *vis-à-vis* other sectors. In other words, while the strategy was highly efficient in reducing macro-economic imbalances, its effects on agriculture appear disappointing so far.

This situation called for compensatory support to agriculture, particularly the peasant sector. *Agricultural policy outlines*,[24] a document containing general policy guidelines for the short and medium terms, emphasizes the importance of the traditional peasant economy and the need to give strong support to its revival and transformation. The document also recognizes the limitations of recent macro-economic policies in addressing the problems of agriculture. While the need to pursue stabilization efforts is not questioned, a number of measures are contemplated to introduce greater flexibility in macro-economic policies and to counter their negative impact on domestic agriculture. Also outlined are a number of specific agricultural support measures that strike a balance between the non-interventionist principles of the NEP and the need to reactivate a critically depressed agricultural economy.

Ecuador

Significant progress was made in 1990 toward economic stabilization, a priority goal of the Ecuadorian Government. A sizeable trade surplus was achieved (and another one is expected in 1991); the current account deficit fell to about 2 percent of GDP; inflation rates fell from their previous, very high levels, although estimates for 1990 still pointed to high rates of 40 to 50 percent; and the fiscal deficit continued its downward trend of earlier years. The cost of this effort has been high in terms of foregone growth, however. Real GDP stagnated in 1989 and increased by only 1.3 percent in 1990, despite the increase in international oil prices. Moreover, despite improvements over the previous two years, interest payments on external debt still accounted for about one-third of the value of exports in 1990. Improved external conditions and less restrictive fiscal and monetary policies were expected to boost economic growth to 3.5 percent in 1991.

There is some uncertainty about the future course of macro-economic policies. Some

[22] Export earnings from agriculture covered about 10 percent of total imports in recent years compared with 12 to 15 percent in the period 1975-1980.

[23] Project MACA/FAO/UNDP, Bol/88/021.

[24] *Lineamientos de política agraria*. This document, adopted by the government as a framework for future action, was prepared with the assistance of FAO/UNDP and issued in October 1990.

analysts point to the need for, and the ability of the socio-political system to sustain, further price and trade liberalization and a more detailed reform of labour laws. On the other hand, pressure continues for a policy line favouring price freezes on consumer goods and a softer policy approach toward containing expenditures and wages. The government remains opposed to a "shock" approach and prefers to adhere to gradual reforms as a means of promoting foreign trade and investment. The increase in oil prices following the Gulf war, as well as the recent reduction in interest rates in creditor countries — especially the United States — have greatly helped Ecuador's economy and adjustment effort.[25]

In a longer-term perspective, however, there are many uncertainties. Ecuador must face the fact that its oil reserves may be exhausted by the turn of the century. In fact, the need to

[25] A 1 percent change in the London inter-bank borrowing rate (LIBOR) implies a change of about $70 million in Ecuador's yearly interest payments.

BOX 5

The shrimp economy in Ecuador

Despite a recent decline in its aquaculture industry, shrimp is Ecuador's third largest export after oil and bananas, and accounts for approximately 12.5 percent of total primary exports. In 1990, an estimated 71 000 tonnes of frozen shrimp, worth $328.6 million, were exported. The industry employs approximately 200 000 people.

The shrimp industry has been one of the most dynamic sectors of the country's economy over the past decade. From being a minor presence in world markets in the early 1980s, Ecuador has become the world's fourth largest producer after China, Indonesia and Thailand. The country has waters with a particularly rich organic content and favourable climatic conditions which allow a repetition of the 120- to 150-day cultivation cycle all year round.

The shrimp trade suffered a slump in 1989 because of a decline in international prices, rising shipping costs and climatic changes. Restrictive monetary policies also played a role to the extent that they discouraged investment and reduced profits. While shrimp exporters recognize the benefits of the government's export-drive strategy, they claim that inadequate support is provided to the industry, while excessive support is geared toward smaller, non-traditional exports. The government is currently considering the shrimp industry's request for the funding of research and technology programmes as well as the provision of incentives to encourage private investment. In particular, debt conversion, to take place over a period of several years, is being considered.

Although the potential net benefits of support are difficult to evaluate, the industry estimates that productivity gains from improved technology could easily double current export levels in the mid-term. The problem with intensive production methods is that they have caused environmental damage through the degradation of mangrove-dominated habitats and are susceptible to losses as a result of disease. Although Ecuador's methods are less intensive than those of other large producers, it has already faced such problems.

The main limitations to a further large expansion of the industry may be on the side of demand, however. There are increasing signs of saturation on world markets, particularly in the United States, where 90 percent of Ecuador's shrimp exports are shipped. Therefore, the country's industry is aiming at diversifying markets, particularly toward Europe. Ecuador is already the main supplier of shrimp to Spain and, together with other Andean countries affected by the drug trade, is benefiting from a four-year elimination of tariffs on its agricultural and fishery exports to the EEC.

develop alternatives to oil is one reason why the principle of Andean integration has gained relevance (see Box 6). Ecuador's ability to compete with some of its more efficient neighbours has been an area of intense debate, but the country enjoys a number of comparative advantages in terms of resources and labour costs, and the prevailing opinion is that a larger, more integrated market offers far more economic benefits than risks.

The uncertainties surrounding economic policies also apply to agriculture. There was some price liberalization in 1989 and 1990, but plans to intensify the process encountered resistance. For instance, palm oil prices were freed in early 1990, but prospects for liberalizing cereal and soybean prices were still uncertain. Price liberalization on a piecemeal basis involves obvious risks of distorting relative price relationships and production and consumption patterns. However, the pricing and marketing of staples, particularly rice, are very sensitive issues.

Recent policy developments include a major reform of the import tariff, under which rates of duty will be gradually reduced over a three-year period ending in 1992. Duties for "primary necessity" food products are already low, but imports are subject to quotas. It has also been contemplated to reduce quantitative restrictions on wheat and vegetable oil in view of Ecuador's relatively low dependence on imported food.[26]

In line with the prescriptions of international lending agencies, official lending rates for agricultural loans have been brought closer to market rates, but agricultural credit remains significantly subsidized. The current objective is to provide subsidized credit as a medium- and long-term investment that attracts private sector participation, rather than as direct agricultural production support.

Despite the budgetary stringency involved in stabilization and adjustment, the government has maintained an important programme of rural development. Resources representing 1.3 and 23 percent, respectively, of total agricultural public investment during 1989-1992 have been allocated to a major national programme of integrated rural development. Approximately 400 000 families are expected to benefit directly or indirectly from this programme, which is currently under way.

[26] Ecuador's food imports account for approximately 8 percent of the country's total imports compared with 12 percent for Latin America and the Caribbean as a whole.

Peru

Among the many regional experiences of economic and social regression in recent years, Peru's is one of the most critical. The major economic imbalances that had developed during the years of domestic demand-based growth were proving too difficult to redress when, in 1988/89, the government turned to more orthodox policies. Inflationary expectations and pressures on both the exchange rate and demand had by then reached the point where measures such as decontrolling prices and devaluating the currency had no impact. On the contrary, GDP fell 8 percent in 1988, 11 percent in 1989 and 5 percent in 1990. Rather than abating, increases in consumer prices soared 1 700 percent to 2 800 percent and 8 300 percent a year during the same period. Despite positive trade balances in 1989 and 1990, considerable deficits on external accounts have remained. The debt/service ratio has fluctuated around 31 percent since 1983 and social indicators also show grave deteriorations. For instance, minimum real wages in Lima are estimated to be less than one-quarter of their 1980 value.

The recently elected government has introduced bold stabilization measures in order to restore minimum conditions for economic revival and to reinsert the country in the international financial system. Measures have included decontrolling prices; abolishing tax exemptions; freeing interest rates; controlling fiscal expenditures; freezing wages; reducing tariffs and accelerating currency devaluations. This action contributed to a slow-down in inflation after August 1990 to an estimated yearly rate of about 210 percent in June 1991; a doubling in tax collection from 4 percent to 8 percent of GDP; and a replenishment of international currency reserves. The country has also begun servicing part of its external debt. Recent months have, furthermore, witnessed large capital repatriations and a replenishment of US dollar bank deposits, thus suggesting a revival in investors' confidence.

Despite the heavy social sacrifice imposed by austerity measures, there appears to be a general acceptance of their necessity — provided the "shock" treatment is reasonably short in duration and compensations are provided in the form of employment creation and assistance for the most vulnerable population groups. The country's Social Emergency Programme is an initiative aimed in that direction.

Against this background, agriculture has made a disappointing economic contribution in recent years. Production of nearly all products for domestic consumption has tended to fall in per caput terms, the few exceptions include rice, strongly protected until recently, and some products linked to the agro-industry. The export sector is facing serious difficulties: earnings from coffee are stagnating and those from cotton are falling; fish-meal exports are subject to fluctuations and uncertainty; and sugar is ceasing to be a net export product. Moreover, while domestic producer prices of food have been falling in real terms, those of imported food have become increasingly competitive on domestic markets.

This situation has resulted from a complex set of structural, temporal and international

BOX 6

Andean integration and agriculture

The Andean Pact agreement, signed in 1969 in Cartagena (Colombia), provided the original framework for integration efforts in the area.[27] Over the 21 years since, however, several factors have contributed to generally disappointing results. They include: limited economic complementarity, except in some countries; border disputes and other conflicts; differences in political regimes and economic policy approaches; wide disparities in wealth and resources; long distances; and natural trade barriers. Despite the considerable size of the potential market provided by the five member countries, by the late 1980s intra-Andean trade accounted for less than 4 percent of the group's exports and 5 percent of its imports.

The process of intra-Andean integration has gained momentum and credibility in recent years, however. Among the significant events that have taken place are the Quito Protocol, which entered into effect in May 1988 and made major amendments to the original Cartagena agreement; and the heads of state summit in Galapagos (Ecuador) in December 1989, a benchmark in the history of the Andean Pact. The Galapagos meeting approved a *Strategic Design,* which contained policy guidelines for consolidating the integration process. The fifth summit, held in Caracas in May 1991, set 31 December 1991 as the deadline for formalizing an agreement on the timetable for a common external tariff (CET) and for formalizing rules on a free trade zone. Colombia, Peru and Venezuela committed themselves to enforcing a CET by the end of 1993, and Bolivia and Ecuador were to do so by 1995. The bulk of intra-Andean trade is already tariff-free, although, in the case of agriculture, 216 items representing 50 percent of the value of intra-Andean agricultural trade are still subject to tariffs and restrictions. The general objective is to form a common market of 90 million inhabitants by 1995.

One important factor that prompted a renewed emphasis on Andean integration was a convergence of the general objectives and principles of economic policies in recent years. While there are still considerable discrepancies among Andean countries in terms of inflation rates, macro-economic imbalances and the severity of stabilization and adjustment measures, their policies have generally moved toward export orientation and deregulation as well as a greater opening to foreign investment. Another influence has been the strengthening or emergence of other free or preferential trading arrangements. Those to have emerged recently within the region

[27] Members of the Andean Pact are Bolivia, Colombia, Ecuador, Peru and, since 1973, Venezuela. Chile was a member country until 1976.

market problems, but it is recognized that policies have been a determining factor. As is the case in many other countries, much of the problem is now seen to be excessive state intervention in marketing and pricing. Furthermore, agricultural support policies have lacked coherence and continuity. For instance, the generous lines of agricultural credit, input subsidies and guaranteed prices that were introduced in the period 1986-1988 strongly boosted production in those years. This policy proved unaffordable, however: with budgetary resources running short, credit was sharply reduced and input costs soared. Not surprisingly, agricultural production fell by 4 percent in 1989 and by a further 6 percent in 1990 (although these were also years of severe drought and locust infestations).

include the Economic Action Plan for Central America, an accord signed in June 1990; the August 1990 agreement among CARICOM countries to create a free trade zone; the April 1991 Treaty of Asunción, whereby Brazil, Argentina, Paraguay and Uruguay set the framework for the creation of the Southern Cone Common Market (MERCOSUR) by 1995; and a free trade zone that Mexico, Colombia and Venezuela plan to establish by July 1994.

An important element in the Strategic Design is the commitment to formulate a common agricultural policy that:

- permits Andean countries to better confront the distortions in world agricultural markets;
- promotes harmonization of agricultural policies in consideration of competitive relationships, through jointly formulated programmes by groups of agricultural and agro-industrial products, with emphasis on food; and
- permits member countries to adopt common positions in international negotiations relating to agriculture.

The general objectives are to enlarge and consolidate the subregional market, reduce dependency on external food and promote agricultural exports.

In the area of agricultural trade, common policies are to be introduced between 1991 and 1993 for imports and exports of agricultural products, inputs and machinery. Such policies should include the removal of subsidies on extra-Andean imports and the elimination of preferential exchange rates; a common food aid regime that does not have distortive effects on internal prices; the coordination of export promotion mechanisms; the definition of common positions with regard to international commodity agreements, particularly the future of the International Coffee Agreement; and the study of alternative mechanisms for stabilizing prices of food imports from non-Andean countries.

These initiatives may be expected to yield considerable benefits by expanding markets; improving competitiveness and resource allocation; creating a more stable and coordinated policy framework for agricultural development; and placing the subregion in a stronger position in terms of global competition and trade negotiation. While the prospects of significantly reducing the subregion's dependence on extra-Andean food imports appear limited in the short and medium terms, there is ample scope for expanding and diversifying internal trade. Intra-Andean agricultural imports accounted for barely 5 percent of total agricultural imports by Andean countries in recent years. Furthermore, such trade is strongly concentrated in a limited number of products and markets in neighbouring countries. Cotton and beef represent almost 70 percent of intra-Andean trade in crop and livestock products, and 30 percent of total intra-Andean trade in agricultural and agro-industrial products. In Colombia, the largest agricultural market in the group, imports of fishery products from Ecuador account for over 70 percent of the value of total agricultural imports from Andean countries; in turn, cotton imports from Colombia account for over one-half of Ecuador's total intraregional agricultural imports and for two-thirds of Venezuela's. The bulk of Bolivia's agricultural imports from the subregion, mainly canned sardines and chewing-gum, come from Peru. Encouraging examples of dynamic expansion and diversification in intraregional trade have been recorded in recent years, however, including trade in processed fishery and non-traditional tropical products, beverages and wool manufactures and textiles. Such trade will benefit from the ongoing programme of liberalization, which aims to eliminate completely the list of exceptions to free agricultural trade.

Among the adjustment measures recently adopted, the following have a major bearing on agriculture:

- The abolishment of the so-called Mercado unico cambiario (MUC) — a heavily overvalued, official exchange rate, applied for all exports and priority imports, including food. This official rate came to be less than one-tenth of the parallel rate, thereby severely penalizing agricultural exports, implicitly subsidizing food imports and encouraging the illegal trafficking of agricultural products and inputs with Bolivia and Ecuador.
- A substantial reduction of the state's role in marketing and pricing. The official marketing agency lost its monopoly on food imports as well as its procurement and price guarantee function, except in specific circumstances (particularly for the purpose of preventing farmers from shifting to coca in the selva region). All direct and indirect subsidies to agriculture were abolished and a major reform of food marketing systems is under study.
- Imports of food and agriculture inputs were freed, but they are subject to duties and taxes on sales.

Given that they are part of a strategy that can only be expected to bear fruit in the medium or long term, these measures have initially made conditions more difficult for food and agriculture as well as the economy at large. However, with over one-half of the country's population and an even higher rate of the rural population already living in extreme poverty, there is little margin remaining for further and, in the short term, unrewarded sacrifice. The recent cholera outbreaks were a manifestation of the levels of destitution to which large segments of the population have fallen; another indication is the growing civil unrest. Thus, fundamental policy challenges must maintain the momentum of reform long enough for its benefits to be widely felt, and also find the resources and appropriate mechanisms for implementing compensatory measures during the transitional phase.

NEAR EAST AND NORTH AFRICA

Regional overview

The Gulf conflict had strong negative repercussions throughout the economic and agricultural systems of most countries in the Near East and North Africa. The sharp, if temporary, increase in oil prices significantly reduced the resources available for development in oil-importing countries, and worsened inflationary pressure. In addition, large amounts of remittances from migrant workers were lost, while trade, factor flows and tourism were seriously disrupted. The following IMF estimates illustrate the overall economic impact of these influences:

- GDP growth for the region as a whole is expected to decline from 3.2 percent in 1989 to −3.8 in 1990 and −3.3 percent in 1991, mainly reflecting a sharp downturn in economic activity in Iraq, Kuwait and Jordan;
- the loss of workers' remittances, tourism receipts and export earnings in Egypt, Jordan, the Syrian Arab Republic and Turkey is estimated to be worth $2 billion in 1990 and $6.5 billion for 1991;
- inflation is expected to stabilize at about 14 percent in 1991-92 in the region as a whole;
- the overall current account position of the region is estimated to move from a surplus in 1990, caused by higher oil prices, to deficits of about $50 billion in 1991 and $25 billion in 1992, mainly as a result of reconstruction costs.

Agricultural performances present a mixed picture.

- Agricultural production rose by almost 7 percent in 1990, partially recovering from the 9 percent production shortfall the previous year. Cereal production increased by 19 percent from the severely drought-stricken 1989 crop year, but remained below the record 1988 level.
- Livestock production rose by 2 percent in 1990, with both meat and milk production growth continuing their sluggish trend of the 1980s.
- Per caput production rose by 4.3 percent in 1990, the second best year-to-year performance of the 1980s. This increase was inadequate to compensate for the sharp food production shortfall in 1989, however. The

overall gain in per caput production in 1990 mainly reflected improved crop conditions in the Syrian Arab Republic and Turkey, and the continuation of a generally positive trend in Lebanon. On the other hand, per caput food production fell in Yemen and, for the third consecutive year, in the Libyan Arab Jamahiriya.

Maghreb countries: the cases of Algeria, Tunisia and Morocco

In spite of their common middle-income status, Algeria, Tunisia and Morocco present significant disparities in income levels which, in 1988, ranged from an estimated per caput GNP of \$830 in Morocco to \$1 230 in Tunisia and \$2 360 in Algeria. Total population ranges from approximately eight million in Tunisia to about 25 million in both Algeria and Morocco.

All three countries experienced a significant slow-down in economic growth during the 1980s. Annual GDP growth averaged approximately 3.7 percent during the 1980s in both Morocco and Tunisia and 3.3 percent in Algeria, down from 5.2 percent, 6.6 percent and 7.5 percent, respectively, during the period 1965-1980. Declining terms of trade for mineral products during much of the 1980s were largely responsible for the slow-down in output growth. Indeed, mineral resources — mainly hydrocarbons in the case of Algeria, phosphates in the case of Morocco and both hydrocarbons and phosphates in the case of Tunisia — account for a large share of their GDP and export earnings. This feature is more accentuated in the case of Algeria, which relies on the hydrocarbon sector for about 13 percent of its GDP and 95 percent of its export earnings.

Of the three countries, Morocco is the most agriculturally oriented, with agriculture, forestry and fisheries accounting for about 40 percent of total employment and 20 percent of GDP. For Algeria and Tunisia these shares are about 25 percent of total employment and 10 to 15 percent of GDP. Unlike other sectors, agricultural growth accelerated significantly in all three countries during the 1980s in relation to previous decades, although in Tunisia it still barely matched population growth. Thus, all three countries' agricultural sectors, which already provide a major source of employment, tended to increase their contribution to GDP.

The group faces a problem of rapid population growth −2.7 percent yearly in Morocco and Tunisia and 3.1 percent in Algeria. Domestic food production has been inadequate to satisfy the consequent growth in food demand and the three countries have therefore experienced declining food self-sufficiency levels.

Their agricultural production, which is largely dependent on rain-fed areas, is subject to wide fluctuations caused by erratic climatic conditions. Thus, in Tunisia, bumper cereal harvests were recorded in 1985 and 1987, years of adequate rainfall, but production collapsed in 1986 and even more markedly in 1988. Fluctuations in Algeria are also pronounced, while they are somewhat less so in Morocco, partly because of the differences in irrigation intensity in the three countries.[28]

Policies in all three countries are currently geared toward liberalizing their marketing, pricing and trade regimes. The policy shift was less radical for Morocco and Tunisia than for Algeria, as the the latter was formerly a centrally planned, socialist economy. With regard to agriculture, the new orientation focuses on market mechanisms designed to enhance efficiency in agricultural production; reduce the competitiveness of, and dependence on, imported food; and promote exports.

In its external relations, the group is strongly reliant on the EEC market for exports and imports. For instance, 56 percent of Tunisia's total exports go to three countries: France, Italy and the Federal Republic of Germany. Although this concentration is less pronounced in Algeria and Morocco, the EEC accounts for the bulk of their total trade as well. The possible difficulties that these countries might encounter after 1992, when economic integration of the EC should be completed, was one of the main considerations leading to the creation of the Arab Maghreb Union (AMU) in February 1989 (see Box 7).

Algeria

The Algerian economy has had to confront severe difficulties in recent years. A burdensome debt, external payment problems and a lack of progress in implementing market-oriented reforms have combined to depress economic growth. After declining by 1.2 percent in 1988, real GDP rose by only 2.8 percent in 1989 and 2.4 percent in 1990, i.e. still below population growth. However, the increase in oil prices

[28] Irrigated land area covers only 5 percent of total arable land in Tunisia and Algeria, compared with 15 percent in Morocco.

following the Gulf conflict came as a welcome respite for the economy. Despite the subsequent decline in oil prices, prospects for the energy sector remain favourable and GDP is expected to rise by nearly 5 percent in 1991. Agriculture is also estimated to have expanded significantly during the 1990/91 growing season, resuming the generally robust growth rate of the past decade. About four million tonnes of cereal imports may still be needed to satisfy domestic food requirements in 1991. Indeed, food deficits — even in favourable harvest years — have become a major structural problem over the past three decades.

With population growing by more than 3 percent per year and agricultural production increasing by only 1 to 2 percent per year during the 1960s and 1970s, Algeria has become one of the six largest food importers in the developing world. Growth in total annual food production accelerated to over 4 percent during the 1980s but the self-sufficiency ratio for cereals declined from 90 percent at Independence in 1962 to about 25 percent in recent years. The value of food imports has increased from about 11 percent of total imports in the early 1970s to more than 20 percent in 1988. By contrast, the share of agricultural exports on total exports has slipped dramatically from about 12 percent to less than 1 percent during the same period, reflecting the growing relative importance of hydrocarbon exports, but also a slow and uneven expansion of export earnings from agriculture.

The last few years have seen a major shift in agricultural policies. The general economic objective prior to the market-oriented reforms of the late 1980s was rapid industrialization by way of central planning and major public involvement in manufacturing and services. High growth rates were achieved by maintaining an investment/GDP ratio of among the highest in the world, made possible by the growth in hydrocarbon exports. During the 1980s, some adjustments to the centralized economic strategy occurred, but the pressure for reform accentuated with the 1986 decline in oil prices and the consequent deterioration in current accounts and rise in debt-service costs. Fundamental market-oriented economic reforms, of which agricultural reform is a cornerstone, have been undertaken since 1987. A central objective of the agricultural reform is to improve the performance of the sector, reduce dependence on food imports and stem rural-urban migration by increasing farm incomes.

Prior to the reform, Algerian agriculture consisted of large-scale and capital-intensive collective or state farms and small private farms. The socialist farm sector received priority in the distribution of inputs, equipment and credit; accounted for the bulk of tractor use; and included the best land. Nevertheless, the private sector demonstrated greater dynamism and efficiency. Cereal yields in the socialist farm sector stagnated during the period 1973-1986, whereas those of the private farms increased by an average of 2.8 percent per year. As a result, the productivity gap in the two sectors narrowed significantly. Despite access to better quality land and other resources, the socialist farm sector only produced 39 percent of total cereal output on 35 percent of the total area under cereal crops. Furthermore, farms in the socialist sector generally incurred major financial losses.

Despite efforts to reform socialist farming in the 1980s, the problems of inadequate resource use and low-cost efficiency remained unsolved, so in 1987 it was decided to dismantle the socialist farm sector. In a relatively short time in 1987-88, the large farms were divided into smaller units of private farms operated by a minimum of three individuals and, in some cases, further subdivided into individual farm units. Farmers were granted usufruct rights, which are transferable in the event of death.

It is still too soon for the impact of reform on production to be fully assessed. Furthermore, the two cropping seasons following the reform were badly affected by drought, which added to the complex problems of adjustment to the new landownership structure. Furthermore, the reform did not completely eliminate the dual nature of Algerian agriculture. As well as being more modern and capital-intensive, the farming units created by the dismantling of state farms are five times larger on average than the traditional, small-scale private farms. Future development of the agricultural sector depends on the success of government policies in redressing years of neglect of the traditional small-scale sector, and on how the new private farms are able to respond to market challenges and incentives.

Tunisia

The Tunisian economy staged a remarkable recovery from the depressed growth performance of 1988. Real GDP rose by 3.5 percent in 1989 and by 6.5 percent in 1990, largely as a result of expanded exports and favourable harvests. However, earlier expectations of a 4.5 percent increase in GDP in 1991 are not likely to materialize given the repercussions of the Gulf crisis. Current estimates now point to a figure of 3 percent. The benefits from temporarily higher oil prices and export revenues following the conflict were largely offset by lower incomes from tourism, the loss of export markets in Kuwait and Iraq, and a fall in remittances from Tunisian workers in the Gulf.

While Tunisia's agricultural and fisheries sector only represents about 14 percent of total GDP, agriculture has been a fast-growing sector over the long term. The current value added in agriculture increased more than sixfold between 1970 and 1987, almost twice as fast as the average for low- and middle-income developing countries as a whole. However, such overall expansion has taken place amid pronounced annual variations, thus making it difficult to assess performance. Despite improvements in irrigation, cereal production, which covers more than one-third of the total cultivated area, has shown widening fluctuations. Indeed, swings of unprecedented magnitude have been recorded

BOX 7

The Arab Maghreb Union

In February 1989, Algeria, the Libyan Arab Jamahiriya, Mauritania, Morocco and Tunisia established the Arab Maghreb Union (AMU). The AMU set up a council of heads of state with a rotating presidency, a council of ministers, a secretariat and a parliament made up of 20 deputies from each country.

The general objectives of the AMU include: integrating the economies of the five member states; eliminating barriers to the free movement of goods, people, services and capital; and providing a framework for addressing political, economic and social issues of common interest. This new regional country grouping also intends to provide a framework for jointly dealing with problems and issues associated with the completion of the EEC internal market by 1993.

At present, the EEC absorbs about 70 percent of exports from the Maghreb countries while intra-Union trade is still only of marginal importance.

Among the measures already introduced for the purpose of economic integration, agreements have been reached on a free trade area and the creation of a joint investment bank. A formal agreement has also been reached on the creation of a customs union by 1995.

Discussions are being pursued on cooperation in other fields such as the practical implementation of the Maghreb Charter for Environmental Protection, which has already been adopted; plans for a Maghreb convention on social security; and judicial and legal cooperation among the member countries. Other issues being discussed include the free movement of people; a common identity card; a coordinated fight against drug abuse; and cooperation in the areas of education and infrastructure.

The AMU has also established contacts with the EEC: the first joint meeting of foreign ministers from the EEC and AMU was held in November 1990. The agenda covered issues such as immigration, financial initiatives and debt.

Although it is too early to assess the long-term viability and impact of the new integration scheme, its prospects for consolidation appear promising in view of the progress achieved so far. Furthermore, the integration efforts have been pursued even amid grave uncertainties and friction during the Gulf war, which has the effect of underscoring the importance attached by Maghreb governments to developing common positions and shifting from national to regional development strategies.

during the past decade: a bumper cereal harvest of about 2.1 million tonnes in 1985 and a drought-stricken harvest of 295 000 tonnes in 1988, for instance, represent the highest and lowest yearly production levels since the early 1950s. Such unpredictable production performances have accompanied strong population growth; accelerating rural-urban migration, particularly to the capital, Tunis; and a strong expansion in food demand.[29] The result has been a growing dependence on food imports, despite a slow-down in their growth because of financial constraints in the 1980s. The volume of food imports rose by 10 percent annually during the 1970s and by 6 percent during the 1980s. Unlike previous decades, these imports have tended to absorb a greater share of total export earnings during the 1980s. The ratio of food imports to total exports declined from about 40 percent in the 1970s to 23 percent in the early 1980s, but rose again to about 28 percent in the late 1980s.

Agricultural exports currently represent about 8 percent of total merchandise exports, compared with 6 percent in the early 1980s and 3 percent in the early 1970s. Both the volume and value of agricultural exports increased at an average annual rate of about 7 percent during the 1980s. Unlike the 1970s when export prices underwent a strong increase — mainly reflecting the prices of phosphatic fertilizers — export unit values remained relatively constant during the 1980s.

The fisheries subsector has gained considerable economic importance during the past two decades. Marine fish catches rose by an average of 8 percent yearly in the 1980s, enabling the subsector to double its share in total agricultural exports from 20 percent in the early 1980s to more than 40 percent in more recent years. However, signs of overexploitation have been emerging, with the growth of catches slowing down and actually declining for certain species.

Since 1986, Tunisia has introduced economic reform programmes aimed at making the economy more outward-oriented and increasing the role of the private sector. The reform process, induced by the widening macro-economic imbalances during the first half of the 1980s, included decontrolling domestic prices; removing import restrictions; and reforming the tax system and the financial sector.

Agricultural reform has been pursued with the assistance of World Bank loans in the context of agricultural adjustment programmes. The objectives of these programmes include:

- increasing incentives to producers by liberalizing or adjusting producer prices;
- eliminating input and credit subsidies;
- rationalizing government intervention by transferring production and marketing activities to the private sector, while strengthening government support, control and regulatory activities;
- improving the efficiency of government spending and investment;
- rationalizing the use of natural resources (soil conservation and water, forestry and fishery resource planning);
- strengthening the analytical capacity of the Ministry of Agriculture and the follow-up of sector performance.

Particular attention is being paid to four areas of fundamental importance for agricultural development:

- the land-tenure system and, in particular, excessive fragmentation of landholding;
- soil conservation and the halting of desertification;
- water resource conservation;
- fisheries development.

Landholding fragmentation is seen as a basic constraint to agricultural development. The number of farms is reported to have increased from 320 000 at the time of Tunisia's independence to 400 000 in recent years. The declining size of landholdings is limiting the introduction of more modern farming methods, new seed varieties and irrigation expansion. Recent countermeasures include the provision of credit to allow young farmers to buy landholdings shared with co-inheritors.

In the field of soil conservation, a ten-year reforestation plan as well as policies to arrest desertification and a soil protection programme were launched in 1990.

The importance of intensifying efforts to improve the conservation and management of scarce water resources and expand irrigated areas was emphasized by the catastrophic 1988-89 drought. Investment in water resource and related projects accounted for an

[29] Total population increased by 2.6 percent, but agricultural population declined by 1.3 percent annually in the 1980s.

estimated 40 percent of total investment in agriculture, fisheries and forestry during the 1987-1991 planification period, and this share is expected to be at least maintained in the coming years. Major investment in water management infrastructure, dams, artificial lakes and wells is under way. Overall, new investments in agriculture in 1990 were reported to have approximately doubled in relation to the amount invested in the previous year.

In fisheries development, the Tunisian Government is confronting the double challenge of expanding and modernizing the industry while ensuring sustainable use of marine fish stocks. Since 1985, there has been a major effort to expand port capacities, and subsidies and favourable credit conditions are being provided to develop and modernize the fishing fleet. Exploratory studies suggest that exploitable fish stocks amount to 200 000 tonnes per year. A more rational exploitation of fishery resources is sought through a better distribution of the fleet among different fishing zones.

Another area with considerable development potential, aquaculture, is attracting increasing attention and support. The agricultural and fisheries investment code has been amended and the necessary regulations and policies introduced to promote investment in aquaculture. Subsidized credit will be provided to the same end. Three large-scale projects are in operation while others are being planned. The objective is to reach a production level of 10 000 tonnes by the year 2000.

Morocco

The Moroccan economy has been under serious strain brought about by higher oil prices and tourism losses caused by the Gulf conflict. Despite severe reductions in government spending, the fiscal deficit remains high and inflation is worsening. A favourable debt-rescheduling agreement reached in 1990 has still not provided the relief needed. GDP growth was only 2.4 percent in 1990 and is likely to remain low in 1991. In a longer-term perspective, GDP growth has tended to fluctuate widely, mainly as a result of unstable agricultural performances and changing conditions in international phosphate prices. One major problem facing the Moroccan economy is the high degree of dependence on primary sectors subject to variable external influences.

The Moroccan agricultural sector employs about 40 percent of the workforce. Exports of foodstuffs are an important source of foreign exchange and account for almost one-fourth of total exports. Morocco is the third largest cereal producer in continental developing Africa, but it remains highly dependent on food imports (wheat in particular), which accounted for about 11 percent of total imports in 1988. The country does produce virtually all its domestic meat requirements, however. Agricultural performances have mostly been favourable during the 1980s with cereal, pulse and oil crop production virtually doubling in volume between 1979-81 and 1989. The fisheries sector has also expanded rapidly, despite reduced catches and difficulties in the fish processing industry in recent years. The fisheries sector now provides employment for 110 000 people and contributes about 10 percent to total export earnings, compared with only 5 percent in the early 1980s.

Like the other two Maghreb countries, Morocco is pursuing policies aimed at liberalizing the economy and reducing the role of government. Under the 1988-1992 five-year plan, a reform of the public sector is being carried out, involving the privatization of a number of state companies as well as various liberalization measures aimed at encouraging private sector investment. These objectives are also being pursued in the context of a new structural adjustment programme (SAP), which was launched in 1989 and which provides for debt restructuring; liberalization of foreign trade; administrative and taxation reform; and reductions in government expenditure.

In agriculture, the Moroccan Government's main objectives are to enhance agricultural production and self-sufficiency through the expansion of modern, irrigated agricultural production; and to develop the export potential of agro-industries, dairying and fisheries.

Insights on the way such general objectives are translated into specific priorities may be gained from an analysis of government investment expenditure in 1990 and planned allocations for 1991.[30] The Ministry of Agriculture, which has the third largest investment budget of all ministries, has shared in the general budgetary restrictions introduced to restore fiscal balance. In 1990, a revised

[30] These are outlined in the document, *Projet de Loi de Finances*, 1991, currently under consideration by the Moroccan Parliament.

budget was passed that reduced total investment appropriations by 15 percent in relation to the original 1990 budget, and the Ministry of Agriculture's share was curtailed by 17 percent.

The 1991 budget envisages only a small increase in total investment expenditure of 1 or 2 percent over the revised 1990 budget, but the increase for the Ministry of Agriculture will be 14 percent, and for the Ministry of Public Works (responsible, *inter alia*, for large-scale dam construction), 9 percent. The agricultural budget is primarily to be channelled into land reclamation, water resource and irrigation projects; the reforestation of 60 000 ha, and projects for strengthening food self-sufficiency and livestock development. The budget for public works provides for the completion of four large-scale dam projects and the launching of a new one. In addition to its direct involvement in agriculture-related capital formation, the government intends to strengthen the participation of local communities in investment expenditure.

Relatively smaller provisions are made for government investment in the fisheries sector. However, the sector is benefiting from considerable private investment flows which in 1991 were estimated to be triple those for the previous year. A large proportion is expected to be for the acquisition of 78 vessels for high sea fishing.

As regards the external sector, the trade liberalization and currency devaluation carried out in May 1990 had a beneficial impact on agricultural exports. Other measures have included a doubling of the air freight capacity of the national airline and a 50 percent reduction in air freight rates in the aim of stimulating perishable agricultural exports to Europe and Canada. Morocco also concluded a number of bilateral trade agreements, particularly for the sale of citrus fruit to Algeria. However, a major concern is the possible loss of its position on EEC markets, to the benefit of Spain and Portugal which are major competitors in the trade of citrus fruit, vegetables, fish products and processed food. Access to the EEC market is of major importance for Morocco (in 1989 the EEC imported about 73 percent of Morocco's citrus fruit exports). A trade protocol concluded in 1988 provided for the dismantling of customs duties for traditional Moroccan exports at the same pace as the dismantling of tariffs for identical Spanish and Portuguese exports to their EEC partners. However, various fresh and prepared fruits and vegetables, fresh flowers and wine are subject to quota arrangements or seasonal tariffs.

REGIONAL REVIEW

II. Developed country regions

EASTERN EUROPE AND THE USSR

The process of reform toward market-based economies in Eastern Europe has been intensified during 1990/91, particularly in Poland, Hungary and Czechoslovakia, and has also been pursued, albeit at a slower pace, in the USSR. Bulgaria and Romania, however, have not yet entered into an integrated policy effort to achieve market-oriented reform. All the main areas of institutional and structural reform have directly or indirectly affected agriculture: efforts to develop a competitive private sector; the liberalization of financial markets; the deregulation of labour markets; and the abandonment of traditional trade structures among CMEA countries, together with a reorientation of trade toward convertible currency areas.

Two reform programmes, in particular, have had far-reaching and immediate effects on agriculture, price liberalization and land-tenure reforms. As seen below, price liberalization has made considerable progress in most Eastern European countries, where only a few of the key food items, agricultural inputs and public utilities remain under state control. Most countries have also eliminated state procurement and food subsidies and have reduced farmgate intervention to only a few commodities. However, price reform has been pursued far less rigorously in the USSR, where prices of only a few farm products are determined through negotiated contracts.

The other major area of policy reform, land tenure, also gained momentum in 1990 and early 1991. Hungary, Czechoslovakia, Bulgaria, Romania and the USSR all passed land reform laws. While the procedures for transferring ownership rights vary greatly in the different countries, private landownership has progressed steadily, particularly in Eastern Europe.

Country overviews

Poland had removed nearly all government price controls and subsidies by January 1990. Subsidies on production and consumption were reduced from over 50 percent of the budget and 15 percent of GDP in 1989 to 15 percent and 5 percent, respectively, in 1991. Most prices, including agricultural prices, are now determined by markets — indeed, price adjustments are seen to be still needed only for a few products such as natural gas and electricity. The Polish Government has retained control over wheat prices, however, and a small stabilization fund has been established to support certain agricultural prices. The state purchases grain on the basis of future deliveries, although procurement operations have been constrained, *inter alia*, by a lack of storage facilities.

The elimination of subsidies on consumer prices and most farm inputs and products resulted in lower domestic demand as prices increased and real incomes declined. Indeed, food shortages disappeared shortly after price liberalization in early 1990 and, at present, there is an ample supply of food in retail markets.

Inflation has remained a very difficult problem despite a rapid drop from the very high rates of early 1990. Although consumer prices picked up again later in the year — chiefly because of higher oil prices — forecasts for 1991 indicate some slowing down.

Internal convertibility of the zloty was introduced in January 1990, and the government is continuing to introduce other policies to liberalize trade. The exchange rate, fixed against the dollar, has remained stable. In addition to duty-free or low tariff rates being applied to imports of most bulk farm commodities, subsidies and quantitative restrictions have been abolished on most exports. However, exports of some farm products are controlled to ensure adequate domestic food supplies. On the other hand, some subsidies were paid on exports of sugar in 1990. Meanwhile, private trade enterprises are now free to compete with the former state monopolies.

Only about 25 percent of Poland's farmland had ever been nationalized and organized into state farms, while the remainder was familyowned and operated by 2.7 million private farms. The state farms are now being treated in the same way as other state enterprises under the privatization law passed in July 1990. This law allows for joint-stock companies; a voucher system for Polish nationals; commercialization; and direct foreign investment. The voucher system permits workers from a state farm to purchase up to 20 percent of the available shares at 50 percent of the market value, and additional shares at 100 percent of the market value.

Under a current programme, about 2 400 rural cooperatives are to become member-owned, market-oriented institutions providing crop marketing, credit and other services to farmers and businesses.

In 1990, *Hungary* widened the scope of its reform, from the production to the marketing and trading stages. Virtually all producer prices were freed in January 1990, and consumer prices increased by 29 percent as most consumer subsidies were phased out during the year. However, the government retained the authority to set consumer prices and started compensation schemes to help offset some of the impact of rising prices. Projections for 1991 indicate inflation rates of around 31 to 37 percent, while it is planned that compensation benefits will increase by only 20 percent, implying a decline in real income.

Hungary's currency, the forint, was devalued by 15 percent against Western currencies in January 1991, the first devaluation since February 1990. However, no official plans to introduce convertibility have yet been announced. Given that the state foreign trade monopoly was abolished in November 1990, any private entity can now undertake foreign trade operations after registering with the Ministry of Trade. Although trade restrictions have been abolished on 85 percent of all products, licences are still necessary for food imports and permits are required for major food exports. While Hungary's foreign trade sector is not completely open, most trade barriers are now transparent.

In 1990, Hungary established the State Property Agency (SPA) to carry out privatization programmes. There are two types of privatization programme that affect agricultural land: a self-initiated programme, whereby a firm proposes plans of its own to the SPA; and a state programme whereby the SPA invites tenders for groups of enterprises in a phased process. Hungary's phased privatization programme started in September 1990, but actual sales from this first phase are expected to begin in mid-1991. The goal is to privatize enterprises that produce more than 30 percent of GDP within three years, using both the self-initiated and the SPA tender approach. Hungary's privatization programme does not provide for restitution of enterprises or land to former owners. Instead, the emphasis is on compensating former owners for assets lost. Much of Hungary's agricultural land is already privately owned by individual cooperative members. Land may be withdrawn from cooperatives for operation as a private farm if desired.

Hungarian producers faced numerous and conflicting influences arising from price reform. For example, the elimination of fertilizer subsidies increased farm costs directly while the elimination of consumer subsidies and reduction of export subsidies affected product prices. As the domestic market and traditional export markets to other Eastern European markets and the USSR continue to adjust, Hungarian producers are looking increasingly to West European markets.

Starting in mid-1990, *Czechoslovakia* took significant steps toward a market-based economy by removing subsidies and freeing most prices. The country's farmgate intervention programme was replaced with a price guarantee regime, establishing minimum prices for wheat, rye, beet, milk and potatoes. Following three rounds of administrative price increases in 1990, prices were freed in January 1991, leaving only 12 to 15 percent of products subject to some extent of price control. Inflation in 1990 was estimated at 20 percent and was expected to reach 30 percent in the first six months of 1991 but to stabilize thereafter. The price liberalization law provided the government with significant potential to intervene in price-setting if necessary. Many agricultural products, such as feed grain, sugar, pork, poultry and milk, face price ceilings imposed by the government.

Internal convertibility, with some restrictions, was also announced at the beginning of 1991, while the koruna was devalued by 15 percent. The foreign trade regime was decentralized in 1989 when legislation was passed allowing enterprises to engage directly in foreign trade, and the former state trade monopolies were diversified. Trade barriers are more transparent now as import quotas were replaced by duties, surcharges, and licences. Export restrictions remain on some livestock products, poultry meat, hops and flour.

The Czechoslovakian Government also introduced a farm support programme to promote and assist farmers with the reform process. The programme is aimed at a wide range of agricultural activities such as farmland privatization; agro-industrial operations; research and training; and environmental issues, including support to organic farming. For example, eligible participants who apply to the privatization programme may receive long-term credit with a 50 percent reduction in interest rates and free extension services for five years.

A land law passed in May 1991 allows private ownership of farmland and permits farmland that was collectivized after 1948 to be returned to its original owners or their descendants.

Bulgaria freed prices of almost all goods and services on 1 February 1991. Prices for essential food items were subject to government limits to prevent excessive increases, although supply problems did emerge when, uncertain about inflation, producers withheld commodities in expectation of higher prices. Thus, the expected flood of products on to domestic markets, which was expected with the advent of price liberalization, has not yet occurred.

A law legalizing limited private ownership of land was passed in late February 1991. It imposes a maximum ownership of 20 ha but there are no limits on the use of leased land. Owners of the land nationalized after 1946 are eligible for the return of their land or a form of compensation. In January 1991 the Bulgarian Government agreed to pursue small-scale privatization as part of an agreement with the IMF.

The state monopoly on foreign trade was removed in 1989 and firms may engage directly in foreign trade, but all import and export transactions must be registered with the Ministry of Foreign Economic Relations. Licensing is required for most transactions.

Romania also began a price liberalization programme as part of a gradual transformation of the economy. The first stage of the price reform occurred in November 1990 and covered a large number of manufactured products. On that occasion, the government announced its intention to suppress producer subsidies. The second stage took effect on 1 April 1991 and covered numerous food products. Prices were doubled or trebled by all state dealers. Private retailers can settle their own prices but have to comply with certain maximum rates of increase. Steps were taken at the second stage to ease its impact: wage earners and pensioners would receive some fixed sum of money as compensation in addition to their income.

Early in 1991, the Romanian legislature was debating an agricultural land law to provide property rights for former landowners. Claims would be limited to 100 ha and, in order to obtain and retain title to the land, active farming would be required. Even without the current land law, decrees in early 1990 restored land rights to farm workers and increased private agriculture's share in production from 8 percent in 1989 to nearly 30 percent in 1990. Privatization of state-owned enterprises was still being debated in early 1991 and sales of enterprises are not scheduled to begin until July 1991. Initial expectations are that at least 50 percent of the country's capital stock will be privatized within three years.

The Romanian currency was devalued by 40 percent on 1 November 1990 and, starting 1 January 1991, internal convertibility was to be introduced gradually through open hard-currency auctions. In early 1990 monopoly trading rights for state trading organizations were removed and small companies are currently participating in foreign trade transactions.

By mid-1990, the former *German Democratic Republic* had united with the Federal Republic of Germany and was attempting to make an extremely rapid transformation from a centrally planned to a market economy. As of July 1990, the German Democratic Republic's agricultural sector began operating under the EEC's Common Agricultural Policy (CAP). All other prices are determined by the market. Privatization is being actively pursued, although progress is slower than many had expected. Many Western firms are hesitant to invest in enterprises of the former German Democratic Republic because of potential legal liabilities over pre-communist ownership and because of environmental neglect on the part of such enterprises in the past. The poor condition of German Democratic Republic capital stock and infrastructure are further significant impediments to Western investment.

The economic reform programme in the *USSR* has proceeded at a slower pace than in other Eastern European countries. State orders continue to play a significant role in determining farm output and the government sets virtually all output and input prices. While a number of reform programmes outlined a gradual approach to price liberalization from October 1990 to April 1991, most input and output prices are still determined by the government. Prices of milk, meat, eggs, bread, sugar, tea, fish, vegetable oils, salt and tobacco are all controlled. In addition, food subsidies continue to be provided on meat, milk, fish and some other products.

Because of administered prices and state subsidies, domestic price structures often differ dramatically from those existing on world markets. Establishing a market-determined exchange rate for the domestic currency is also a priority, but initial steps have centred on devaluing the rouble while still setting the exchange rate. State-owned enterprises have operated in a highly protected economy with little need to respond to domestic or international market forces. Continuing enterprise losses and concomitant government subsidies have led to inefficient resource use and inflationary monetary growth. For reforms to be effective these enterprises must be self-financing, responsive to market forces and must take the responsibility for any losses incurred. In an effort to progress toward these three goals, discussions on reform continue to focus on the privatization and demonopolization of enterprises. More open foreign trade is also viewed as a means of bringing domestic prices in line with world prices. The former opaque nature of the state monopoly trade organizations is now being replaced by explicit tariffs, quotas and licensing requirements. While the new trade policies are more transparent, some trade-distorting measures are likely to remain in place to provide a certain amount of protection to enterprises thought to be especially vulnerable during the transition period.

In early 1990, the USSR adopted a new land law which attempted to provide an overall framework for the various land laws of the republics. Under the new law, a form of private ownership is permitted and overall rights to determine landownership issues are transferred to the republics and local political authorities. Since the legislation was passed, land laws have been established in all republics, most of which have extended provisions beyond the framework regarding private ownership. Nevertheless, all republics limited land market activity for a specified period in an effort to discourage speculation. In the Russian Federation, the final version of the land law limited land size; banned land sales for ten years; and permitted land to be sold only to the local council of deputies. The Russian law did establish a land bank and granted rights to use hired labour.

There is still a great deal of uncertainty concerning the implications of these new land laws. In effect, private farmers are only granted partial ownership rights when they lease land. They are still dependent on state and collective farms for machine services, input supplies and, to a large extent, the marketing of produce.

NORTH AMERICA AND THE EEC

The 1990 United States Farm Bill

In 1990, United States government legislation established the agricultural policy framework for export, food assistance and domestic farm programmes for the 1991-1995 period. The Food, Agriculture, Conservation and Trade Act (FACT) of 1990 continued the process — begun under 1985 legislation — of moving United States agriculture toward a more market-oriented basis. In addition to commodity-related programmes, FACT addressed a wide range of agricultural issues, including forestry; conservation; agricultural trade; organic food standards; agricultural credit; research; extension; and global climate change.

FACT's emphasis on greater market orientation and provisions concerning stock policies are likely to have important implications for the stability of world agricultural prices and food security. In the future, United States farmers should be able to respond more quickly to changing world supply and demand conditions because of the greater planting flexibility mandated by the Act. Farmers participating in commodity programmes are now permitted to grow a wide variety of crops on up to 25 percent of their traditional planted area. Thus, world market prices will influence production decisions for a greater proportion of their crops. The purpose of this provision is to help increase production of crops that are in scarce supply and decrease production of surplus crops, thereby contributing to smoother world price adjustments over the next few years. An important consequence of FACT is that the United States Government will probably accumulate smaller stocks of grains than it has in the past and so it is likely to hold a smaller proportion of the world's grain reserves. This raises questions about the future distribution of world grain stocks and their adequacy in years of extreme production shortfalls around the globe. The outcome of multilateral efforts to achieve greater agricultural trade liberalization will affect how far the United States moves toward a stronger market orientation.

Specific provisions in FACT that have important implications for the world food and agricultural situation include the following:

- FACT substantially revised food aid legislation (Public Law 480) by creating a new Title III, Food for Development Programme. Title III provides for bilateral agricultural commodity grants to the least-developed countries (LDCs). The commodities may be used for direct feeding programmes; the development of emergency food reserves; or for sale by the recipient governments, with the proceeds directed to development purposes.
- The four-million-tonne Food Security Wheat Reserve that supported United States food aid was reauthorized. A new requirement states that the reserve must be replenished within 18 months after wheat has been released for use in external aid programmes.
- The Export Enhancement Programme (EEP) was reauthorized with the intent of providing export subsidies to counter perceived unfair trade practices. FACT calls for minimum funding of at least $500 million annually, but its actual funding level, like those of other trade programmes, depends upon annual appropriations. The export-credit guarantee programme was also renewed. A new Market Programme broadens the former Targeted Export Assistance, which was designed exclusively to counter perceived unfair trade practices. While encompassing general export promotion activities, it will give high priority to markets where unfair trade practices are considered to exist.
- If the United States has not entered into the Uruguay Round agricultural trade agreement by 30 June 1992, the level of export promotion programmes authorized by FACT may be increased by $1 billion during 1994 and 1995. In addition, marketing loans may be authorized for 1993-95 wheat and feed grain crops, and minimum acreage-reduction requirements may be waived for any 1993-95 crop programme. In the event that a Uruguay Round agreement does not enter into force by June 1993, provisions requiring reductions in agricultural spending may be waived and funding for trade programmes increased.
- The Acreage Reduction Programmes (ARPs) are now based on ratios of stocks to use rather than projected carryover levels as in the past. This change should allow ARPs to reflect market signals more accurately.

Canada

In December 1989, at a national agro-food policy conference, the Canadian Federal Government launched a major review of agricultural policies which constitutes the most comprehensive policy review in the history of Canadian agriculture. The review, which is expected to form the basis for future agricultural and food policy design in Canada, has involved both the federal and provincial governments as well as the farming industry. It also involved a number of specific task forces and committees, set up to develop policy options and prepare reports for consideration by federal and provincial agricultural ministers. Task forces or committees were established to review the following areas:

- safety nets;
- transportation;
- competitiveness;
- environmental sustainability;
- research and technology;
- farm finance and management;
- supply-managed commodities (poultry and dairy);
- pesticide registration;
- food safety.

The policy review is still under way and is now gradually moving from a phase of problem identification and the development of policy options into a decision phase. The first major operative result of the policy review has been in the field of farm safety nets where a new type of programme has already been introduced. An innovative approach to income stabilization in the agricultural sector, the new safety net programme is composed of two elements: a Gross Revenue Insurance Plan (GRIP) and a Net Income Stabilization Account (NISA) programme.

GRIP consists of a crop insurance plan, which is similar to a previously existing programme, and a new revenue protection component. The latter component offers complete revenue protection when combined with the crop insurance component.

Premiums for the programme are shared among the federal government, provincial governments and farmers. The programme should deliver benefits to a farmer whenever market revenue falls short of a guaranteed target revenue. The target revenue for a given crop is calculated on the basis of historic yields and a 15-year moving average of prices. Target revenues are thus determined by long-term market trends. For the crop year 1991/92, the GRIP programme is available to grain and oilseed farmers and could be extended to other crops in the future.

The NISA programme enables farmers to set aside money, together with contributions from both the federal and provincial governments, in a separate account. Farmers can make withdrawals from this account when their income falls below their five-year average returns after costs, or when their taxable income falls below a pre-determined level. Farmers are eligible for NISA starting from the 1990 tax year. For 1990, the programme applies to cereals and oilseeds — including farm-fed grain — and to edible horticultural crops not included under other stabilization programmes.

The new safety net programmes constitute the first major, specific result of the agro-food policy review. The review is still continuing, however; the next important step is the annual conference of federal and provincial ministers of agriculture in July 1991.

Recent developments in the EEC: CAP reform and German unification

The Common Agricultural Policy (CAP) reform measures introduced in 1988, combined with a rise in world commodity prices in 1988 and 1989, contributed to a certain easing in the EEC's commodity surplus situation and allowed the Community to remain comfortably within the 1988 financial guidelines limiting growth in agricultural spending.

However, EEC agricultural market disequilibria worsened again during the second half of 1990 and in 1991. Stocks from farmers in the former German Democratic Republic added to EEC stocks, further aggravating the surplus problem. By the end of January 1991, grain offered for intervention stocks totalled 18.6 million tonnes, beef stocks exceeded 700 000 tonnes, while butter and skim milk powder stocks grew to 253 000 tonnes and 333 000 tonnes, respectively.

The European Commission estimated that, if corrective action were not taken, budgetary expenditure on agricultural support in 1991 would rise by almost one-third to a record ECU 33.4 billion, with another substantial increase likely in 1992. This would push agricultural support spending ECU 880 million above the budgetary guideline of ECU 32.5 billion set for 1991 according to the rules laid down in February 1988.

The Commission issued its farm price proposals for the 1991/92 marketing year on 1 March 1991. To keep the price package debate from prejudicing debate on CAP reform, it proposed a basic carryover of 1990/91 policy measures with some adjustments for those sectors with the most pressing surpluses.

The agreement on the 1991/92 price package, which EEC ministers of agriculture finally reached in late May, had considerably softened the cuts contained in the original proposal. The main elements of the approved package are:

- for cereals, the co-responsibility levy paid by farmers (for off-farm sales) will be increased from 3 to 5 percent, but with an exemption for farmers who take 15 percent of their land out of production in 1992;
- for oilseeds and protein crops, prices will be cut by 1.5 percent and the quality bonus for rapeseed reduced by 50 percent;
- for tobacco, prices and premiums will be unchanged or reduced by 6 percent or 13 percent, depending on the variety;
- milk quotas will be cut by 2 percent, while future intervention buying-in prices for butter will be fixed by the EC Commission, but should not be below 90 percent of the intervention price;
- for beef, there was a lowering of the level to which prices will have to fall in order to trigger intervention buying-in;
- the support price for sheep meat will be cut by 2 percent, but this will be offset in less favoured areas by an increase in the ewe premium from ECU 1.5 to ECU 4 per head;
- there is also provision for changes in the agrimonetary system (which is used to convert policy prices from the ECU to national currencies) in accordance with a 1988 policy designed to reduce or eliminate the differences between market exchange rates and the special "green" agricultural exchange rates, and thus to further the goal of harmonizing support prices across member country borders.

In almost all the above areas, the agreed cuts are weaker than the Commission's original proposals. Furthermore, the proposed price cuts for sugar and wine were completely rejected by the EC Council of Ministers. The original proposals were designed to keep budgetary expenditure on the CAP within the guideline set for 1991. According to the Commission, the concessions accorded in the final agreement were expected to cost an extra ECU 800 million, which would be met through savings on export subsidies resulting from the rising US dollar, a slowing down of payments and the existence of management economies.

Deliberations on more fundamental CAP reforms are to be resumed later in 1991. They will cover reform proposals put forward by the EC Commission in late June 1991, containing large cuts in price support with compensation to farmers.

Following are some main elements of the reform proposals as indicated so far:

- a cut in subsidized cereal prices of some 35 percent over three years, with compensation to be given to farmers;
- the introduction of set-aside provisions, modulated according to farm size and with higher percentage set-aside requirements for larger farms and total exemption for the smallest farms;
- a cut in milk quotas and, in order to promote grass-fed cattle farming on large areas, the introduction of an extensification premium of ECU 75 per head for the first 40 cows for extensive farmers raising two head per hectare;
- the introduction of a scheme for farmers abandoning dairy farming;
- a cut in beef prices of 15 percent (but two-thirds of this should be covered by the lower feed prices) and, as for dairy farming, the introduction of an extensification premium of ECU 60 a head for the first 90 cows, as well as special premiums for slaughtering or exporting calves;
- for sheep, the imposition of quotas in order to freeze herds at the 1990 level.

The accompanying structural measures would include:

- grants to farmers using farmland for forestry purposes;
- more financial resources for farmers reducing fertilizer use or looking after the countryside in environmentally sensitive areas;
- a new early retirement scheme for farmers between the ages of 55 and 65.

The increased expenditure deriving from these measures should be made possible by expected major savings on export subsidies and intervention stocks.

If approved by the member countries, the proposed reform should become operational by 1993. The period 1993-1996, the introductory phase of the reform, should bring a temporary increase in agricultural expenditure. By 1997, expenditure should be about ECU 4 billion less than projected expenditure extrapolated from the trend of the last decade.

The extent to which the proposals will be followed will become clearer later in 1991. In any case, unless more fundamental reforms are put in place, the Commission forecasts that cereal output could reach 173 million tonnes by 1996, with supply exceeding demand by 40 million tonnes.[31]

German unification: implications for agriculture
The unification of Germany has brought together two greatly different agricultural sectors. A unified Germany and the EEC face numerous challenges in integrating German Democratic Republic agriculture into the Common Agricultural Policy (CAP).

The agricultural economies of the original German *Bundesländer* (federal states) and the five new *Länder* (new states, i.e. former German Democratic Republic) were shaped by their political and economic systems. In the Federal Republic, agricultural development in the post-war period was influenced by the CAP, while the structure of the agricultural sector was determined by traditional landownership patterns. In the German Democratic Republic, the policy of collectivization produced large-scale, intensive production units and the virtual separation of livestock and crop farming. The regime's policy goal of self-sufficiency had succeeded in the livestock and dairy sectors but the country suffered a grain deficit.

Agriculture in the five new *Länder* is characterized by very large collective and state farms whose average size (1 354 ha) contrasts sharply with those of the Federal Republic of Germany (18 ha) and the EEC (13 ha). Important non-farm activities, including schools, community organizations and machine repair and food services, were integrated into the collectives. Agricultural labour accounts for a larger share of the civilian working population in the former German Democratic Republic than it does in the Federal Republic (10 percent compared with 5.4 percent) and a larger proportion of the former's total land area is devoted to agriculture. In spite of its better soils, the German Democratic Republic had lower crop yields per hectare than the Federal Republic of Germany. The two had different food consumption patterns, with the former having a more limited selection of foods.

[31] Commission of the European Communities. 1991. *The Agricultural Situation in the Community*, 1990 (report).

The integration of the German Democratic Republic's agriculture into the CAP began on 1 July 1990 when EC prices for farm goods were introduced with the economic and monetary union of the two German states. When unification occurred on 3 October 1990, European Community law became applicable in the territory of the former German Democratic Republic. Germany, however, has been granted a number of derogations for the former Democratic Republic, valid for a transitional period, and will be authorized to provide substantial national subsidies for agriculture in that region.

EEC intervention mechanisms now operate in the former German Democratic Republic and producers there have begun to adapt themselves to farming under the CAP. The EEC has maintained existing Maximum Guaranteed Quantities (MGQs) for cereals and oilseeds for the 1990/91 marketing year, but German Democratic Republic production is not included in the total. Nor will the region's production be counted toward the MGQs for sheep and tobacco, although its producers will face the same price cuts or increases in co-responsibility levies that may result from the MGQs being exceeded.

Separate milk and sugar production quotas have been established for the former German Democratic Republic. The milk quota has been set at 6.59 million tonnes. This represents 80 percent of milk production in 1989 and will require a significant reduction in dairy cow numbers. The former German Democratic Republic's dairies will be compensated for this production cut with a one-time payment. The sugar quota, however, has been set at 847 000 tonnes, somewhat higher than current production levels.

For the "less favoured areas" (disadvantaged areas eligible for EEC development funding) of the former German Democratic Republic, a maximum EEC contribution per holding has been established. Germany is authorized to provide special national aids through 1991 to farms in less favoured areas.

The existing EEC set-aside programme is expected to play an important role in removing marginal areas from agricultural production in the former German Democratic Republic. Approximately 700 000 ha (nearly 13 percent of the land it had devoted to crops) were withdrawn from production for 1991, representing four times the area withdrawn in the Federal Republic. Special measures governing the set-aside programme in the former Democratic Republic require a smaller minimum area to be withdrawn on large farms; offer a smaller per-hectare payment; and allow land planted to non-market crops such as potatoes to qualify for the set-aside.

Although the German Democratic Republic was a net importer of food and agricultural products, the former regime's policy of self-sufficiency, coupled with foreign exchange constraints, limited trade in agricultural products. Where most of Federal Republic of Germany's agricultural imports came from its EEC partners, the German Democratic Republic could not purchase most of its food requirements from its partners in the Council for Mutual Economic Assistance (CMEA), many of whom were also food-deficit countries. The major part of its imports of livestock and meat, dairy products and eggs and cereals came from Western rather than Eastern Europe. Fruits and vegetables, by contrast, were supplied primarily by Eastern Europe.

In its trade with the Federal Republic of Germany, the Democratic Republic had been an importer of processed food products and an exporter of raw agricultural goods. When trade restrictions between these two regions and between the German Democratic Republic and the EEC were abolished after the monetary union, consumers in the Democratic Republic showed a definite preference for Western goods. This preference is expected to weaken eventually, but the former German Democratic Republic will not resume its previous trade patterns. Imports of tropical products, fruits and vegetables, animal feed ingredients and high-value food products are likely to grow, while sources of supply will shift and diversify.

Unification has presented Germany and the EEC with a host of challenges for agriculture. The agricultural sector and the food processing industry in the former German Democratic Republic suffer from inadequate and outdated machinery and infrastructure. Consequently, significant investments will be required to modernize and improve farms and processing plants. The region's agricultural production is now supported by the EC budget, as is its structural adjustment. Farmers from the former Federal Republic will face increased competition as those of the former Democratic Republic improve their productivity and the quality of their products. Subsequent increases in supply may therefore lead to higher CAP budgetary costs, thus increasing pressure for the Policy's reform. The EEC may also experience conflicts with its competitors when increased surplus supplies are disposed of on international markets by means of export subsidies.

Unification is expected to have major repercussions on the structure of the whole agricultural sector in the former German Democratic Republic through adjustments in farm size and structure and in landownership patterns. A significant number of farmers in this region may either be forced, or choose, to leave the sector. Moreover, it is possible that individuals whose land was confiscated by the German Democratic Republic Government after 1949 will be allowed to reclaim their farms. However, as long as uncertainty over the ultimate ownership of land persists, this may very well act as a brake on the sector's development.

Finally, a great challenge for the united Germany will be environmental improvement in the former Democratic Republic. To start with, the government plans to enforce EEC air and water standards by 1996.

PART III

AGRICULTURAL POLICIES AND ISSUES: LESSONS FROM THE 1980s AND PROSPECTS FOR THE 1990s

AGRICULTURAL POLICIES AND ISSUES: LESSONS FROM THE 1980s AND PROSPECTS FOR THE 1990s

I. The 1980s and 1990s

On 21 December 1990, the United Nations General Assembly adopted the International Development Strategy (IDS) for the Fourth UN Development Decade, extending from 1 January 1991 until the end of the century.[1] FAO was actively involved in the preparation of the IDS, particularly by contributing a long-term strategy for food and agriculture.[2] A further step in this process was the 18th Special Session of the UN General Assembly, held from 28 April to 1 May 1990 and devoted to international cooperation, in particular to the revitalization of the economic growth and development of developing countries.

This chapter is a further contribution to the debate on an appropriate agricultural and rural development strategy for the 1990s. It attempts to draw lessons from the bitter experience of many countries during the 1980s, a decade often termed as lost to development.

CHANGE AND UNCERTAINTY

From the end of the Second World War until the early 1970s, economic growth and improved living standards in the developing countries were the rule, not the exception. Primary product prices were relatively stable, official development assistance (ODA) increased in real terms over time and the general movement of trade policies was toward liberalization. This relatively favourable era for most developing countries came to an end with the oil price increases of 1972-73 and the ensuing inflationary period which, by the early 1980s, brought a widespread recession; unstable primary product markets; high real interest rates; protectionism; and reduced access to capital, both private and official. Overall, per caput income in the developing world continued to grow, but in Latin America and the Caribbean, sub-Saharan Africa and several Near East countries, falling per caput incomes threatened to become the established norm.

In the new international context, it must be recognized that development theory (and economic theory in general) proved less prepared to deal with economic decline than with growth. Theoreticians and policy-makers had become accustomed to taking growth for granted and to debating how it would be optimized in terms of its rate and distribution. It was not expected that many or most developing countries would be having to turn decline into growth, amid severe policy constraints caused by debt-service burdens, fiscal imbalances and balance-of-payment problems together with associated austerity programmes.

Looking back on the 1980s, this chapter reviews the main issues that emerged during the decade and identifies some of the major challenges and opportunities for agriculture in the 1990s. The Special chapter of *The State of Food and Agriculture, 1990* treated the impact of structural adjustment programmes on agriculture in considerable detail. This year's Special chapter (Part III) introduces a broader approach, as it first considers policy change in the light of long-standing debates on the theory of development. The intention is to reach a better understanding of the overall economic and agricultural policies in a longer-term, and possibly less controversial, context than that which often characterizes the debate over structural adjustment packages.

With this discussion on development theory as a background, the chapter turns to review the policy changes of the various developing country regions in the 1980s. The experience of the 1980s — precisely speaking, crisis and adjustment — may be broadly divided into these regional categories, since geographical proximity usually implies common economic structures and problems. However, care has been taken to avoid excessive generalizations. The recent history of adjustment in developing countries has been far from uniform in intensity, pace and pattern. This obvious fact

[1] Resolution 45/199 of 21 December 1990.

[2] FAO. *Long-term strategy for the food and agriculture sector*, CL98/13, August 1990.

must be underlined because of the unfortunate tendency to treat adjustment as a common experience not only of different countries, but also of different areas within countries.

Indeed, the experience of the 1980s has revealed the complexity of the various interacting factors, as policies associated with successful adjustment in certain countries were ineffective in dealing with the problems of others. This suggests that the current problems of many developing countries cannot be explained by focusing exclusively on "domestic policy mismanagement" *vis-à-vis* "external shocks". Therefore, the regional reviews that follow seek to identify the policies that have worked and those that have not, as well as placing them in their own specific context.

The regional reviews also cover the experience of the developed countries. OECD countries are examined with regard to their role in shaping international markets — including those of agricultural products — and the global economic environment. The final regional review outlines the profound changes in economic and agricultural markets and institutions that have taken place in the former centrally planned economies (CPEs) of Eastern Europe since the late 1980s. The difficulties these economies are facing in their transition toward market-oriented systems are also discussed.

While the regional reviews analyse the development experiences and region-specific policy issues of the 1980s, the third part of the Special chapter focuses on three priority policy areas for the 1990s: poverty, the environment and agricultural trade. The focus on poverty needs no justification. There is increasing recognition of the fact that restoring macro-economic balances and overcoming financial and debt-repayment problems should not detract from the fundamental objectives of development: increasing the real incomes of the poor; reducing hunger and malnutrition; and improving people's access to health care, sanitation and education.

As regards environmental issues, more than any previous decade, the 1980s have highlighted the risks arising from humankind's destructive exploitation of global natural resources, and the need for appropriate policies to promote sustainable development. The international community has also gained awareness of the important and complex links between poverty and environmental degradation in developing countries.

Finally, trade issues attracted major attention during the 1980s, a period of disarray in world agricultural trade. Institutional developments in trade were dominated by the Uruguay Round of multilateral trade negotiations, intended to introduce greater discipline in world markets; bring about stability and growth; and allow market forces to play a greater role in world trade. While the Uruguay Round raised great expectations among many agricultural exporting countries, largely because of the importance given to agriculture in the negotiations, by mid-1991 the outcome and impact of the round remained clouded with uncertainty.

Agriculture in recent development theory

With some simplification, one could say that in the period following the Second World War, economic development was to a large extent equated with economic growth. The beneficial effects of growth on welfare and living standards remained implicit. Policy served to facilitate that growth and success could be measured by economic growth rates. Over time, experience in developing countries changed this perception of "economic development" into a much more complicated concept.

The most obvious defect of the former emphasis upon economic growth was its neglect of distributional and poverty-reduction considerations. A common perception in those years was that rapid growth was inevitably associated with income inequality. However, after a long period of sustained economic expansion in many countries, the high social cost of this approach became evident. It also became evident that marginalizing large segments of the population was in fact an economically inefficient path to growth. Thus, the new concept of "growth with equity" gained momentum during the 1960s and moved to the centre of the development debate by the 1970s. Agricultural and rural development benefited from this approach, which emphasized the reduction of rural poverty and a focus on small farmers. However, the economic shocks of the early 1980s again shifted priorities. Many countries were compelled to subordinate their growth-with-equity objectives to pressing short-term concerns — restoring macro-economic balances, generating trade surpluses and servicing debt.

Several years of social hardship and economic degradation in much of the developing world again brought the human dimensions of development and poverty issues to the forefront of the international community's concerns. First, food insecurity was increasingly regarded as a problem of poverty and food access — or food entitlement — rather than one of food supply. Second, the realization emerged that structural adjustment packages should incorporate provisions that minimize their social cost, particularly their impact on vulnerable groups. Finally, increasing emphasis has been placed on the democratization of development, whereby the people affected are made central to the process.

Postwar emphasis on industrialization

Changes in the manner in which economic development was perceived affected the analysis of agriculture's role in the growth process. In the immediate postwar years, priority was placed on an increase in saving and investment rates as the fundamental condition for economic development. This increase in aggregate investment would go along with a shift of labour from traditional sectors, where savings and productivity were low, to modern sectors in which average labour productivity and the rate of investment of profits were high. This approach, derived in part from the famous Lewis model of unlimited supplies of labour, almost invariably placed agriculture in the traditional category, destined to lose labour and decline relatively as development proceeded.[3] In this view, growth is based on industrialization, which takes advantage of the inexpensive labour released from agriculture and exploits readily available technologies that are imported from the developed countries. Along with this emphasis on aggregate growth and sectoral reallocation of labour went a judgement that continued reliance on exports of primary products provided only limited prospects for generating economic development. Priority tended to be given to fostering industrial growth for the domestic market which, it was argued, would not be limited by the demand constraints affecting primary products on world markets.

This approach gave several reasons why agriculture could not serve as a major source of growth, but rather as an adjunct to industry. First, domestic demand for agricultural commodities was seen as having an income elasticity of less than unity (Engel's Law), so their output in the long term would grow more slowly than national income. Second, agricultural exports were thought to suffer from the same low income elasticity as well as being sold in more competitive markets than those for manufactures, thus resulting in losses in terms of trade (the Prebisch-Singer hypothesis). Third, the basic growth model considered that the agricultural sector generated little savings and that it would therefore be characterized by stagnant productivity until it was linked with industry and modernized. Hence, agriculture would serve primarily as a reserve of inexpensive labour as well as providing a supply of food and raw materials to a dynamic industrial sector.

A positive relationship between per caput income and the share of industry in national product, both across countries and within countries over a given period, provided a strong argument in favour of industry-led growth. No country had developed economically as a result of agricultural specialization — although many developed countries were major agricultural exporters — and this empirical generalization was used to justify industrial protection. It followed that agriculture should be taxed, either implicitly or explicitly, depending on fiscal feasibility. Agricultural exports would also provide foreign exchange for financing imports of capital goods during the "infant industry" phase of industrialization.

Neglect of agriculture

The highly stylized development theory described above had a considerable influence on policy formation through the 1970s. But by the 1980s, developing country policy-makers increasingly abandoned this framework, as it was commonly judged to be a failure. Before considering the performance of agriculture in the 1980s, when a different though certainly not new theoretical paradigm came to dominate policy formation, it is useful to consider in what ways the industrialization strategy failed. There are at least three proposals as to the cause of its demise. One argument is that it represented an inappropriate and ill-advised strategy from the outset, and that its implementation produced damaging results. The problem with this interpretation is how to reconcile such a harsh judgement with the rapid growth rates and rising standards of living that occurred in the developing world from the end of the Second World War until the mid 1970s.

A second interpretation of the collapse of

[3] W.A. Lewis. 1954. *Economic development with unlimited supplies of labour.* Manchester School, UK.

the import-substitution growth strategy is that it resulted from the unfavourable conjuncture of external circumstances: oil price increases; world recession; accumulation of debt burdens (with unprecedentedly high real interest rates); unstable world markets; developed country protectionism; and reduced capital flows to developing countries. According to this interpretation, in direct contrast to the first, the import-substitution strategy is judged as successful, but at the same time a victim of circumstances beyond the control of policy-makers. Even if this interpretation is correct, and considerable empirical evidence can be produced to support it, the strategy would nevertheless have run its course and would have needed to be replaced by a different one.

A third interpretation might be that, although the import-substitution strategy produced impressive growth rates in many cases, it also generated internal and external economic strains that tended to undermine it. In this view, import substitution represented an appropriate focus for governments seeking to begin industrialization, particularly given the relatively favourable international economic environment before the oil price increases, when private capital flows and bilateral and multilateral finance was more readily available than it was subsequently. However, in many cases, this approach was carried to excess, creating internal and external economic imbalances. These imbalances might have been accommodated within the growth process without generating a crisis, had the international environment not altered so dramatically.

Following this approach to policy assessment, one can look back on the decades of import substitution and consider the aspects that produced substantial imbalances. Perhaps most emphasis has been given to the neglect of agriculture. While during the 1970s and the 1980s average agricultural performance in developing countries was not low in comparison to the two previous decades, it proved deficient in relation to population growth and its contribution to meeting basic needs, especially in sub-Saharan Africa. Similar agricultural growth rates in the 1990s imply substantial increases in developing countries' food imports, which by the 1980s had already reached burdensome levels for many.

Although the experiences of different countries varied greatly, a number of considerations support the view that agriculture suffered neglect during the decades when the import-substitution strategy influenced policy-making. The accumulating food deficits in a large number of countries represented a serious sectoral imbalance in the growth strategy, and was prima facie evidence of policy neglect, as were the low rates of government and private investment in agriculture in most developing countries. A study done in the early 1980s, which sought to account for the particular characteristics of the agricultural sector, estimated the norms for the share of investment in the sector. It concluded that the actual totals for most low-income countries remained well below what might have been expected.[4]

While the general consensus is that agriculture suffered relative neglect in the past, there is less agreement on how to rectify such neglect, and less still on whether progress was made in this regard under structural adjustment programmes (SAPs) in the 1980s.[5]

Perspectives on agricultural development

As is to be expected with an issue as complex as agricultural development, there is considerable disagreement among experts both with regard to the general orientation of policies and the appropriate government response to specific problems. In reviewing the experience of the 1980s, it is useful to divide opinions into two broad schools of thought, neoclassical and structuralist.

Neoclassical theory applied to the development of agriculture leads to the broad conclusion that reliance on market mechanisms produces beneficial economic outcomes, while administrative interventions are generally harmful. Subsidies and domestic price controls should be avoided in order to allow rural

[4] R. Krishna. 1982. Some aspects of agricultural growth, price policy and equity in developing countries. In *Food Res. Inst. Stud.* 18: 232. Krishna estimated that the typical low-income country would apply 22 percent of national investment to agriculture in order to avoid severe sectoral imbalances. He observed that none of the 20 countries in his sample achieved this percentage and that only three allocated as much as 15 percent: "20 to 22 percent [of national investment] would suffice in most low-income countries as direct investment [in agriculture] but much less than this is provided in many countries. In this sense agriculture is neglected".

[5] J.M. Caballero & J. Mohan Rao. 1988. *Growth and equity: a strategy for developing agriculture* (Working Paper). Helsinki, WIDER.

markets in land, labour, credit and agricultural products and inputs to operate more freely and to allow maximum resource efficiency. The pursuit of free international trade and openness is similarly seen as a source of major efficiency gains. With this approach import-substitution policies lead to inefficient, capital-intensive production activities, without providing the necessary incentives for exports — including agricultural exports. The consequence of such a policy strategy is both slow growth and the perpetuation of poverty and inequity.

The argument that price policy interventions discriminate against agriculture is often based on the effects of tariff and exchange rate policies. This claim is frequently accompanied by an emphasis on rural/urban and producer/consumer conflicts over policy.[6] Effective protection for agriculture is low or negative because of high nominal industrial protection. Overvaluation of exchange rates also negatively affects agriculture by making the sector's exports less competitive. Thus, discriminatory price policies lie at the heart of the neoclassical view that agriculture was neglected in the past decade.

These views became influential during the 1980s and their underlying premises came under empirical scrutiny. Some of these premises — which relate to agrarian structure and markets, technological possibilities, the determinants of demand and intersectoral relationships — are as follows:

- rural poverty is a result of a low level of technology and a neglect of agriculture;
- governments can finance investments in agricultural modernization without distorting market signals;
- accelerating agricultural growth tends to reduce poverty and inequality;
- increases in agricultural output are not constrained by demand at home or abroad; and
- the rate of saving is determined by the return to capital, and is only marginally affected by income distribution.

In contrast, the structuralist approach stresses the role of economic, social and political structures that make each country unique. Emphasis is placed upon inequalities in land-ownership, access to credit, and the differential market power of various groups. Resource allocation and efficiency is analysed in terms of the size of agricultural units, and it is argued that land is frequently underutilized on large farms, as is labour on small parcels of land. Market forces might well reinforce and intensify inequalities resulting from distortions that private monopolies or monopsonies may create. Structuralists are less prone than the neoclassicists to draw a dichotomy between private and public intervention in markets, stressing instead the likelihood that government programmes tend to be implemented in the interests of the more powerful rural groups. The concentration of economic power frequently places supply-side restrictions on resource allocation, thereby limiting agricultural growth. And in cases where structures of inequality produce satisfactory growth rates, these may frequently be accompanied by a socially unacceptable intensification of inequality.[7]

Rural inequality itself can pose a barrier to agricultural modernization on the demand side. If the benefits of agricultural growth are equitably distributed, and if the initial income level is low, then the growth of food production can proceed without agriculture's domestic terms of trade necessarily declining. But when inequality depresses the purchasing power of the rural and urban poor, output growth might result in a fall in the terms of trade because food production is actually more demand-constrained than it is when income is more equally distributed.

The key to the structuralist approach is a lack of faith in the function of relative prices as market-clearing instruments. If market clearing tends to occur through income or quantity adjustment, then the result will have no implications for allocative efficiency: markets will have cleared because the economy has contracted, not because resources are distributed more efficiently. Structuralists tend to consider the main vehicle for market clearing to be quantity adjustments, resulting from a limited supply response caused by rural inequality. They place particular emphasis on

[6] "The balance of interests between producers and consumers is the central issue of agricultural policy, and one governed by pricing structures. In the pursuit of goals other than agriculture's developing against agriculture planners have often tilted their pricing policy against agriculture and paid a heavy price in lost agricultural growth." World Bank. *World Development Report, 1982,* p. 4.

[7] Several countries of Central America provide examples of such a situation. J. Weeks. 1985. *The economies of Central America.* New York, Holmes & Meier Pubs., Inc.

quantity adjustment in response to external disequilibria, arguing that imports in most developing countries do not respond rapidly to changes in exchange rates (or respond only after a considerable time lag), and exports fluctuate unpredictably because of world market instability. For the structuralists, given their emphasis on quantity adjustment, together with the previously mentioned emphasis on inequality, there is a need for purposeful market interventions by governments.

Like the neoclassicists, the structuralists provide important insights, bringing to the fore, however, precisely those aspects of the economy that the neoclassical approach tends to take for granted.

Development theory and agricultural policy

To a large extent the debate over relative prices versus social and economic structures reflects an implicit conflict between short- and long-term problems of agriculture. Even if a government implements policies of structural change, such as land reform or investment in infrastructure, the results are seen only after years or perhaps even decades. In the meantime, there is still a need to improve agricultural performance within the existing institutional limits. Furthermore, in administrative terms, the responsibility for implementing policies such as land reform tends to fall to different public institutions from those that formulate and execute policies affecting agricultural prices, credit and the provision of inputs. Thus, the theoretical debate tends to be reproduced in practice as a division of institutional responsibilities, and sometimes rivalries.

Structural adjustment programmes (SAPs) have tended to accentuate this institutional division, since they initially emphasize a short-term improvement in macro-economic balances. Almost by definition, these balances could not be immediately improved through the types of reforms favoured by structuralists. Such reforms (with land reform being an example) could possibly worsen the imbalances in the short term, as individuals and enterprises adjust to the new institutional rules of the game. However, the possibility of short-term inconsistencies between market reforms and longer-gestating structural changes does not constitute an argument for emphasizing one over the other.

Perhaps the central goal of agricultural development is poverty reduction, and price instruments represent a blunt but necessary tool for pursuing this goal.

If the development literature of the 1980s has a general message to convey, it is that the present, less favourable international environment requires a pragmatic approach to the balancing of short-term and long-term agricultural policies. With regard to trade policy, liberalization has characterized the policy direction of most developing countries. Governments hoped to achieve a more efficient allocation of resources by allowing changes in relative prices to mark products of competitive advantage. However, empirical research during the 1980s documented considerable distortions in international primary product markets as well as increasing price instability, both largely the consequence of developed country policies.

Further, the inconclusive outcome of the Uruguay Round of GATT negotiations dampened hopes that the unilateral trade liberalization of many developing countries would be matched by the developed countries. Moreover, the 1980s' trend toward regional and bilateral trade agreements further complicated the prospects for multilateral trade liberalization. For the foreseeable future, the developing countries could expect to face international markets in which second-best policies appear more rational, implying that pragmatic policies, rather than those based on ideal-type models, would prove most effective for agricultural development. A pragmatic approach was also consistent with developments in trade theory in the 1980s, which rendered more rigorous the concept of "dynamic" comparative advantage.

Changes in the composition of developing countries' output also suggested the need to rethink the stylized stories of the contending development models. Prior to the 1980s, growth strategies tended to consider developing economies as overwhelmingly agricultural in terms of output and employment, with a large majority of the poor consisting of rural households that produced agricultural commodities. This led to the conclusion that policies which shifted the terms of trade toward agriculture tended to reduce poverty. The further presumption that governments characteristically biased their market interventions against agriculture produced policy recommendations that trade liberalization would favour agriculture and thus improve income distribution.

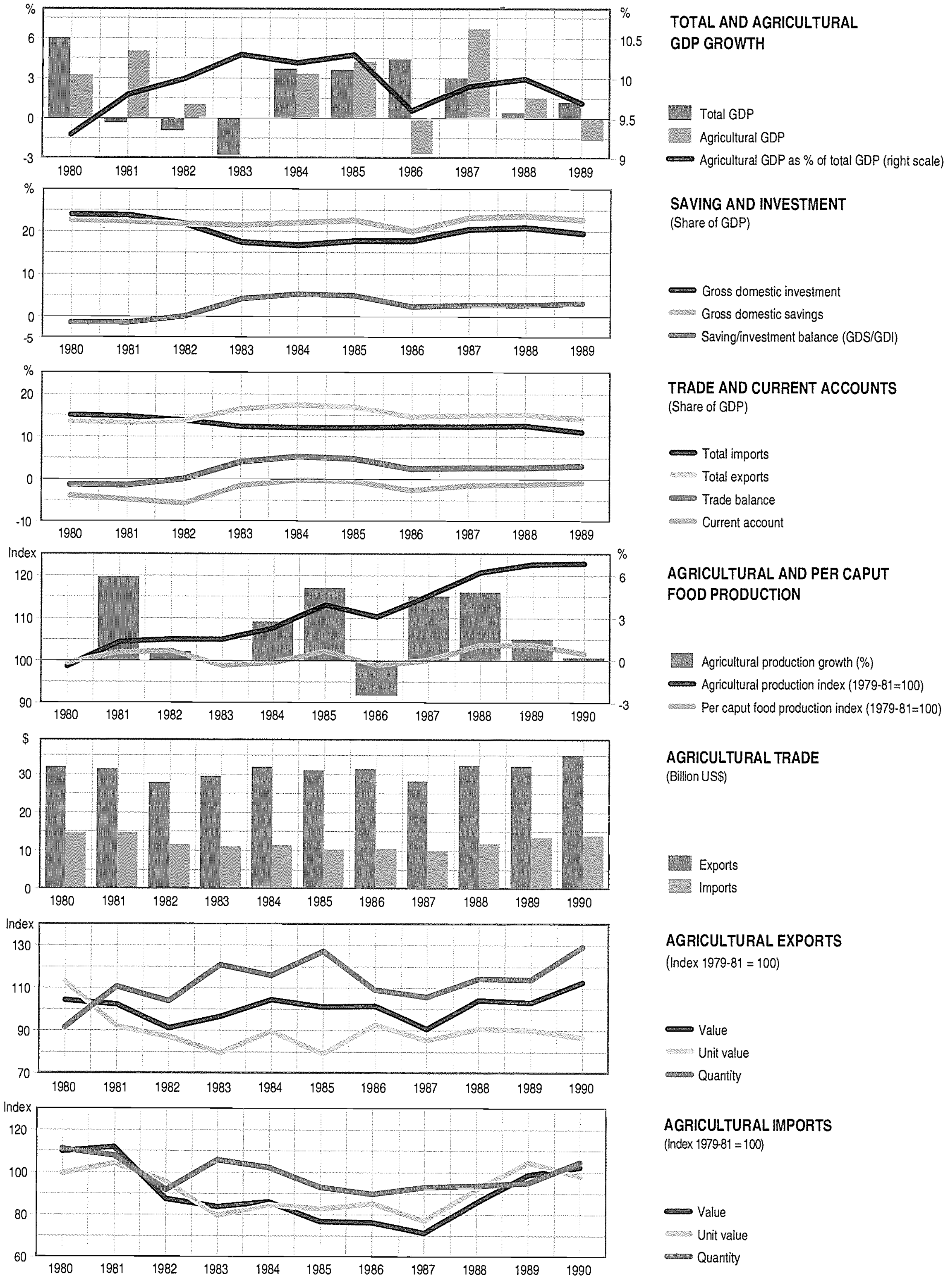
Empirical evidence accumulated in the 1980s suggested matters were considerably more complex than the equating of trade liberalization with greater equity of distribution. By the 1980s, net food buyers made up a majority of the population in over one-half of the developing countries.[8] This statistic implied that policies that raised prices to farmers did not necessarily benefit the poor, although the reverse case probably held, i.e. policies that directly raised the incomes of the poor helped farmers by increasing the effective demand for food.

The predominance of net food buyers in developing countries did not constitute an argument against those countries' liberalizing trade because, if international food prices were below domestic prices, then food buyers would benefit. Rather, it serves to highlight the continuing difficulties for policy-makers in confronting these trade-offs. Price policies, like all development policies, create short-term policy conflicts. When external and domestic conditions facilitate growth, governments find it relatively easy to achieve the minimum political and social consensus required to formulate and implement coherent programmes. When a crisis arrives and a government must preside over the distribution of welfare losses, consensus proves much more elusive.

The experience of the developing countries in the 1980s has been rich in variety and in policy conflicts. Evolving circumstances and policy failures often induced governments to make significant policy shifts. In the difficult search for the appropriate mix, the theories reviewed above often provided the reference and framework for policy formulation. The following regional reviews attempt to synthesize these policy experiences.

[8] FAO. Structural adjustment and agriculture. Part three, *The State of Food and Agriculture, 1990.*

Figure 12 LATIN AMERICA AND THE CARIBBEAN



Source: FAO and World Bank

AGRICULTURAL POLICIES AND ISSUES: LESSONS FROM THE 1980s AND PROSPECTS FOR THE 1990s

II. Regional reviews

LATIN AMERICA AND THE CARIBBEAN: THE STRUGGLE FOR RECOVERY

Macro-economic overview

Policy strategies prior to the 1980s. Unprecedented in intensity and duration, the economic recession faced by many countries of Latin America and the Caribbean as of 1981-82 resulted from a complex set of factors. The crisis was triggered by the external shocks and market events associated with the world economic recession of the early 1980s. However, its causes also derived from the policy strategy pursued by the governments of the region — the model of industrialization/ import substitution described above — and can be traced back to well before the events of the 1970s. In addition to the problems associated with that strategy, the region's policy response to the radical world economic changes caused by the two oil shocks of the 1970s further intensified macro-economic imbalances. These policy responses have been extensively documented and only need brief description.

The generally impressive record of economic and social progress achieved by many countries in the region during the years of industrialization/import substitution would support the interpretation that this strategy was appropriate, if not inevitable, in an historical context. However, its implementation caused profound imbalances and distortions. Having been intended to promote competitive industry and relieve the foreign exchange constraint, the strategy ultimately had quite the opposite effect: depressed exports exacerbated payment problems, while industrial protection caused widespread misallocation of resources. These policies also contributed to the pronounced economic and social disparities that remain major destabilizing factors in the region. Modernization, economic activity and incomes became increasingly concentrated in a limited number of enterprises, sectors, subregions and segments of the population. Industrial protectionism required a major degree of participation by the state in large-scale investment, marketing and pricing, and in the creation of urban employment. Such a large role for the state in some cases went beyond its financial and managerial capacity, thereby generating chronic fiscal imbalances. This growth strategy discriminated against agriculture, which was treated as a provider of resources for industrial and urban based development rather than a source of development *per se*.

Under the strategy, policy neglect of agriculture was to a certain extent compensated for through measures such as public investment in irrigation and infrastructure; tariff rebates on imported inputs; subsidized credit; technical assistance; minimum wages; and public procurement at guaranteed prices. The response to these incentives was positive: the sector performed impressively on the whole over several decades. However, such assistance had a bias toward large- and medium-scale farms. It also tended to accentuate another distorted pattern of development — the well-known modern versus traditional dichotomy, typical of agrarian structures in the region.

The external sector also developed structural distortions. By the end of the 1970s exports with a high primary product content still accounted for a very large share of the regional total. The region was heavily dependent on a small number of markets, chiefly in developed countries. Years of inward-oriented strategies inhibited competitiveness, and the relative weight of the region's exports remained well below what might have been expected from its resource base.[9]

Thus, wide scope for corrective action — or adjustment — already existed at the time of the first oil shock in 1973 and the world economic recession of 1974 to 1976. Instead, the policy response to the problems created by these events gave rise to, or accentuated, untenable situations. Faced with growing

[9] The region's average share of exports in GDP during the 1970s was similar to that of Africa. In Argentina, Brazil and Mexico it was as low as 10 percent.

financing needs, many countries resorted to massive borrowing, prompted by the ready availability of cheap credit in world financial markets and reassured by the dynamic performance of the export sector — of which agriculture was a major component. In other words, running large current account deficits and incurring large repayment obligations, even at floating interest rates, did not appear at the time to be unduly risky, nor an unaffordable means to achieve growth.

The 1980s: shock, adjustment and recession

By the early 1980s several factors combined to precipitate the debt crisis as well as explain the difficulties subsequently encountered in overcoming it. On the one hand, unprecedented levels of indebtedness had been reached: the region's debt/export ratio rose from 1.4 in 1973 to 2.5 in 1981, with interest payments representing 23 percent of the value of exports in the latter year. On the other hand, exports, which had expanded appreciably during the previous decade despite temporary slow-downs (namely from 1974 to 1976), lost dynamism by the late 1970s. The external shocks of the early 1980s accelerated this process and fully exposed the structural shortcomings of the export sector.

With the economic recession of the early 1980s, the import demand of developed countries fell and several of these countries introduced strong anti-inflationary measures which caused real interest rates to rise sharply. The sudden radical cut in external financing, coupled with a collapse in foreign exchange earnings and terms of trade of the region's export products, resulted in an economic and financial crisis that the region has yet to surmount.

In short, while the crisis was sparked off by external and short-term factors beyond the region's control, its roots can be found in the structural rigidities and imbalances bequeathed from excessive protection and public intervention in the implementation of long-term development strategies as well as, in a shorter perspective, financial permissiveness in the pursuit of growth.

The process of adjustment. During the initial stages of the crisis all economic priorities were subordinated to the pressing objective of generating resources for debt servicing. To this end, government expenditure was cut and trade surpluses generated through export promotion and import restraint. During the first years of adjustment, 1982 to 1984, efforts in this direction were pursued with extreme vigour.

National currencies were significantly devalued in real terms, particularly in Argentina, Bolivia, Chile, Ecuador, Mexico and Uruguay. In each of these countries, by 1984 devaluations were more than 50 percent higher than their peak levels during the early 1980s. Imports were restricted through higher duties in Brazil, Chile, Costa Rica and Peru, while many countries, particularly Mexico and Venezuela, established import permits, quotas and bans on specific products during the first years of adjustment. Exports, especially of non-traditional products, were encouraged through tax reductions, credits and implicitly subsidized interest rates on loans. Most of these measures remained in force through the decade.

Fiscal expenditure was reduced, although not until 1984 in Colombia, with the largest reductions applying to capital expenditure. Current expenditure was also reduced (particularly wages), except for internal and external debt repayment which became one of the main items in central government budgets. Overall, central government fiscal deficits in the region fell from 2.1 percent of GDP in 1982 to 0.2 percent in 1985, lower than during the 1970s. At the same time monetary policies were tightened: credit was reduced and interest rates, which had been negative in real terms in many countries, turned positive. In several countries, Argentina, Bolivia and Brazil being examples, real interest rates of more than 5 percent monthly were maintained for extended periods.

These measures were aimed at directing production toward internationally traded goods, shifting private expenditure toward non-tradables and containing capital flight. The process was essentially recessive, however. Consumption expenditure and domestic saving fell, but investment fell even more. The regional investment rate as a share of GDP collapsed from about 23 percent in 1981 to 15 percent in 1984.

While exports rose in volume, they fell in value and as a share of GDP. Furthermore, the decline in exports was less pronounced than that of imports. Because of the swelling outflow of net factor payments, chiefly interest payments on debt, internal and external adjustment did not bring about the expected change in current accounts. After a temporary improvement in 1983, current account deficits fluctuated around 9 percent of GDP in the years that followed.

The recessive nature of the adjustment appeared to abate somewhat in the years 1984-86 when the negative growth of the previous three years was reversed. Per caput GDP rose by approximately 1.4 percent annually from 1984 to 1986, compared with an average decline of 3.6 percent in the period 1981-83. The trade deficit virtually disappeared and several countries actually achieved surpluses in both trade and current accounts. This proved a short-lived and partial improvement, however. Inflationary pressures intensified rather than abated, debt indicators worsened and terms of trade deteriorated markedly, particularly after the collapse of oil prices in 1985. Only a few countries, for example Chile and Colombia, continued to recover.

The years 1987 to 1990 had brought a sharp acceleration in inflation rates, which rose to unmanageable levels in several countries despite drastic programmes to restrict aggregate demand and fiscal expenditure. While trade balances continued to be strongly positive, except in some countries of Central America and the Caribbean, wide current account deficits persisted. An increase in the value and purchasing power of exports significantly improved the debt service/export ratio. However, the ratio still stood at more than 26 percent in 1990 — unsustainably high. Growth remained an elusive goal in most countries. After the relatively favourable performances of 1984-86, per caput GDP barely rose in 1987 and declined during 1988-90.

Agriculture during the 1980s

The effects of economic policies on agriculture. Structural adjustment is supposed to improve resource allocation by correcting economic distortions and reducing inefficient public intervention. It is hoped that the adjustment programmes will create the basis for a sustained expansion of supply. Sectors of the economy that were previously protected can be expected to suffer, but those that were discriminated against under a previous regime (usually agriculture) should benefit. In the light of these premises, the region's record for the 1980s shows an uneven but generally very poor economic performance in the aggregate. And, as seen below, the agricultural sectors suffered less than others but still performed distinctly worse than in previous decades.

It is difficult to assess the impact that external factors beyond the region's control had on the region's economic performance. Certainly, unfavourable world market conditions limited the success of adjustment programmes. However, the programmes themselves contained measures which proved to have contradictory effects on recovery.

Currency realignment. This widely adopted and far-reaching policy instrument of adjustment had conflicting effects. On the positive side, real prices of exportables rose and, since food imports became more expensive, domestic food production was encouraged. Empirical studies have shown that for some countries, products and periods, devaluations were indeed associated with agricultural supply and export expansion. In particular, for some countries in the region, there appeared to be a positive relationship between currency devaluation and the successful reduction of external imbalances in an economically "healthy" way (see *The State of Food and Agriculture, 1990,* Part three, II. Macro-economic imbalances and agriculture — an empirical review). However, this complex issue presents many negative or ambiguous aspects, such as the extent to which the temporary competitiveness gained through devaluations was itself conducive to higher agricultural production and trade.[10] Exports continued to be limited by low price elasticities for the demand of some of the region's main export products. Because so many countries devalued at the same time, the net effect on exports for the region as a whole may have been limited, thus supporting the "fallacy of composition" argument.

Furthermore, devaluation had ambiguous effects on equity in the rural sector, for producers of non-tradables suffered a loss from the decline in the relative prices of their products. Another factor of considerable importance in the region was the inflationary

[10] The case of Brazil offers interesting insights. For a number of commodities, including beef, poultry, cotton, maize, soya and tobacco, a strong expansion in export volumes between 1981 and 1987 contrasted with generally stagnating production, the net result being lower domestic consumption. In most cases changes in export volumes appeared to be more closely related to changes in international market prices than to currency devaluations. Moreover, the expansion in exports was only rendered possible by a strongly depressed domestic demand. Indeed, domestic demand for these products rose strongly in 1986 and exports consequently declined. This was following the initial effects of the Cruzado Plan when inflation temporarily abated and real incomes increased.

impact of devaluation, which reduced real wages and led to a fall in the domestic demand for food.

On the import side, devaluations contributed to a reduction in import-intensive production and, more generally, an increase in production costs for such products. The region's imports of capital goods and inputs for agriculture fell significantly during the 1980s, particularly in Brazil, the Dominican Republic, Honduras, Peru and Uruguay. Fertilizers, which accounted for about one-half of the total value of imports of agricultural inputs, fell from $1.4 billion in 1980 to $500 million in 1982. Despite some recovery later, the level of fertilizer imports remained below that of 1980 at the end of the decade. In absolute terms, fertilizer consumption fell from 44 kg per hectare in 1980 to 42 kg in 1985-88. Pesticide imports showed a similar pattern, although imports regained their 1980 levels by 1986. The rate of increase in farm machinery units, a large proportion of which are imported, slowed significantly.[11] The number of tractors in use rose on average by almost 50 000 units per year during the 1970s but only by 32 000 annually between 1980 and 1988. Similarly, the annual increase in the number of harvester-threshers fell from about 3 000 during the 1970s to 2 500 during the 1980s.

The decline in imported farm inputs obviously reflected many factors other than currency realignment, e.g. reduced farm incomes; credit restrictions; depressed market signals discouraging investment; and inflation.[12] Nevertheless, currency devaluations were a major contributing factor. Large commercial producers were the main losers in this process, but many medium and small farmers, who also used imported inputs, were seriously affected.

Another adjustment-related factor with far-reaching consequences was reduced *public support to agriculture*. For the region as a whole, the share of total public expenditure on agriculture fell from about 9 percent during the 1970s to 4 percent during the 1980s. A notable exception to this general decline was Costa Rica, where agriculture's share of total expenditure remained stable and rose as a proportion of agricultural GDP. The extent of the regional decline varied among countries. In Mexico, public expenditure on agriculture fell by almost 50 percent in real terms between 1981 and 1989, and its share in total public expenditure fell from a high of 18 percent during the early 1980s to less than 5 percent at the end of the decade. On the other hand, Argentina, Chile and Paraguay maintained a relatively stable share for agriculture, but this was at the extremely low level of 1 to 2 percent.

The cuts in public expenditure, often indiscriminate, had substantial negative effects. Throughout the region there were cases of production support and marketing development programmes being abandoned as well as serious deterioration of roads, storage facilities, communication systems and other crucial public infrastructure.

Agricultural financing was also negatively affected by adjustment measures. *Agricultural credit,* chiefly provided by public development finance institutions, had commonly been supplied at subsidized interest rates. Such preferential treatment for agricultural activities was traditionally explained by their low marginal profitability, which made commercial credit prohibitive for most farmers. Indeed, less than 5 percent of total financing of the region's agricultural sector was provided by private credit institutions in the 1980s.

Advocates of adjustment programmes questioned the justification for low agricultural interest rates, arguing that they misallocated resources as well as having a negative impact on savings and the development of financial markets. Whether converted to this view or forced by financial constraints, several governments in the region sharply reduced their involvement in agricultural financing and also brought their lending conditions closer to commercial terms. The real value of agricultural loans by national financing institutions fell sharply, as did agriculture's share of total loans. At the same time, subsidized credit became more selective in its coverage and targeting, with a marked tendency to favour export products. Rural credit programmes contracted sharply, indebtedness in agriculture rose and farm activities became more directly exposed to the impact of macro-economic measures influencing costs and prices.

Agricultural performance. Even though it suffered from lower public support and a particularly unfavourable domestic and international market environment, agriculture fared relatively better than other sectors during

[11] Obviously, the absolute number of machinery units only provides part of the picture as the technical efficiency of a unit changes over time.

[12] For instance, the sharp decline in Brazil's fertilizer imports in the early 1980s was mainly associated with higher interest rates paid for fertilizer loans.

the 1980s. Agricultural GDP rose by 2.4 percent annually between 1980 and 1990, compared with 0.5 percent for industry and 1.2 percent for the regional economy as a whole. As a consequence, agriculture's share in GDP rose from 11.5 percent in 1980 to nearly 13 percent in 1990.

The most dynamic product lines were those linked with the export sector — oil crops, sugar cane, temperate fruit, shrimp, fish-meal, cocoa and wood products. Production of non-traditional crops such as vegetables, exotic fruit and flowers also expanded considerably, although their weight in total agricultural exports remained low. On the other hand, production of cereals, pulses, roots and tubers and meat and milk — predominantly for internal markets — failed to expand as fast as population growth.

Taking into account the depressed world market conditions for most of the region's major commodity exports, the performance of the export sector was remarkable. The volume of agricultural exports rose by 2.6 percent a year during the 1980s, significantly above the growth rate for the world (1.9 percent) and the regional average of the previous decade (1.7 percent). However, with international US dollar prices for these products falling, export earnings from agriculture only rose by 0.2 percent annually during the 1980s, compared with almost 15 percent yearly during the 1970s.

Agricultural imports (of which food usually accounted for 80 percent) were a major casualty of austerity measures. While total merchandise imports generally stagnated in volume and rose slightly in value, those of agricultural products fell by 2.1 percent a year in volume and 3 percent in value. Again, these trends sharply contrast with those of the previous decade when agricultural imports expanded by 9.4 percent and 21.3 percent per annum in volume and value, respectively.

Despite such depressed performances, agricultural production and trade played a significant and positive role in the context of adjustment. The sector contributed two-thirds of the regional trade surplus, which is to be expected since only a few countries, mainly in the Caribbean but also Bolivia and Venezuela, are normally net agricultural importers. Although the growth in the economically active population was slower in agriculture than in other sectors, the estimated rise in agricultural employment was 0.6 percent a year during the period 1980 to 1989. Thus, the sector maintained employment and in many cases even helped absorb surplus labour from other sectors more affected by the crisis. Furthermore, unlike the rest of the economy, agriculture achieved some gain in labour productivity. Per caput GDP in agriculture rose by 0.1 percent yearly between 1980 and 1988, while GDP in manufactures declined by 1.8 percent and total per caput GDP fell by 1 percent.

Of particular relevance in the context of adjustment, and an important factor in the assessment of policies, was the evolution of domestic prices in agriculture *vis-à-vis* those in other sectors. A crude measurement of this ratio, derived from available data on total GDP and agricultural GDP deflators, indicates a strong improvement in agricultural terms of trade during the late 1970s, reflecting, in particular, the agricultural export component of GDP during the commodity boom years 1977-78. With the end of the commodity boom, there was a deterioration in the relative prices of agricultural products in the following four years. Despite a continued fall in international commodity prices, agricultural terms of trade recovered significantly between 1984 and 1988. Caution is called for when interpreting such trends, but they appear to support the often-stated "rediscovery" of agriculture during the adjustment years and the switch to a price policy that favoured agriculture over other sectors.

Policy measures affecting agriculture. When reviewing changes in agricultural policies during the 1980s two subperiods can be distinguished, 1980 to 1984 and 1985 to 1990. Although policy shifts were far from uniform, a number of common features characterized each period. The effects of heavy investment and production incentives for agriculture introduced during the 1970s were carried forward into the early 1980s, i.e. the first subperiod. Thus, they compensated to a certain extent for the impact of the recession and for reduced support to the sector. Despite financial difficulties and pressure to address short-term stabilization concerns, food security and rural development remained priority objectives.

The second subperiod was characterized by lower public intervention in farm support, marketing and trade; a greater emphasis on export promotion, particularly on non-traditional products; a greater opening of national economies, more pronounced on the side of exports; a greater integration of agricultural activities and those related to industry and services; and a widespread reduction of rural development programmes. Within these general tendencies, however, there were many shifts of emphasis and orientation in the search for a new, appropriate policy mix.

The subperiod 1980 to 1984. Although food security was a priority area during the years 1980-1984, the various policy measures implemented were not part of a coordinated food security strategy. Rather, they focused on specific aspects: producer incentives for foodstuffs; the improvement of marketing and distribution systems; and consumer access to basic foods.[13]

As regards producer incentives, the tendency — in Argentina, Chile, Colombia, Ecuador, Mexico and Venezuela, for example — was to support specific staple foods. Production support was also provided in some cases to specific geographical regions, targeted producer groups, or within the framework of integrated rural development (IRD) programmes. Measures were introduced between 1981 and 1984 in Colombia to support production of cereals, pulses, roots and tubers. Mexico ran a National Food System (SAM) and National Food Programme (PRONAL), which were ambitious food development schemes containing provisions in favour of small- and medium-scale farmers. Brazil launched a number of agricultural production and import-substitution programmes, including the expansion of irrigated area under wheat; maize production support and sugar cane and vegetable oil programmes. Panama and Guatemala undertook efforts to mechanize rice and maize cultivation.

These efforts were made through a variety of policy instruments that provided subsidized inputs and credit; financial and technical participation in research and extension programmes; investment in irrigation; price incentives; etc. However, a major difference from earlier periods was the amount of resources involved. From 1976 to 1980 such measures were implemented widely, often through large-scale investments and long-term projects. The emergence of the crisis imposed a more parsimonious and short-term approach. Food programmes tended to focus more on immediate concerns such as the alleviation of social tensions and inflationary pressures rather than on long-term objectives.

Exceptions to this short-term approach were measures in favour of small farmers and IRD programmes, which were pursued in several countries with some vigour. Such efforts included the Colombian National Food Programme of 1982, which was implemented through IRD projects. Seventeen IRD and 12 community development projects were implemented in Ecuador during the first half of the 1980s, and these were expected to benefit, directly or indirectly, 400 000 peasant families. In Bolivia programmes included training in irrigation management for IDR beneficiaries, while Nicaragua and Panama carried out rural development schemes with special provisions in favour of small farmers.

In the area of marketing, several countries introduced or strengthened programmes to improve services and infrastructure. Ecuador, Mexico, Panama and Venezuela expanded their cereal storage capacity, with the latter country also increasing its grain processing industry. Improved seed, grain storage and rural infrastructure programmes were formulated and implemented in Bolivia in 1983-84.

As regards nutritional policies, budget cuts arising from adjustment imposed a shift from a broad-based and preventive approach to one that was more specific and remedial. One exception was the Colombian Food and Nutrition Plan, which encompassed a wide range of production, nutrition sanitation and food distribution programmes. Several countries also introduced programmes to improve food access in poor areas; for example, the consumer cooperative and food distribution systems in Brazil and the National Food Programme in Argentina.

In the external sector, the general tendencies were a reduction in duties on traditional exports; the introduction of export refunds; and the enlargement of export quotas for food products. Apart from support to traditional exports, considerable technical and financial resources began to be channelled to non-traditional products. A case in point was Chile, where funds devoted to the non-traditional sector — fruits, fish and livestock processed products, wood products, etc. — rose sharply throughout the 1980s. In Mexico meat exports were encouraged through pasture improvement programmes and the enlargement of state facilities for chilling and freezing. Brazil vigorously promoted citrus exports while several

[13] Food policies are the responsibility of a variety of ministries, agencies and organizations which normally formulate their own policies and action programmes on an independent basis.

Andean countries successfully fostered the marketing and export of indigenous products. Although many of these activities gained momentum in the late 1980s, and some of them showed promise, non-traditional exports gained only a modest share in total trade. Their initially costly and potentially risky nature proved to be a limiting factor. For instance, the expansion of new exports in Chile was achieved at the cost of heavy indebtedness for producers.

Import policies revolved around the general objectives of restricting purchases of non-essential products and, to the extent permitted by political and social constraints, limiting food items. Several countries, including Argentina and Chile, abolished preferential tariff treatment for agricultural inputs and equipment, as well as reducing import payment delays. Most countries introduced restrictions on food imports, tempered by various forms of waivers or exception clauses; for example, restrictions on all but essential food imports (Colombia) and import controls on high-priced food products such as meat (Venezuela).

Despite a binding foreign exchange constraint, some countries continued to apply preferential treatment for the purchase of agricultural inputs and machinery. Costa Rica introduced special import and price subsidy programmes for technical inputs and capital goods. Venezuela also continued subsidizing imported technical inputs, particularly those for the livestock industry. In Ecuador, liberalization of the import regime for agricultural inputs contributed to a sharp rise in the value of food and agriculture-related commodities, which accounted for 44 percent of total imports in 1982.

The subperiod 1985 to 1989. The second half of the decade witnessed a significant strengthening of measures in favour of products with potential as foreign exchange earners, as well as a parallel reduction in the resources allocated to research, extension and technical assistance for other production lines. In Chile official credit was directed exclusively toward fruit production and small agro-industries for the domestic and export markets. Official credit was more diversified in Ecuador, but also included an important export support component. In the Dominican Republic, the National Investment Fund allocated 50 percent of its resources to the financing of exportables, while the share of staple food costs financed by official credit fell to 40 percent. In Mexico the bulk of official financing also went to exportables. A new institution (the National Institute for Agricultural Development) was created for producers who were without access to private financing, with the interest rates close to those for the industrial sector.

Alongside such export-oriented measures, there were also efforts to promote agricultural financing in a broader sense. An example was the expansion of the financial and institutional capacity of agricultural credit agencies in Colombia. Assistance was given to indebted small- and medium-scale farmers in the form of debt renegotiations in Chile, Costa Rica and Uruguay. In Uruguay, the government also provided credit for producer organizations and reforestation.

Production subsidies became increasingly selective and short-term in nature. In Mexico subsidies on interest rates, insurance and prices were eliminated. The resources saved were utilized for assistance to smallholders and food distribution schemes for the rural and urban poor. Chile continued subsidizing forest plantations and providing tax rebates for private investment in this sector.

Nevertheless, there was a general tendency toward a reduced role of the state in marketing and pricing, *pari passu* with a growing relative involvement of the private sector. In several countries, including Peru and Bolivia, official marketing agencies lost their monopoly position in food importing and sharply reduced or abolished public procurement at guaranteed prices. The support role of the state was often reformed with a view to favouring greater private-sector involvement. For instance, current policies in Ecuador are designed to provide subsidized credit for medium- and long-term investments that attract private-sector participation, rather than for direct agricultural production support.

Despite these tendencies, the state continued to maintain an appreciable role in marketing and pricing in the region. The objectives of ensuring stable and attractive prices for producers as well as affordable prices for consumers remain prominent in virtually all national plans and programmes. Even with reduced resources and redefined functions, marketing and funding agencies continued operating and many efforts were made to improve marketing efficiency. For example, Chile, Colombia and Ecuador created stock markets for agricultural products in order to reduce or eliminate excessive intermediation and speculation; stabilize prices; and introduce greater market efficiency. These efforts were made with the close involvement of existing or, in the case of wheat in Chile, newly created procurement agencies.

Few cases could be found during this period of significant action in the areas of agrarian structure or rural development. Brazil, Colombia, Ecuador and Nicaragua represent notable exceptions. A restructuring of the Ministry of Agriculture in Brazil involved the promotion of an aggressive programme of colonization and property titling. Colombia's Rural Development Plan, formulated in 1987, and its new Agrarian Reform Law contain provisions for peasant settlement on reclaimed land, with the bulk of public investment being channelled toward IRD projects. Similarly, a large part of Ecuador's total public investment in agriculture was for IRD projects, which continued to be the main concern of the Ministry of Social Welfare.

A notable feature during this period was the emergence of environmental concerns, to a large extent linked with food security and export diversification issues. A number of development programmes in Mexico and Costa Rica emphasized soil and natural resource conservation concerns. In a similar vein, the 1988 Colombian food programme, aimed at achieving a minimum diet for selected families, while emphasizing the peasant production of food and its environmental soundness.[14]

No treatment of the second half of the 1980s would be complete without discussion of the Nicaraguan case, where a dramatic shift in economic policy was implemented under two different governments. From 1980 until 1987, the Nicaraguan Government pursued a highly interventionist agricultural policy. After piecemeal moves toward deregulation, in 1988 the government implemented a radical programme to liberalize domestic markets and external trade, including massive nominal devaluations and, subsequently, a floating exchange rate. By the time the government changed in 1990, the deregulation of the agricultural sector completely reversed previous policy. The new policies had a mixed effect on agricultural performance. While, in principle, the elimination of price controls and liberalization benefited producers, severe credit restrictions resulting from relative monetary restraints, combined with hyperinflation, greatly reduced the area planted in cotton in 1990 and 1991. At the same time, the contraction of demand radically affected food production, and unsold stocks of staple food accumulated in 1990-91. Furthermore, uncertainty about the future of state agricultural lands under the new government both affected production and contributed to political tensions.

Challenges and opportunities for agricultural and rural development during the 1990s

The 1980s marked a turning point in Latin America and the Caribbean. The decade opened with the interruption of a long period of growth and closed with dramatic evidence of economic and social regression. Between 1981 and 1990, per caput GDP fell by a cumulative 10 percent, terms of trade fell by a cumulative 20 percent, hyperinflation became common in several countries and the debt service/export ratio remained above 40 percent in most years. More than ten years of strenuous efforts aimed at stabilization, restructuring and economic reactivation yielded disappointing results. A number of unorthodox economic management experiences failed badly; orthodox stabilization succeeded in reducing macro-economic imbalances and inflation in some countries (e.g. Bolivia and Mexico), but economic growth remained elusive. Even success stories such as those of Chile, Colombia and Costa Rica, with the latter benefiting from extraordinary access to external assistance, have uncertain aspects.[15]

The crisis and its sequel at least had the

[14] The FAO document, *Sustainable Agriculture and Rural Development in Latin America and the Caribbean,* prepared as Regional Document No. 3 for the FAO/Netherlands Conference on Agriculture and the Environment ('s Hertogenbosch, the Netherlands, April 1991), reviews the factors that condition actions aimed at achieving sustainable development in the region and analyses the policy instruments that would enable agricultural growth to become increasingly sustainable.

[15] For instance, the experience of Chile, sometimes referred to as a regional "miracle", was made possible by specific advantages and circumstances. Chile enjoys unique conditions with regard to its geographic position, soil and water resources. These enable a wide range of fruit, vegetable, forestry and fishery products to be produced and exported during long seasonal periods. A well-established export sector, largely linked to transnational companies and favoured by public support, as well as a stable economic and political environment have been the foundations for a successful export-oriented agricultural strategy. Despite its specificity, however, the Chilean story of adjustment has shared in the social cost of similar experiences in the region.

DEVELOPING ASIA: HOW POLICIES MADE A DIFFERENCE

During the 1980s, in economic terms Asia became the fastest growing region in the world: real GDP grew by nearly 7 percent per year, twice the world average rate, and, at 8 percent, the region's annual inflation rate remained significantly lower than in the other developing areas. The four NIEs (see footnote, p. 51) now form an industrial base which exports manufactured products equal to about one-half of Japan's or the United States' exports. Asian economies maintained generally smaller external imbalances, more manageable debt levels and higher saving and investment rates than other developing areas over the past two decades. This is an impressive record considering Asian countries have faced the same inauspicious external economic environment as the other developing regions.

It has been argued that the strong economic growth in Southeast Asia and the NIEs resulted to a large extent from SAPs encouraging market liberalization and export expansion. Real GDP grew by nearly 8 percent annually in the NIEs during the decade, and by 6 percent annually in the Southeast Asian economies in the second half of the decade.

In fact, most Asian economies performed well in the 1980s, including those countries whose policy regimes were quite different from the Southeast Asian countries. China's real GDP growth rate averaged 10 percent per year; India, Viet Nam and Laos all averaged nearly 6 percent; and Mongolia, Myanmar, Nepal and Pakistan averaged more than 4 percent. Agricultural sectors also performed relatively well throughout the entire region. By the mid-1980s, India had become self-sufficient in foodgrains and had even built up substantial grain reserves, which enabled the country to overcome the extended drought of 1985 to 1987. Agricultural production grew by nearly 7 percent annually in China, and by an average of 4 percent per year in the rest of the region. China, Malaysia, Indonesia, Laos and the Philippines approached food self-sufficiency.

The importance of food and agriculture to the region hardly needs underlining. The agricultural sector is the major source of livelihood, still accounting for 30 percent of GDP in the developing Asian economies. The region produces nearly 90 percent of the world's rice, 30 percent of its wheat and 20 percent of its coarse grains. In two countries alone, China and India, 60 percent of the world's agricultural labour force must produce food and other agricultural products to meet the growing needs of two billion people on only 20 percent of the world's arable land.

An unsatisfactory agricultural performance in the latter half of the 1970s is what prompted some remarkable economic policy changes in the region. China, Laos and Viet Nam began integrating market mechanisms into state planning procedures in an effort to improve resource efficiency and increase producer incentives. By the early 1980s, government planners in these countries began reorganizing land-tenure arrangements, deregulating product prices and eliminating input subsidies. Policy changes from the late 1970s are credited with achieving the 6.8 percent annual growth rate in China's agricultural GDP during the 1980s, and for Viet Nam's turning progressively from being a rice importer in the first half of the decade to becoming the world's third largest rice exporter in 1989.

Solid economic growth rates and strong agricultural sector performances have helped to reduce the incidence of poverty in most Asian countries, but over 70 percent of the world's poor still live in developing Asia. Now in the 1990s, the region is facing the challenge of maintaining high growth rates to reduce poverty even further, while grappling with a growing population and a shrinking natural resource base. Rural development and agricultural policies are fundamental to a poverty-reduction strategy because the majority of Asia's poor live in rural areas. The rural poor account for nearly 80 percent of the total number of poor in India, Malaysia and Thailand; and for more than 90 percent in Indonesia. In addition, soil erosion, waterlogging, salinity, deforestation and other agriculture-related environmental problems are creating an increasingly difficult situation for Asian policy-makers in the 1990s.

This section reviews Asia's past agricultural policies and performances, focusing on three subregions: Southeast Asia, southern Asia and the CPEs. Southeast Asia represents the group of countries that is most actively promoting an outward-oriented growth strategy, allowing markets to direct and encourage agricultural trade and diversification. In general, the countries of southern Asia are continuing to promote import-substitution industrialization programmes, with Nepal and Sri Lanka being notable exceptions. Agricultural development strategies, based to a large extent on green revolution technologies, have generally been credited with success. Finally, representing some of the most dramatic policy reforms of the decade, three CPEs — China, Laos and Viet Nam — began to abandon administrative management of their agricultural prices and markets.

Market liberalization and Southeast Asian agriculture

In the early 1980s, most Southeast Asian countries liberalized financial and capital markets, reorganized trade policies and reformed their public sectors in an effort to stabilize domestic markets and promote foreign investment and trade.

These policy shifts proved especially effective in coping with the quickly changing international economic environment and external shocks of the early 1980s. At the same time, several countries made timely policy changes to take advantage of favourable regional economic events and specific circumstances. For instance, the NIEs gradually lost their comparative advantage in labour-intensive manufactured exports because of rising labour costs, currency appreciations, loss of special trade status and tighter import quotas imposed by some OECD countries. These economies responded by shifting toward more skill- and capital-intensive manufacturing industries. Together with Japan, the NIEs significantly increased investments in labour-intensive export industries in the neighbouring, lower-income Southeast Asian countries. The Southeast Asian countries fostered this tendency through exchange rate adjustments, domestic market deregulation and other special measures designed to encourage foreign investment.

Intra-Asian investment and trade patterns soon responded to the new environment created by these measures. Japanese investment in the Asian region increased by 73 percent in 1987 and by 45 percent in 1988. For the first time, by 1988 Asia's exports to other Asian countries were greater than its exports to North America. Overall, Southeast Asia's manufacturing exports grew by around 20 percent per year in the latter half of the 1980s. At the end of the decade, this subregion had become a major exporter of textiles, clothing, footwear, semiconductor devices, computer parts, furniture components and plastic products.

Unlike Japan and the NIEs, however, Southeast Asian countries took advantage of their abundant agricultural resources by creating manufacturing sectors that also included agro-industries. Successful agro-export diversification strategies have included virtually all agricultural subsectors. Frozen fowl; canned fish and prawns; wood products, including furniture parts; canned fruits and vegetables and other processed foods are among a growing number of export products. In addition, most countries consistently increased domestic agricultural production and export earnings of traditional products in spite of falling commodity prices throughout most of the 1980s. To date, the Southeast Asian countries have avoided the tendency that the NIEs and Japan have to adopt support policies akin to those of other industrialized countries.

Agriculture's favourable production and export performance is explained by the combination of broader, economy-wide policy reforms — allowing competitive exchange rates and keeping inflation low — coupled with the introduction of more specific agricultural policies. Policy measures implemented by Southeast Asian countries to promote agricultural and agro-based production include broader access to export financing; improved marketing support; special tax exemptions; and investments in roads, ports and related facilities. At the same time, government expenditures on production-related rural infrastructure such as large irrigation works, rural development projects, and research and extension services have been maintained or increased.

Agricultural price liberalization is also generally credited for the successful performance of traditional crops and the diversification process. The liberalization policy involved removing price controls on domestic food crops and export crops; reducing or eliminating direct and indirect taxes on agricultural inputs and products; eliminating input and credit subsidies; and dismantling marketing boards.

Thailand, one of the largest agricultural exporters in the world, provides a good example of successful price and market reforms. At present, Thailand's manufacturing sector accounts for about one-fourth of its GDP and two-thirds of its exports, but agriculture remains the major employer. Nearly 60 percent of the labour force, 17 percent of GDP and more than

35 percent of exports originate in the agricultural sector. The country normally supplies over one-third of the world's rice exports, and is a leading exporter of tapioca, rubber, maize and canned pineapple. During the 1980s, Thailand became the world's leading exporter of canned tuna and presently accounts for nearly 20 percent of the fresh and frozen prawn market. Seafood exports increased by 24 percent per year during the 1980s, while the value of total agricultural exports increased by more than 13 percent per year over the same period.

Even with these impressive gains in new agricultural products, rice remains the country's most important food and export crop. In 1989, rice represented 60 percent of the cultivated area, 40 percent of total crop value, just over 25 percent of the average Thai's food budget and nearly 20 percent of agricultural export earnings.

Rice also helps to illustrate how flexible changes in trade policies have promoted strong growth in Thai agriculture. The export duty on rice was reduced from 30 percent in 1980 to 5 percent in 1981, and was removed completely in 1986. The baht was allowed to depreciate by 30 percent against the US dollar during the 1980s, thereby maintaining the competitiveness of Thai exports. In addition, a restructuring of the import quota system, including a lowering of import tariffs, reduced the cost of yield-increasing inputs and encouraged greater use of fertilizers and pesticides. Finally, the elimination of export licensing requirements improved competition among buyers and traders, consequently reducing their profit margins and passing price increases to producers.

These reforms caused producer prices for commodities such as rice to increase and thus provided incentives for investments in small-scale irrigation works; encouraged the adoption of short-season varieties; and increased input use. For instance, fertilizer use on the dry-season rice crop rose by about 20 percent per year in 1988 and 1989. In addition, marginal increases in input costs were offset by higher yields, resulting in lower variable costs per unit of production. Farm incomes increased 8.8 percent in 1987, 19 percent in 1988 and 12.4 percent in 1989, while real agricultural GDP grew by 9.5 percent in 1988 and 4 percent in 1989.

Malaysia and Indonesia have had similar, if less dramatic, results by pursuing an outward-oriented, export-led development strategy over the past decade. In addition to economy-wide policy adjustments, policy measures were also introduced to promote agricultural exports (staple foods such as rice remained protected throughout the decade). For example, Malaysia reduced export duties on key agricultural products by 8 percent per year during the 1980s. The declining export duties more than compensated producers for declining world prices and provided necessary incentives to make productivity-increasing investments. Thus, while the price of palm oil decreased by 3 percent per year in the 1980s, export volume increased by 8.5 percent, resulting in annual increases of 5.8 percent in the value of palm oil exports.

By contrast, the Philippine's poor economic and agricultural performance resulted from a complex set of factors. GDP growth remained flat during the decade and agricultural GDP only rose by just under 2 percent per year. Per caput agricultural production dropped steadily, with an 11 percent decline between 1980 and 1990. In general, a large debt burden and the slow implementation of policy reforms appear to be the reasons for this poor performance record. In 1980, the Philippines already had a total external debt/GNP ratio of 50 percent, the highest in Asia. Debt-service obligations competed with investments needed in rural infrastructure and small-scale irrigation systems, a situation that was more akin to Latin American experiences of the 1980s than to those of Asia.

Important differences in social and economic structures also explain why the Philippines and its Southeast Asian neighbours have diverged. In particular, the Philippines confronted severe problems of political instability and civil unrest and has a more pressing landless population problem than other Southeast Asian countries. An unequal distribution of resources and income, unemployment and poverty are major problems in the Philippines. About 60 percent of the rural population is below the poverty line, as are 55 percent of the landless agricultural workers.

Since the mid-1980s, however, the Philippines has introduced a number of major agricultural policy changes. Monopolistic marketing arrangements were eliminated for coconuts and sugar; price controls and export taxes on most agricultural products were abolished (although price controls remain on important food staples such as maize, rice and sugar); imports of wheat, urea, potash and animal feeds were liberalized; many agricultural inputs were exempted from taxes and customs duties; and the government lifted the ban on copra exports. Agricultural production has been slow to respond to these reforms. Agricultural GDP averaged 2.4 percent between 1986 and 1990, only a modest improvement over the 1.7 percent growth rate during the first half of the decade and still well below the Asian average.

Moving from plans to markets: the Asian CPEs

The unsatisfactory performance of their agricultural sectors is one of the main reasons why China, Laos and Viet Nam began substituting market-oriented economic mechanisms for state planning over the past decade. All three countries began a process whereby markets were allowed to align prices with production costs, effectively abandoning the traditional system based on administrative prices.

China began its economic reform programme with the agricultural sector in 1978 and shifted the focus of reform to urban activities in 1984. In the early 1980s, the household became the central production unit (the household responsibility system), allowing farmers to help determine crop mix and related production decisions. In addition, the government allowed larger parcels of land to be privately farmed; encouraged diversification; and permitted rural markets to operate. In the same year that the household responsibility system was introduced, the government's purchase price for grain increased by 20 percent. Furthermore, farmers could sell certain crops either to the state at set prices or to private individuals at market prices. This new marketing system replaced the compulsory procurement of all produce with a system allowing farmers flexibility in the sale of large portions of their basic grain production and the entire production of most other crops.

Between 1979 and 1985, grain production increased by one-third and an additional 70 million rural jobs were created.[17] In the 1980s, despite a slow-down in the latter years, China's agricultural sector grew three times faster than during the previous three decades. The increase in production and crop yields over this period is attributed to a greater intensity of labour use and efficiency gains through crop specialization, since technology was largely unchanged and agricultural investment stagnated.

In Viet Nam, a series of major policy shifts, begun in 1986, effectively dismantled the direct administrative system for allocating agricultural resources. This fundamental reversal in economic policy was caused to a large extent by problems related to agriculture. Before the reforms, the government attempted to exercise complete control over allocation of land, labour and capital. Compulsory quotas, low procurement prices and a work point system in which remuneration was based on time and not on performance reduced economic efficiency. A poor macro-economic performance exacerbated the problems: as inflation increased, farmers hoarded rice. In addition, years of government priority to industry resulted in substantial sectoral imbalances. The country lacked a rural development support network, a situation which inhibited the flow of inputs, products, finance, storage and agricultural technology.

A similar situation existed in Laos and, in the early 1980s, both countries began economic reforms which included decentralizing decision-making and reorganizing production structures. During the initial reform period, the primary state mechanisms for obtaining agricultural commodities continued to be favourable input/product price ratios, obligatory procurement quotas and rigid market controls.

Then, beginning in 1986, an entirely new set of comprehensive market-oriented reforms were implemented. They were known as the New Economic Mechanism in Laos and the "renovation" in Viet Nam. After 1986, most price controls and subsidies were eliminated; multiple exchange rates were unified and the new single rate was devalued; the private sector was given an enlarged role and backed with new legislation; banking systems were restructured; positive real interest rates were introduced; and farm households were provided with inheritable, long-term property leases, with rights including permission to rent their land.

At present, the major economic and rural development problems centre around this transition to a more market-oriented economy. Both the public and private sectors have only a limited institutional capacity to cope with the scope and pace of economic change. Permitting market mechanisms and prices to direct agricultural investments and production decisions is proving to be a difficult process because of the uncertainty it creates for farm households. The major challenge facing these economies is to design the production and

[17] J.W. Longworth. 1989. *China's rural development miracle*. Australia, University of Queensland Press.

marketing institutions that facilitate agricultural growth, productivity and employment. The scope and pace of these economic, organizational and institutional reforms have far-reaching implications for how China, Laos and Viet Nam cope with poverty and sustainable agricultural growth in the 1990s.

Southern Asia: promoting food self-sufficiency
Since the late 1970s, southern Asian countries have moved progressively away from an industrialization development strategy based on import substitution. While the pace of their market-oriented reforms lagged behind their Southeast Asian neighbours, southern Asian countries did make significant policy shifts in the 1980s. In 1982, Bangladesh announced a privatization policy to divest many of its nationalized industries. Pakistan liberalized its fixed exchange rate regime to help promote exports the same year. Recognizing the limitations that a strategy based on industrialization for import substitution has in the case of a small domestic economy, Sri Lanka adopted numerous policy changes in the late 1970s and early 1980s. Reforms included more flexible exchange rates, trade promotion and monetary and price reforms.

Shifts in policies have also affected agriculture. Sri Lanka withdrew subsidies on agricultural inputs, notably fertilizers. Pakistan abolished restrictions on sugar cane production and reduced export duties on high-quality rice. Even though market deregulation became increasingly common, policies inspired by the green revolution — promoting irrigation, high-yielding varieties (HYVs) and mineral fertilizers — still dominated policy debate and agricultural development practices in much of this subregion.

Southern Asian countries have developed a complex set of policies to influence agricultural markets. They are designed to provide incentives for producers and affordable prices for consumers. Price support systems, input subsidies, tariff protection, non-tariff trade barriers and exchange rate polices are all used to encourage food self-sufficiency. Most of these policies act to counterbalance the anti-agricultural bias of industrial protectionism. Whether explicitly or implicitly stated, the often contradictory objectives are to extract a surplus from agriculture in order to promote industrial development while simultaneously maintaining low food prices for the expanding urban population.

India provides an interesting case in point: the country's outstanding food and agricultural achievements are well known. Widespread famines, a tragic recurrence of its past, are now avoided. By the mid-1980s, India had become self-sufficient in foodgrains and had built substantial grain reserves which allowed the effects of serious droughts, such as the one that culminated in 1987, to be contained. Annual growth in rice and wheat output averaged 3.5 percent and total foodgrains 2.5 percent during the 1980s. The country's long-standing agricultural development strategy, which focuses on expanding improved technology, was largely the basis for this satisfactory growth performance. As much as 80 percent of the increase in India's agricultural output has been attributed to the combined use of irrigation and high-yielding inputs, and irrigation alone is credited for 60 percent of the increase.[18]

At the same time, most of the irrigation projects have been concentrated in only a few regions and most of the foodgrain production increases have been in wheat and rice. The per caput availability of pulses, which are the primary source of protein for the poorest households, has dropped. Moreover, many regions retained a food deficit, relying on the public distribution system to procure surpluses from the irrigated regions.

To address these issues, India expanded its national food security policy to include maximizing the stability of supplies and improving access to food by the poor. Technological packages were developed for dryland areas in an attempt to correct regional imbalances. Provisions included access to foodgrains by the poor through subsidized prices in government-controlled fair price shops.

Since Independence, India's approach to economic development has been to provide sufficient incentives for the private sector to produce agricultural and industrial consumer goods, while the public sector has been responsible for directly promoting basic industries and infrastructure. This strategy is aimed at promoting growth with equity through a mixture of market mechanisms and planned growth. Industrial development focused on major investments in basic capital goods industries and infrastructural services, including power and communications.

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[18] World Bank. 1990. *India: trends, issues and options.* Washington, D.C.

Population pressure and land constraint led planners to concentrate on capital formation in agriculture with a view to increasing land productivity. Public investments centred on irrigation, extension and research. By the late 1960s, green revolution technologies allowed the government to pursue a foodgrain import-substitution policy. The development and release of modern fertilizer-responsive varieties offered the potential for achieving rapid yield increases. Knowledge of this potential spread rapidly, but it became obvious that its realization involved the continuance of investments in irrigation and input delivery.

The response from the public and private sectors was not only national but international. The World Bank, FAO and national and international research institutions were all in tune with common objectives. Efforts to increase cereal grain production absorbed much of the foreign and domestic investment in agriculture, and the food and oil crisis of the mid-1970s reinforced commitments to investment in the food grain sector.

Market interventions, which attracted so much attention during the 1980s, have remained significant components of India's agricultural development strategy. Policies, including price supports, government procurement, input subsidies and concessional loans, are credited with encouraging farmers to adopt the green revolution technologies. These policies also provided incentives for private investment in farm enterprises such as the exploitation of ground water resources.

On the other hand, the spread of new cereal grain technology throughout India has been uneven. In the 1980s, a growing disparity in income distribution between the more favourable irrigated areas and the less-endowed areas has become an important issue. Studies have demonstrated that employment elasticity relative to growth of agricultural output declined sharply in the late 1980s, particularly in the areas that had benefited from the green revolution.[19] In addition, the increase in foodgrains came primarily from rice and wheat, while per caput production of pulses dropped.

The present policy orientation in India emphasizes investment and trade reforms more than direct agricultural price reforms. At the same time, high levels of industrial protection are blamed for drawing resources away from agriculture and rising agricultural production costs, in spite of subsidies on fertilizers and irrigation water. Gross fixed capital formation in agriculture declined steadily during the 1980s, both in real absolute terms and as a share of total investment.

Improving agricultural performance remains crucial to India's development. At the beginning of the 1990s, agriculture still accounted for nearly one-third of GDP and two-thirds of the country's employment. By the end of the century, a 25 percent increase in output will be required to feed the expanding population at current consumption levels (see Box 8).

Policy issues for Asia in the 1990s

Economic growth in much of developing Asia has been remarkable over the past decade. Following a development strategy similar to the NIEs, the Southeast Asian countries have successfully promoted both manufactured and agro-industrial exports by practising an outward-oriented development strategy supported by fairly efficient import-substitution policies. Stable social and political institutions combined with policy changes encouraging agricultural growth have allowed most of these countries to take advantage of the opportunities as well as to minimize the problems presented by changing external economic conditions.

The large, heavily populated economies of southern Asia have cautiously pursued a development course aimed at establishing food self-sufficiency, while continuing to promote an ever-evolving industrialization programme based on import substitution. The CPEs have gradually introduced market-oriented polices in an effort to improve both production and resource-use efficiency.

All these efforts have worked relatively well in terms of promoting growth — and rapid economic growth is what many observers argue is the primary solution to Asia's problems of employment and poverty. At the same time, for the next decade developing Asian economies must sustain and improve agricultural growth rates. India, for example, faces the prospect of having to feed an additional 190 million people by 2000, and China an additional 150 million people. A large part of this agricultural growth needs to come from higher productivity, a task made more difficult since possibilities of improving and irrigating land have already been exhausted in many areas.

Moreover, the current growth process and pace of industrialization are causing formidable

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[19] A. Ghosh. Eighth plan: challenges and possibilities. In *Econ. and Polit. Wkly,* 6 April 1991.

BOX 8

Is the green revolution over?

Over the past three decades, national governments and foreign aid agencies invested heavily in Asian agriculture in support of infrastructure, institutions and human capital development.

For most of developing Asia, the share of government investment in agriculture in the 1970s ranged from 10 to 25 percent and, with investments in research, extension, irrigation and input delivery systems, it was the driving force behind the successful adoption of green revolution technology. The development and use of modern fertilizer-responsive crop varieties offered the potential for achieving rapid increases in yields.

Developing Asia has maintained per caput cereal production levels despite rapidly growing populations. The harvested cereal area changed little in the 1980s, but production rose steadily from just under 600 million tonnes in 1980 to nearly 800 million tonnes in 1990. Irrigation and fertilizer use largely explained this rise, with the latter increasing from 100 kg to 170 kg per hectare over the same period.

An important question is whether the decelerating growth in yields and output in a number of countries is related to declines in research and infrastructure investment. Alternatively, yields may have levelled because the technological and scientific backlog, with the potential for expanding irrigated area in the Asian countries, is now exhausted.

Those supporting the latter argument suggest that no technological breakthroughs affecting the yield ceiling for rice have been introduced in tropical Asia since the release of the first modern rice varieties in 1966. Despite years of research on rice biotechnology, there are as yet no foreseeable major breakthroughs that will lead to a significant increase in the yield ceiling.

In the areas of intensive rice cultivation, which include much of China, eastern Asia and production pockets such as those in the Punjab and central Java, farm-level yields seem to be approaching a ceiling. The share of cultivated area devoted to rain-fed agriculture ranges from less than one-fourth in Pakistan to over three-fourths in Thailand and several other Southeast Asian countries. But many argue that, even if rice prices rise, government budget constraints and the higher costs of extending irrigation to less favourable areas may discourage the expansion of irrigation.

If slow growth in yields and production, already observed in the late 1980s, continues into the 1990s, many Asian countries may have to increase grain imports to satisfy demand. An alternative would be to allow producer and consumer prices to rise and thereby realign the market-clearing equilibrium.

Other experts are much more optimistic about the potential for increasing grain production in pace with growing demand. Yields of cereal grains could be increased significantly, they argue, using existing technology with improved agronomic, water management and grain storage practices. Rice yields could be increased by adapting hybrid rice, which is planted on almost a third of the rice area in China, to tropical Asia. Nevertheless, emerging environmental concerns about the appropriateness of high-input agricultural systems, waterlogging and salinization from irrigation systems, as well as related concerns are making the issue even more complex.

environmental problems. All the developing Asian countries are facing environmental problems related to poverty. A lack of control over resources; population growth; a lack of alternative avenues of livelihood; and inequity are all contributing to the degradation of the region's resources. In turn, environmental degradation perpetuates poverty, as the poorest groups attempt to survive on a diminishing resource base. Finding the appropriate environmental policies, programmes and projects is one of the biggest challenges facing Asian policy-makers in the 1990s.

The developing Asian countries face the additional challenge of maintaining growth while finding ways to spread the benefits of this growth to the rural poor. Most Asian countries cannot provide adequate social services for the burgeoning numbers of urban poor migrating from the rural areas in search of jobs, let alone tackle the problem of rural poverty which is still one of the region's most intractable problems, and at the same time afford generalized consumer food subsidies.

Employment remains a key to reducing poverty: 50 percent of the labour force is still in rural areas, and much of it is employed in activities with very low levels of productivity. Again, despite the rapid growth in the industrial sector over the last decade, it seems unlikely that this sector will be able to grow fast enough to absorb the surplus rural labour. Therefore, governments need to provide an economic environment that will encourage private investment in the rural areas in order to increase employment opportunities — both on and off the farm. They can do so by continuing to make policy shifts in favour of rural development and strengthening policies that favour small farmers.[20] This requires:

- continued investment in infrastructure such as roads, markets and communications;
- a recommitment to investment in agricultural research and a redirection of research-extension priorities to support crop diversification;
- adoption of price and non-price incentive policies;
- improved management of water resources and irrigation systems to raise crop yields and facilitate diversification;
- measures to encourage exports of agricultural producs, including high-valued and processed or semi-processed products;
- agrarian reforms and improved tenure security to encourage smallholder production of cereals and other commodities; and
- policies to encourage the decentralization of industries and to promote small-scale rural industries.

[20] For a more in-depth discussion of important agricultural policy options for Asian countries in the 1990s, see S. Aziz. 1990. Agricultural policies for the 1990s. In *Dev. Centre Stud.* OECD.

merit of creating a certain consensus on the major structural component of the region's economic problems, including a pressing need for major economic and social transformations, and on the broad elements of a long-term strategy for recovery.[16] Within this consensus, different countries pursued variations on the adjustment theme, so it cannot be said that the governments of the region adhered closely to an "orthodox" model in order to reduce their macro-economic imbalances. As already mentioned, a greater emphasis on exports characterized all programmes, as did monetary and fiscal restraint in most cases. In the majority of countries, the type of interventions and their policy goals changed from emphasizing production for the domestic market to promoting exports.

It is widely recognized that sustained recovery depends on an improvement of conditions in the external sector. Adjustment efforts are doomed to failure in the absence of solutions to the associated problems of indebtedness; depressed export prices; protectionism; and limited access to new external financing.

The prospects for agriculture are also critically linked to overall economic and external conditions. Depressed economies mean depressed demand for food, perhaps the main limiting factor in the development of agriculture in the region. They also mean reduced resources for implementing agricultural and rural development policies and improving nutritional standards. Closing a vicious circle, depressed economies in turn prevent agriculture from fulfilling its role in pursuing the macro-economic objectives of growth, greater equality and price stability.

Obviously, countries in the region cannot wait for an improvement in economic and financial conditions before pursuing their agricultural development objectives. Indeed, the above review suggests that recognition of the major role of the sector in adjustment and recovery has prompted a more positive approach to agricultural and rural development. Amid difficulties, public policies during the past decade have continued to support agriculture, albeit within a short-term framework. At the same time, adjustment policies have profoundly and possibly irreversibly transformed the agricultural system. This transformation has not yet brought about the expected results, but given the appropriate conditions of economic recovery, market opportunities and the consolidation of stable and democratic regimes, they may contribute to an agricultural revival during the 1990s. In any case, transformation in agriculture should not occur as a consequence of the overall adjustment process alone, but should also be geared toward maximizing the sector's potential. The way this should be done was outlined in an FAO Plan of Action, presented at the 20th FAO Regional Conference (Recife, Brazil, 1988) and endorsed by all countries in the region. The Plan of Action identified the following broad lines of policy action: the modification of past urban biases; the promotion of balanced support to agriculture, industry and services in recognition of their dynamic interdependence; encouragement of the development of industries and services in rural areas; and, within the agricultural sector, support for small- and medium-scale producers. A major challenge for the 1990s will be the formulation and effective implementation of appropriate policies in these directions.

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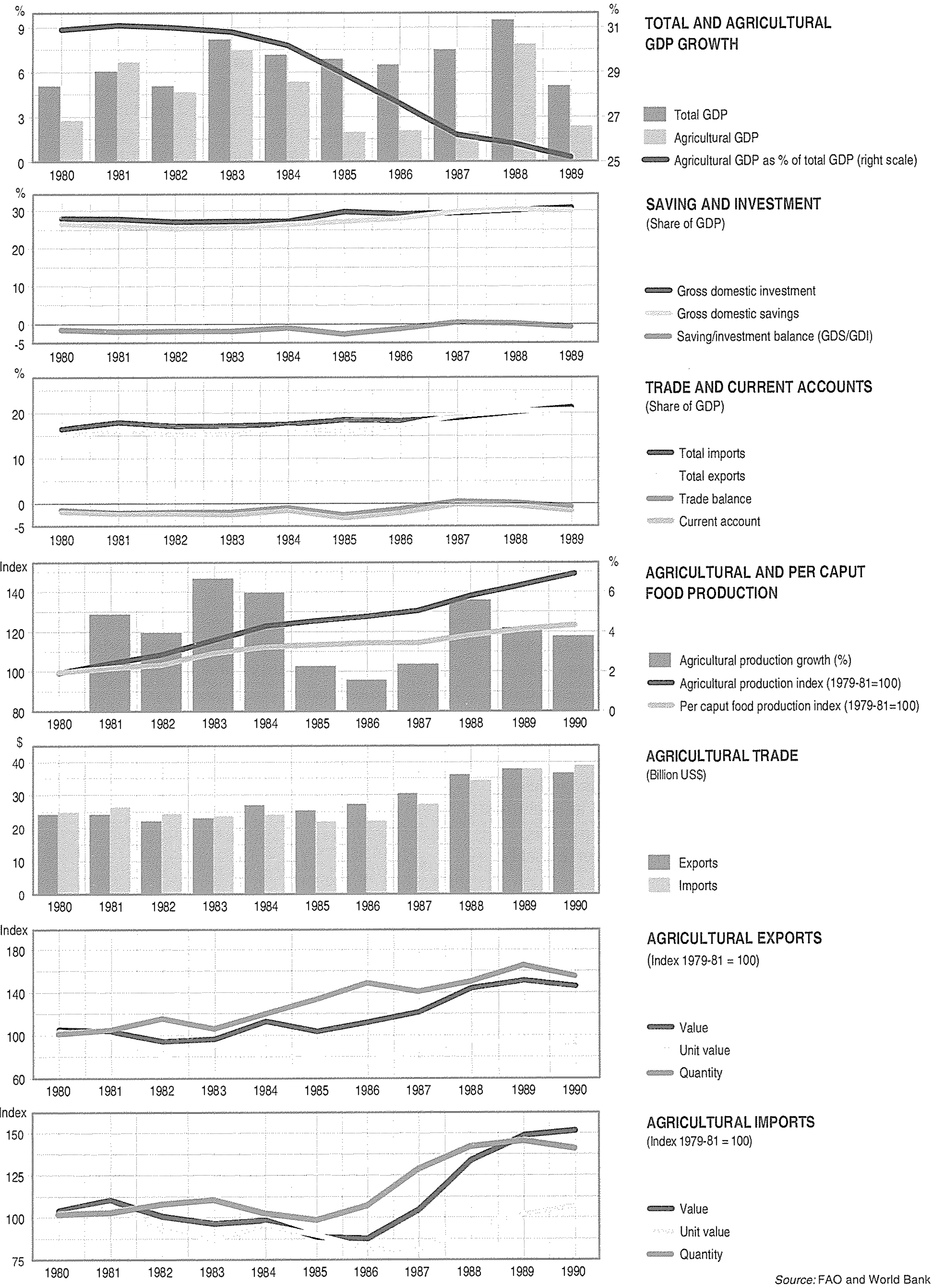
[16] A quite coincidental diagnosis and proposed lines of action are contained in the FAO study, *Potentials for agriculture and rural development in LA/C,* presented at the 21st FAO Regional Conference in Recife, Brazil, October 1988; and the ECLAC document, *Productive transformation with social equity,* presented at the 23rd Session of the Regional Economic Commission, Caracas, May, 1990.

Figure 13 ASIA AND THE PACIFIC



Source: FAO and World Bank

SUB-SAHARAN AFRICA: IN SEARCH OF A DEVELOPMENT STRATEGY

Of all the developing regions, sub-Saharan Africa was the least able to absorb the economic shocks of the early 1980s and had the least margin for introducing austerity measures. The problems of the region predate the depressed 1980s, however, and to appreciate their severity one must go back several decades.

The majority of sub-Saharan countries gained independence in the early and mid-1960s. From then until the oil price increases of 1973-74, the region's economic growth exceeded the rate of population expansion. However, with the exception of Nigeria, whose growth was bolstered by the discovery of large oil reserves, the region's per caput income growth from the early 1960s to the early 1970s was only slightly more than 1 percent, compared with more than 3 percent for all developing countries.

Thus, even in this period, characterized by a relatively favourable external environment, the sub-Saharan countries — particularly the smaller and poorer among them — had rates of growth well below those of developing countries as a whole. In the 1970s the same held true: while per caput growth exceeded 2 percent in all developing countries, in sub-Saharan Africa income per caput hardly changed. Then, in the 1980s stagnation turned to decline, leaving per caput incomes below what they had been at the time of independence for many sub-Saharan countries.

These three decades of relatively and absolutely poor economic performance manifested itself in the regional economy's most important sector: agriculture. Until the early 1960s, the sub-Saharan region had been a net food exporter, but during the following three decades it increasingly became a net importer. Since the early 1970s, per caput food production actually declined, with production growing at an average annual rate of less than 2 percent, while population expanded at 3 percent. Production of major staples (cereals, roots and tubers) increased at only 1.4 percent a year, and overall food supplies for the region as a whole declined from 210 kg (wheat equivalent) per caput in 1970 to 179 kg per caput in 1980.[21]

During the period 1980-1984, food production deteriorated further, resulting in severe shortages and widespread famine in 25 countries when drought afflicted the region. Food production recovered little during the second half of the 1980s and failed to keep pace with the population increase in many countries. Faltering domestic food production resulted in a dramatic increase in food imports during the 1970s. Annual food imports rose by 8 percent in volume and by 20 percent in value during the 1971-1980 period. Mainly because of financial constraints, the increase in the volume of food imports was sharply reduced to 1.2 percent per year during the 1980s and, with the overall decline in international commodity prices, the value of food imports fell by 3.5 percent yearly during the same period. However, while a large part of these imports were in the form of concessionary aid, their financial cost remained considerable. By the mid-1980s, commercial food imports were the equivalent of almost 20 percent of the region's export earnings.

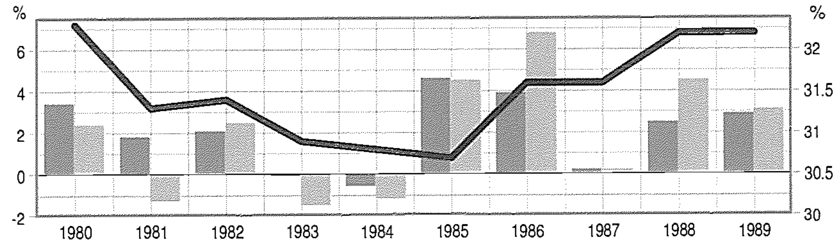
As regards non-commercial imports, food aid in cereals amounted to 835 000 tonnes in 1975-76, rising to 1 250 000 tonnes for 1977-78 and to more than 1 500 000 tonnes in 1979-80. This virtual doubling of food aid by the start of the new decade was a harbinger of things to come. The drought which severely affected much of the region in 1983-84 caused food aid shipments to increase to 4.7 million tonnes in 1984-85, and the improved rainfall that followed only reduced this total to 3.7 million in 1985-86, still more than four times the level of ten years earlier.

Despite this tremendous increase in food imports, per caput availability of nutrients virtually stagnated between 1970 and 1985.[22] In 1970 the region's per caput calorie intake was estimated to be 2 111, and protein per caput to be 53.2 g. For 1985 the estimates were 2 160 calories and 53.5 g protein. Furthermore, domestically produced food only accounted for 85 percent of the region's total calorie supply during the 1980s. If the food production trends of the last two decades continue, it is unlikely that the resulting food deficits will be able to be covered sufficiently by commercial imports and concessionary aid in order to prevent

[21] The statistics in this section are taken from FAO. 1990. *Food security policy issues in West Africa: past lessons and future prospects.*

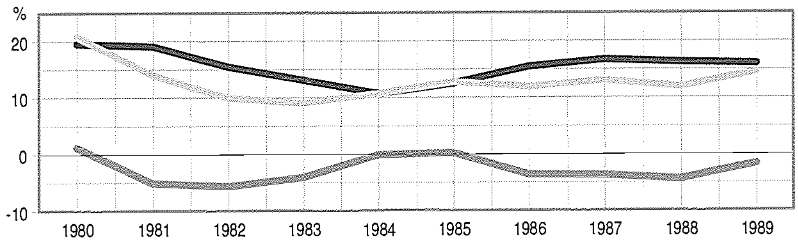
[22] FAO. 1986. *African agriculture: the next 25 years.* Rome, FAO.

Figure 14 — SUB-SAHARAN AFRICA



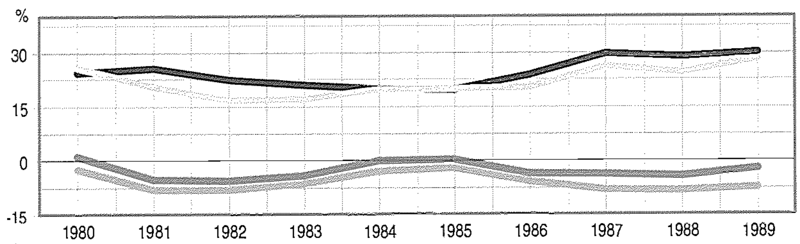
TOTAL AND AGRICULTURAL GDP GROWTH

Total GDP
Agricultural GDP
Agricultural GDP as % of total GDP (right scale)



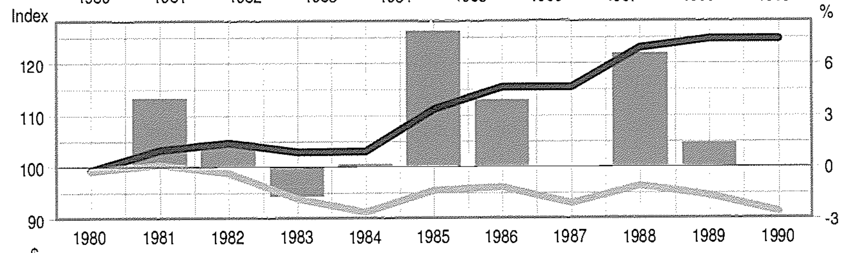
SAVING AND INVESTMENT
(Share of GDP)

Gross domestic investment
Gross domestic savings
Saving/investment balance (GDS/GDI)



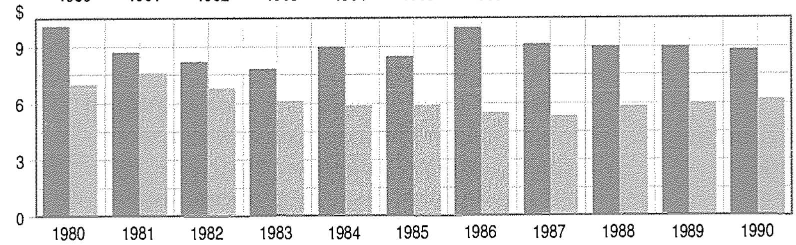
TRADE AND CURRENT ACCOUNTS
(Share of GDP)

Total imports
Total exports
Trade balance
Current account



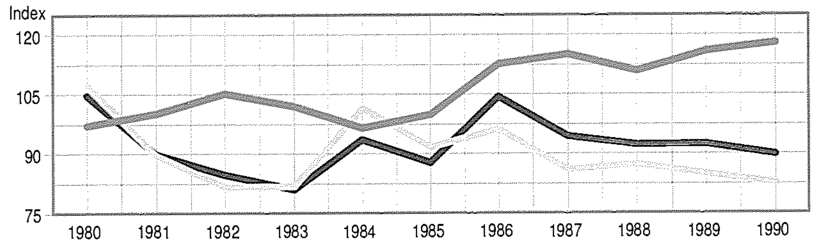
AGRICULTURAL AND PER CAPUT FOOD PRODUCTION

Agricultural production growth (%)
Agricultural production index (1979-81=100)
Per caput food production index (1979-81=100)



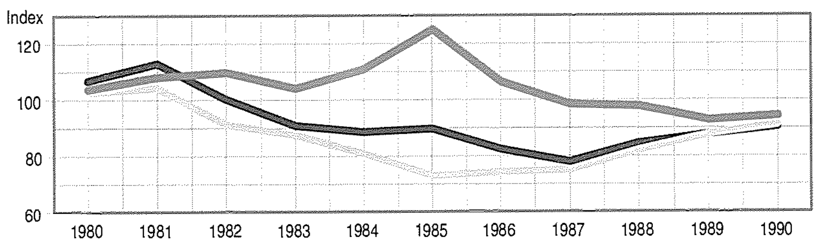
AGRICULTURAL TRADE
(Billion US$)

Exports
Imports



AGRICULTURAL EXPORTS
(Index 1979-81 = 100)

Value
Unit value
Quantity



AGRICULTURAL IMPORTS
(Index 1979-81 = 100)

Value
Unit value
Quantity

Source: FAO and World Bank

increasingly widespread hunger and malnutrition.

Agricultural exports, the mainstay of the external financing system for many countries in the region, were severely depressed during the 1980s. While sub-Saharan Africa's exports virtually stagnated in volume during the 1980s, they fell almost 1 percent yearly in value, reflecting the sharp decline in international prices of their main commodity exports. This decline resulted in a strong deterioration in the terms of trade and purchasing capacity of the region's agricultural exports. Between 1979-81 and the late 1980s, sub-Saharan Africa's export earnings from agriculture lost about 20 percent of their capacity to finance imports of manufactured goods and crude petroleum.

Thus, at the outset of the 1990s the immediate prospects for agricultural development and food security for the countries of sub-Saharan Africa are not favourable. The reason why agricultural performance in this region has proved so disappointing over at least three decades has been a source of intensive debate. The following discussion seeks to put the main issues in a proper perspective.

Perspectives on the African food crisis
Countries in the sub-Saharan region have greatly differing ecologies, societies, economies and levels of development. The mainland group of 40 countries can be divided in various ways: several of these countries have economies dominated by mineral production, while others are primarily deserts and still others include large tracts of tropical rain forests.

Despite this great diversity, some broad generalizations can be made about the impact of external shocks on the region. Declines in terms of trade have affected all but a few countries: the World Bank's 1990 World Development Report shows that out of 28 African countries for which data were available, 23 had lower terms of trade in 1988 than in 1980. While terms of trade losses were the common fate of developing countries during the 1980s, those incurred by the African region were substantially greater. For all developing countries, terms of trade declined at an annual rate of approximately 2.5 percent between 1980 and 1988 compared with a decline of 4 percent for sub-Saharan Africa.

A heavy and accumulating debt burden was also common to most sub-Saharan countries. In 1988, debt servicing represented 4.3 percent of their GNP compared with 3.6 percent for East Asia and 1.8 percent for South Asia, with only the Latin American and Caribbean being higher at 4.7 percent. These percentages somewhat understate the African debt service compared with that of other regions. Because subsistence production is relatively more important in sub-Saharan Africa than in the other developing regions, a given proportion of debt service in GNP represents a greater portion of their money economy. While most of the African debt was provided on concessionary terms from official lenders, a recent estimate has shown that the negative effect of real interest rate increases in the early 1980s was considerable.[23]

In addition to shocks from the world economy, the African region suffered from severe and recurrent drought. Rainfall was especially low for the 1983-84 growing season, which resulted in widespread exceptional food shortages affecting 25 countries. Because sub-Saharan Africa is so heavily agricultural, and because irrigation is generally undeveloped, the region is particularly prone to such climatological shocks.

Other factors undermining food insecurity were *political conflicts* in various parts of the region, which seriously disrupted food supply and distribution systems. Of the 40 continental sub-Saharan countries, eight were racked by major military conflict in the 1980s or early 1990s and many others experienced prolonged periods of civil unrest and instability.

A further structural factor contributing to the African agricultural crisis, and for some countries the dominant factor, is population growth. During the 1970s, sub-Saharan Africa had the highest rate of any developing region: 3 percent per annum compared with 2.8 percent for the Near East and 2.4 percent for Asia and Latin America and the Caribbean. During the 1980s, the sub-Saharan Africa rate increased to 3.1 percent, while for all other regions it declined. Such rapid population growth has placed heavy pressure on natural resources, government budgets, infrastructure and agricultural practices. One consequence has been to change urbanization from its previous "pull" character (attraction of the cities) to more of a "push" phenomenon. Despite a major decline in urban-rural income differentials throughout Africa in the 1980s, urbanization has continued relatively unabated. While the experience of some countries showed that

[23] World Bank. *World Development Report, 1989*, p. 13.

government policies can successfully slow population growth, this cannot be achieved in the short term. Indeed, population expansion in the region is expected to continue at an annual rate of slightly more than 3 percent in the 1990s.

Thus, shocks transmitted by the world economy and other factors exogenous to economic policy affected the fragile sub-Saharan economies severely and relatively more than other developing regions.

Policy changes in sub-Saharan Africa

Despite the important role of natural and exogenous factors in depressing agricultural performance, there is little controversy over the fact that sub-Saharan policies were also detrimental to the development of the sector in many cases. Regional generalizations are hard to make, however. While terms of trade effects can be calculated and compared across countries, the extent and impact of national policies are much less amenable to quantification. Furthermore, a distinction must be made between the formal existence of policy measures and instruments and their actual impact.

For example, a majority of sub-Saharan governments had mechanisms, usually from colonial times, to intervene in the domestic markets for staple foods. In some cases the stated purpose of these mechanisms was to provide support prices for farmers (e.g. in the countries of the Communauté financière africaine [CFA],[24] Sierra Leone, Somalia and Kenya), while in others it was to achieve this same objective as well as maintaining relatively low prices for urban consumers (e.g. in Nigeria and the United Republic of Tanzania). However, the effectiveness of these measures varied greatly. For example, the producer price set by the Rice Marketing Board in Sierra Leone had no impact on actual farmgate prices and sales, as was the case of domestic price controls in Nigeria. If a generalization could be made, it would be that mechanisms to regulate internally traded food products were largely ineffective and did little more than provide public employment and add to transaction costs — except in those rare cases where marketing boards had adequate resources for significant procurement operations (for example, wheat and maize in Kenya and maize and sorghum in Somalia in the 1970s). Nor is it the case that official prices always stood below unregulated market prices (the Niger provided a counter-example in 1985 and 1986), although this seems to have been the rule. However, even when ineffective, these measures could produce undesirable side-effects, such as the widespread cross-border smuggling of cereals, especially rice, in West Africa.

Whether their domestic price interventions were effective or not, several countries abandoned them in the 1980s, usually as part of economic stabilization or structural adjustment programmes. The operations of domestic crop marketing boards or price control bodies were drastically reduced, or the institutions themselves even eliminated, in Burkina Faso, Ghana, Nigeria, Senegal, Sierra Leone, Somalia and the United Republic of Tanzania. Although such measures had a beneficial impact on government budgets, their effects on farmgate prices are difficult to trace and do not yet appear to have positively affected supplies: in some cases imports of cereals have continued to rise.

In a number of sub-Saharan countries, food imports have substantially depressed domestic prices. Clear examples were maize meal subsidies in the United Republic of Tanzania and cheap imports of wheat in most countries and of rice in West Africa. In the 1980s food import policy in many countries became linked to the issue of food aid, which made the comparison of domestic and border prices even less relevant. Governments of sub-Saharan countries affected by famine have found it difficult to target the relevant populations because of high costs and local administrative limitations. Nevertheless, for those countries where food aid was associated with drought and famine (the Sudan and Ethiopia being extreme examples), the impact of such imports on domestic prices had to be weighed against the likelihood of widespread starvation in their absence.

Food import policy had negative effects on the marketing of domestic production in many African countries, but the reversal of policies implied difficult political decisions, particularly in the context of widespread undernourishment and politically powerful urban groups. Nonetheless, a number of governments took steps to end explicit and implicit subsidies on food imports. The most dramatic measures were implemented in Nigeria, where imports of

[24] The CFA countries are: Benin, Burkina Faso, Cameroon, Central African Republic, Chad, Congo, Côte d'Ivoire, Gabon, Mali, the Niger, Senegal and Togo.

cereals and vegetable oils were banned in 1985 and 1986. While this resulted in short-term windfalls for private traders who had stocks or who practised clandestine cross-border trade, the production of basic staples increased impressively.

In 1986 Mali also banned rice imports, as had Ghana earlier (along with maize), although the latter subsequently lifted the ban in favour of duties before eliminating these too. Since the mid-1970s food prices have risen faster than the general price index in the majority of countries, and the changes in import policy reinforced this trend in the 1980s.

The issue of food imports leads to the debate over exchange rate policy, which has played a major role in adjustment packages in sub-Saharan countries. Many governments maintained exchange rates that depressed the competitiveness of exports and encouraged food imports, although different countries operated under quite different regimes. The 13 members of the CFA, with their exchange rates linked to the French franc, saw their rates appreciate in the late 1970s and into the 1980s. Liberia is another country whose currency appreciated for similar reasons, at least up to 1985, for it uses the US dollar. Three more countries, Botswana, Lesotho and Swaziland, tie their currencies to the South African rand.[25] Thus, nearly one-half of all sub-Saharan countries had limited ability to devalue their currencies because of their currency systems. Of great consequence for their overall and sectoral policies was the fact that their exchange rates were linked to movements of their host currencies in response to forces external to their own economies.

Virtually all the governments of the remaining countries implemented substantial nominal devaluations, beginning in the late 1970s; that is, before the widespread adoption of SAPs in the region. In some cases the magnitude of the devaluations was astounding. From 1983 — when adjustment programmes began to dominate economic policy in the region — until 1990, only one country, Ethiopia, whose currency arrangements permitted devaluation did not do so. There were four countries for which the IMF did not supply statistics while, of the 18 others, nine devalued their currencies by up to 400 percent; three others by up to 1 900 percent; and another five by more than 2 000 percent. The most extreme cases were Sierra Leone and Somalia, whose nominal exchange rates depreciated by over 9 000 percent, and Uganda, with a 20 000 percent nominal devaluation.

IMF calculations of real exchange rates for ten sub-Saharan countries show effective devaluations in all cases. Therefore, it appears that most African countries which were able to devalue did so in the 1980s, and some reached the end of the decade with real exchange rates well below the levels they had been at in the beginning of the decade. However, in many cases the real devaluations were associated with considerable instability in exchange rates. The consequence was much uncertainty for farmers who were producing for export markets and who were unable to predict relative prices with any confidence.

While exchange rate policies were major factors affecting the profitability of production for agricultural export markets, other important factors were the government policies controlling the marketing of export commodities. Introduced during the colonial period, market control operations gradually changed focus. The majority of colonial governments in sub-Saharan Africa introduced single-channel marketing parastatals for the major agricultural export commodities such as cotton and coffee (in Uganda) and cocoa (in Ghana). The general objective of these interventions was to stabilize the domestic prices of products sold on unstable world markets. In effect, such parastatals provided a means of taxing the relatively wealthy agricultural export sector by stabilizing producer prices, but often at a level well below international prices translated into the domestic currency. The agricultural sector contributed significant development resources in this way. This practice continued after the granting of independence to the majority of the sub-Saharan countries but, with the passing of time, the wedge between border and producer prices constituted increasingly high marketing costs rather than an explicit "tax for development". Unlike the food crops produced for domestic markets, where parallel markets could quickly undermine an inefficient marketing parastatal's monopsony powers, most producers of export crops had difficulty in marketing their produce outside official channels.[26] Consequently, as shown by an FAO

[25] Since March 1991 when it gained independence, Namibia also has been using the rand and will continue to do so until it establishes its own currency.

[26] Export statistics are problematic because of the significant amount of unofficial sales activities.

study, during the 1970s nominal protection coefficients (NPCs) for agricultural export crops of sub-Saharan countries were almost invariably — and often significantly — below 1, implying negative protection. In most cases, the nominal net protection coefficients (NNPCs), adjusted to include the estimated exchange rate bias, were even lower. For example, the NNPCs for cocoa in Côte d'Ivoire and for coffee in the United Republic of Tanzania were equal at 0.39. In the latter case this was mainly a result of exchange rate bias.[27] Nor did the sub-Saharan countries end discrimination against their main agricultural exports in the early 1980s because the same FAO study shows that during the period 1981-83, when selected countries from Latin America and Asia raised the real farm prices of their export crops by a respective 17 percent and 11 percent relative to their 1973-1983 levels, those in the 13 sub-Saharan countries studied fell by 16 to 17 percent.

There is evidence that the massive devaluations arising from SAPs from the early 1980s did restore the profitability of export crop products in some cases, and production and export volumes recovered from their previously low levels — cocoa in Ghana provides an example. But compared to restrictive measures arising from the same adjustment programmes, such improvements proved temporary.

Restrictive fiscal and monetary policies, often associated with adjustment programmes in many countries, led to reductions in farm support in the 1980s. A number of countries sharply reduced or eliminated farm credit programmes. This measure was often associated with the elimination of marketing boards because crop purchasing by parastatals was characteristically associated with the provision of credit. Subsidies to farm inputs, especially fertilizers, often fell under the same economic axe. Input subsidies disappeared or were phased out in virtually all the West African countries.

Hence, by the beginning of the 1990s few credit programmes and farm input subsidies were still provided. In most cases governments had implemented such programmes through marketing parastatals more frequently associated with export crops. As a consequence, export crop producers suffered more than producers for the domestic market. Yet the private sector has been slow to provide short-term credit or supply inputs. Given the land-tenure system in the region (private ownership is rare), land cannot be used as collateral, and so banks are discouraged from financing small farmers. There is some evidence to suggest that farmers have turned by necessity to traditional money-lending sources. While this may have some positive aspects, past case-studies have shown that traditional forms of indebtedness can divert much of the gain from increased production away from the producer — a problem that government credit schemes had intended to address.

In conclusion, it appears that the disappointing export performance of the 1980s was partly attributable to a lack of credit and inputs.

Rethinking policies for the 1990s

There is much controversy over the effectiveness of adjustment policies in Africa, ranging from those who see them as being a success[28] to others who judge them a virtual failure.[29] Without entering further into the debate, a number of observations can be made. It is unquestionable that the region's economies and agricultural systems were hit hard by external shocks. Consensus also exists that agricultural policies in the 1960s and 1970s helped to depress, if not seriously undermine, agricultural development. It is also reasonably clear that major steps were needed and subsequently taken by most governments during the 1980s to reverse the bias against agriculture. It would appear therefore that major policy adjustments were required, and these have occurred. In very few cases, however, policy adjustments alone have been sufficient to transform economic stagnation or decline into sustained recovery. "Success stories" have tended to be short-lived, often being associated with the beneficial impact of

[27] FAO. 1987. *Agricultural price policies: issues and proposals.*

[28] "The evidence points to better overall economic performance in countries that pursue strong reform programs than in those that do not..." World Bank and UNDP. 1989. *Africa's adjustment and growth in the 1980s,* p. iii. Oxford and New York, Oxford Univ. Press.

[29] The Organization of African Unity (OAU) in 1988 concluded: "there is no evidence to suggest that [structural adjustment programmes] are likely to have a positive impact...," and this judgement was repeated by the Economic Commission for Africa in its 1989 document on an alternative adjustment strategy. UNCTAD took a similar view in 1989: "the poor results achieved thus far...leave open the question of the sufficiency, even appropriateness, of the [adjustment] measures taken...."

favourable rainfall on rain-fed agriculture and combined with large inflows of concessionary finance (e.g. in Ghana).[30] Furthermore, the experience of the 1980s indicates that there is no general policy package appropriate for all countries.

The review of sub-Saharan Africa's policy experience in the 1980s suggests a number of lessons for the 1990s.

i) It is possible that government efforts in the past have not succeeded in stimulating agricultural development not by doing too much, but by doing the wrong things. Governments need to avoid interventions which, to be effective, require considerably more technical or managerial capacity and financial resources than most countries can afford. It must also avoid those which, if effective, still involve the risk of distorting markets. At the same time, the sub-Saharan region suffers from a shortage of public goods and services, not from an excess. A successful recovery of agriculture requires better roads, communications, extension services and crop and livestock research; and appropriate education and training for children and adults. All of these requirements call for more public expenditure, not less.

ii) Macro-economic policies should be formulated and implemented in a way that supports agriculture. For example, massive nominal devaluations that are not supported by substantial external assistance to relieve the consequent import constraint, can starve agriculture of vital inputs while provoking high rates of inflation (e.g. the cases of Sierra Leone and Somalia).

Indeed, the experience with exchange rates in sub-Saharan Africa in the 1980s provides a more general lesson. While the export success of some countries indicates that, given the supportive structural and economic conditions, real devaluation can be an important mechanism for enhancing international competitiveness, the African experience suggests the following corollary: when there are severe structural constraints in an economy, the exchange rate instrument can be an ineffective and even destabilizing way to achieve a short-term balance of payments equilibrium.

iii) While the provision of credit and marketing services and supplies of inputs may place unsustainable demands on government budgets, the assumption that the private sector can and will substitute them may not be valid in all cases. Government programmes will often need to be continued but in a rationalized form with clear priorities and targets. A limited degree of success has been achieved by implementing these programmes through rural communities and non-governmental organizations.

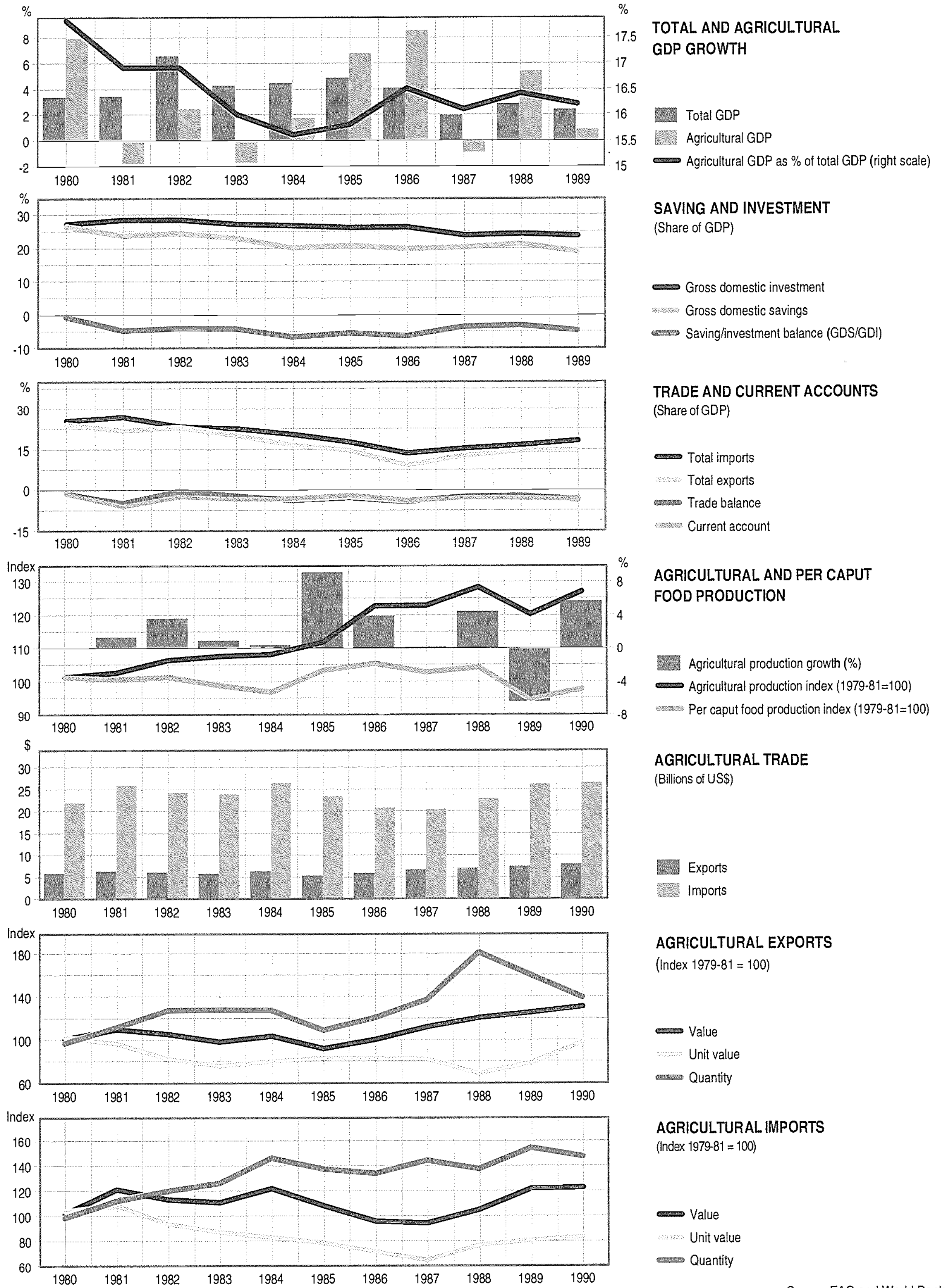
iv) The trend toward market liberalization, although justified, should be accompanied by greater attention to the distribution of rural assets, resource degradation and sustainability issues. In some African countries, access to land is sufficiently unequal to make land tenure a policy priority. In virtually all countries, population pressure is leading to the fragmentation of holdings; the shortening of fallows, without compensatory fertilizer applications; and the clearing of marginal land — often forested — for agricultural use. This situation requires equitable landownership policies and the provision of appropriate technological skills and methods to ensure sustainable land-use practices.

v) Since food aid remains of great importance in the sub-Saharan region, its provision should be rationalized and the implementation of food aid programmes made more supportive of agricultural development.[31]

[30] See FAO. 1990. *Recent Policy Adjustments in Ghana and their Impact on Food Security*, CFS: 90/3.

[31] Committee on World Food Security. 1991. *Prospects for Food Aid and its Role in the 1990s.* Rome, FAO.

Figure 15 NEAR EAST AND NORTH AFRICA



Source: FAO and World Bank

NEAR EAST AND NORTH AFRICA: SHARP CONTRASTS AND MOUNTING UNCERTAINTIES

The Near East region has attracted world attention and concern throughout the 1980s and early 1990s. Wars and civil unrest have plagued various parts of the region and the recent Gulf conflict caused major human and material losses, introducing further uncertainties about the long-term prospects for peace and regional stability.

These events have not left agriculture untouched. Apart from disrupting the population's access to food, they have also negatively affected agricultural systems. It is still too early to assess the long-term implications of the Gulf conflict, but a depressing impact on the region's overall economic and agricultural activities can be expected. Resource allocation for the rehabilitation and reconstruction of damaged infrastructure could significantly hamper agricultural investment. In addition, current political, economic and financial uncertainties are affecting the intensity and pattern of trade, labour and capital flows, with direct and indirect effects on agriculture. Thus, as for other sectors, the fate of agriculture largely hinges on the attainment of minimum conditions of regional stability and harmony which would induce investment, enhance regional cooperation and maximize the benefits of resource complementarities.

While in many cases political instability has caused food insecurity, in turn, food supply problems have often caused difficult political situations. The food riots which swept the region from Morocco in the west to Jordan in the east during the 1980s highlighted this strong linkage between food and politics.

Explosive population growth and rapid urbanization in several countries impose growing pressures on already overstretched domestic food systems, introducing further uncertainty into food security prospects in the region.

Regional diversity

Countries in the Near East region present considerable diversity and sharp contrasts. In 1989, population size ranged from less than one million in Bahrain, Qatar and Djibouti to approximately 55 million in Egypt, Turkey and the Islamic Republic of Iran. The agricultural population accounts for about 2 percent of total population in the small Gulf states, but about 70 percent in Somalia and the Sudan. The distribution of per caput income and natural resources show a similar unevenness, particularly among the Arab states. Most of this discussion is focused on Arab countries, which account for the large majority of countries in the region. In addition, unlike non-Arab Near East countries, which are self sufficient in food (the Islamic Republic of Iran being the only exception), Arab states are strongly dependent on food imports to satisfy demand. (Maghreb countries, which have their own set of characteristics, are discussed in Part I, World review.)

The region is also characterized by an unequal distribution of arable land and oil. With few exceptions, most of the oil is found in countries with both small populations and a limited agricultural resource base. A few comparisons are sufficient to describe intercountry disparities: the average per caput income of the six Gulf Cooperation Council (GCC) countries was $10 000 in 1989; for the nine middle-income countries it was $1 800; and for the six low-income countries, $400. The first group has 0.7 ha of arable land per caput, while the second group has 3.7 and the third group 5.7 times as much arable land per caput. More than one-half (53 percent) of the region's arable land is in three Arab states: the Sudan, Algeria and Morocco. By contrast, 11 Arab countries have a combined share of only 8.5 percent of the total arable land.

This dichotomy in resource distribution represents both a constraint and an opportunity. While the limited resource base is obviously a constraint for individual countries, regional resource complementarity suggests that intraregional cooperation and improved trade is a natural path toward maximizing common welfare. However, concrete results achieved through the numerous intraregional and subregional cooperation and integration schemes appear at best to be modest. As seen below, intraregional trade has tended to decline rather than expand, while prospects for closer integration in the short- and medium-term seem doubtful in view of the recent events in the Gulf.

Macro-economic overview

The oil booms of the 1970s and early 1980s, plus the subsequent decline of oil prices, greatly influenced economic trends in Near East countries. For the region as a whole, per caput GDP rose by 1.6 percent yearly in the 1970s but fell on average by about 3 percent yearly between 1981 and 1987. Higher oil prices led to slightly positive growth rates in per caput GDP in 1988 and 1989.

Economic performances varied widely among the different countries, but most experienced major economic and financial difficulties. Macroeconomic imbalances reached extreme proportions in some non-oil producer countries. The net trade deficit by the mid-1980s represented about 5 percent of GDP in Cyprus, 12 percent in Egypt and the Syrian Arab Republic and as much as 40 to 45 percent in Jordan. Such imbalances could only be financed with massive capital inflows, mainly from oil-exporting countries, in the form of aid and emigrant remittances. These capital flows, which in the case of five middle-income countries[32] represented over 20 percent of GDP in the late 1970s, enabled high and sustained investment levels, despite a very low domestic saving rate. However, with the end of the oil boom and subsequent large-scale repatriations, external financing shrank sharply, exposing the underlying weaknesses of these countries' economies. Their investment rates dropped, from over 30 percent of GDP in the early 1980s to about 20 percent in 1987, despite some recovery in domestic savings;[33] imports fell from the equivalent of 50 percent of GDP to less than 40 percent of GDP during the same period; external debt represented 70 percent of the aggregate GDP of these countries; and inflation accelerated, particularly in Egypt and Turkey.

The economies of the Near East countries are pronouncedly trade-oriented: the ratio of imports plus exports to GDP is about 50 percent in the case of Arab countries, compared with only 21 percent for other developing countries in the aggregate. However, intraregional Arab exports fell from $11.2 billion to $6.7 billion between 1982 and 1988, while intraregional imports fell from $11.5 billion to $7 billion over the same period.

Faltering food and agricultural performance

Agricultural production. Agricultural growth in the 1980s was generally unstable and sluggish in the Near East. The regional annual growth in agricultural production was approximately 2 percent, significantly below population growth, compared with 3.2 percent during the 1970s. Furthermore, growth in agriculture was generally lower than that in GDP, even in the main agricultural producer countries. Thus, besides making an inadequate contribution to food security, agriculture was in most cases an inhibiting factor in overall economic growth.

Beyond these aggregate growth rates there were considerable variations within the sector itself. For instance, crop production increased at about one-half the rate of animal production. Much of the increase in the latter was in the poultry subsector, which depended largely on imported feed, thereby representing a serious drain on foreign exchange resources. Production of cereals, oilseed and fibre crops lagged behind population growth, while production of pulses, sugar and root crops rose significantly in per caput terms. Agricultural production was characterized by pronounced instability in several countries. For instance, sharp shortfalls in crop production in Jordan alternated with equally dramatic recoveries.

The generally sluggish and fluctuating growth rates in agricultural output during the 1980s were confronted with booming population growth and rapid urbanization, which caused aggregate demand for food and other agricultural products to increase sharply.

Agricultural trade: wide imbalances, high import dependence. The sluggish supply response to the surge in demand for agricultural products during the 1980s resulted in lower food self-sufficiency and a deterioration in agricultural trade balances. Following a collapse in agricultural exports, their share of GDP, which was already very low by developing country standards (4 to 5 percent in middle-income Near East countries during the 1970s), fell to less than 3 percent in more recent years. The share of total imports financed by agricultural exports in 1987 for the region as a whole was about 5 percent compared with more than 20 percent in the early 1970s. Only

[32] Cyprus, Egypt, Jordan, the Syrian Arab Republic and Turkey.

[33] The aggregate investment of Arab states declined from a peak of $128 billion in 1982 to only about $90 billion in the late 1980s. Investment of the six countries in the Council of Arab Economic Unity (CAEU) actually recorded negative growth rates during the 1980s.

However, Turkey maintained a stable investment ratio of about one-fifth of GDP throughout the 1980s, largely financed through domestic savings (about 20 percent of GDP). Combined with stable terms of trade, Turkey's import capacity rose steadily, contributing to a 5 percent annual growth in GDP during the 1980s.

a few countries (Turkey, the Sudan and Somalia) showed significantly higher ratios. On the other hand, agricultural imports, mainly food, expanded significantly in volume, although at far slower rates than in the 1970s. The share of agricultural imports in total imports rose from 16 percent in 1980 to 19 percent in recent years, despite a decline in import unit values during much of the 1980s. At the same time, there was a major increase in the agricultural trade deficit, nearly 90 percent of which was in the Arab states of the region. Apart from the Islamic Republic of Iran, the other non-Arab states registered positive agricultural trade balances in the period 1987-89, with Turkey leading the group.

For the whole region, domestically produced food only covered about 73 percent of the total calorie supply in the period 1983-86 (75 percent during the 1970s), representing the lowest self-sufficiency ratios among all developing country regions.

The financial weight of food imports varied greatly. For the oil exporters, food imports accounted for a relatively minor part of their export earnings (around 15 percent and 20 percent in Saudi Arabia, Iraq and the Islamic Republic of Iran in the period 1985-88, significantly less in the smaller oil-rich countries) even after the fall in oil prices and export earnings in recent years. On the other hand, despite the significant agricultural orientation of their economies, many non-oil producer countries devoted a high, and in many cases rising, part of their export earnings to food imports. Thus, the food imports/total exports ratio fluctuated around 60 percent and 90 percent in Egypt, the Sudan and Jordan, although even higher ratios were recorded in some years. An exception was the Syrian Arab Republic, where the ratio remained relatively moderate at 30 to 40 percent.

In short, while the financial burden of importing food (or supporting high-cost domestic food production as in Saudi Arabia, for instance) is less of a problem in oil-exporting countries, the dependence of food imports is a major cause for financial and food security concern in several of the other countries in the region.

Factors influencing agricultural performance

Agricultural labour. Agricultural populations and labour force populations have increased by about 0.7 percent during the 1980s compared with an increase of almost 3 percent in the total population. As a result, the agricultural labour force as a share of the total labour force fell from 46 percent in 1980 to 38 percent in 1989. The fact that agricultural production rose by between 2 and 3 percent a year during the past decades implies an increasing positive trend in labour productivity, and possibly average incomes, in agriculture overall.[34] Such improvement in labour productivity, however, only provides minor compensation for the growing imbalance between domestic production and demand.

Another major influence affecting agricultural performance was the labour flow from the capital-deficit to the capital-surplus countries. Labour flows were major sources of foreign exchange for the country of origin as well as being a source of inexpensive labour for the country of destination.

The scale of the migrations was considerable in terms of the recipient countries' populations and the impact on rural areas in the labour-surplus countries. At its peak in 1985, the number of migrant workers in the oil-rich countries of the Near East region exceeded five million. Around 3.5 million (of which two million were from rural areas) came from countries within the region, with the remainder originating in other countries, mainly in Asia.

Intraregional labour mobility has had a profound impact on agricultural development in the region, in particular on farm labour markets, agricultural income and investment. One widely observed effect has been the tightening of farm labour markets leading to a marked rise in farm wages. Remittances have raised rural living standards and, to a certain extent, have contributed to rural capital formation. But, although returning migrants have brought with them savings and new skills acquired abroad, they have also added to the difficulties in creating employment opportunities for new entrants to the labour force.

In some countries, labour shortages have been alleviated by the increased participation of women in farm activities. However, this often implies a heavy addition to the already exacting demands on women's time.

Farm mechanization has also been stimulated by labour migration and increases in farm wages. The overall pattern of mechanization

[34] Adequate data on actual employment in agriculture are not available. Moreover, changes in labour productivity should make allowance for rural migration, which obviously involved unemployed populations in the first place.

suggests that machines are being used more to substitute animal power than human labour. Mechanization of power-intensive operations (e.g. ploughing, seeding, water lifting) has expanded rapidly throughout the region. Meanwhile, weeding, pest control and vegetable harvesting continue to be performed largely by hand.

Remittances had a profound effect on the rural economies of recipient countries by helping to alleviate rural poverty and improve living standards. But, in some cases, they also contributed to local and seasonal labour shortages by raising the reservation wage of labour. Substantial funds were invested in acquiring land, housing and transportation equipment. Generally, remittances caused agricultural investment to increase, though not to the same extent as private consumption.

Large-scale repatriations caused by the decline in oil prices and employment opportunities in the oil-rich countries reversed the above tendencies. As already mentioned, agricultural investment shrank, as did aid and resident remittances.[35] Following the Gulf crisis, the return of migrant workers added to the already serious employment problems of labour-surplus countries. Furthermore, many of the returning migrants not only ceased to be a source of remittance, but they also lost much of the savings and property that they had gained abroad.

Agricultural land. The aggregate agricultural land resources of the Arab states are sizeable, consisting of about 53 million ha of cultivated arable land — of which about ten million ha are irrigated — almost 89 million ha of forest and more than 308 million ha of pasture. A notable feature of these agricultural resources is their diversified agro-ecological nature, which extends from the high rainfall areas of more than 1 000 mm and the semi-humid zone of 800 to 1 000 mm, to the semi-dry areas of 400 to 800 mm and finally the large dry zone with a rainfall of 350 to 400 mm. This diversity of resources makes it possible to grow a broad range of field crops, fruit-trees and vegetables, as well as offering a wide scope for livestock and fish production. However, such resources are unevenly distributed. While land and water constitute major agricultural resource constraints in several countries of the region (Egypt, Jordan, most Gulf states and Yemen), there is a large arable land resource base in some other countries (the Sudan, Somalia, Algeria and Morocco). Moreover, the effective utilization of these resources is hampered by a number of natural, technical and institutional constraints. Water shortages are a major impediment to agricultural development, particularly in the vast rain-fed areas that dominate the region. The problem of low precipitation is compounded by sharp year-to-year rainfall fluctuations as well as an erratic distribution of rains within the season. These factors explain the marked instability of crop production in the region. Average crop yields have also stagnated at very low levels because of the minimal application of agricultural inputs and mechanization. The fragmentation of landholdings, the lack of effective institutional structures and the increased degradation of natural resources — e.g. soil erosion, desertification, water logging and salinity — were other factors behind the stagnation of agricultural production in the 1980s.

Policies affecting agriculture

Policy interventions constitute another important factor affecting agricultural performance. The range of such policies in the case of Egypt is outlined in Table 15.

Policies in the region have generally been characterized by a strong urban bias. Food price controls, direct or indirect food import subsidization, and free or low-price food distribution schemes — often implemented through food aid — were designed to maintain adequate food supply and stability in urban centres.[36] Such policies continued to be pursued during the 1980s, despite some relaxation of government controls at the end of the decade. Overvalued currencies and distortionary multiple exchange rate systems were a major influence affecting agricultural performance. As well as weakening the competitive position of the country's agricultural exports, these policies implicitly subsidized food imports, thereby compounding the distorting effect of direct subsidies.

Such a negative bias to agriculture was partially compensated by measures to support

[35] Officially recorded remittances from migrants nevertheless remained significant in the late 1980s. They were recorded at $3.4 billion for Egypt in 1989, $742 million for Jordan in 1987 and $2 billion for Turkey in 1987.

[36] Egypt has been the largest recipient of food aid in cereals throughout the 1980s. Other countries in the region, including the Sudan, Yemen and Jordan, have also benefited from considerable volumes of food aid.

TABLE 15. **Range of government intervention policies in Egypt**

Policy areas	Policy interventions
Exchange rate policy	Fixed, artificially low exchange rate for agricultural trade
Trade control	The government prohibits wheat exports, requiring farmers to sell all supply over procurement quotas on the domestic market
Marketing board	Market price interventions: the government has a monopoly on cotton trade, both domestic and international; is the only cotton buyer/exporter; buys from farmers at fixed prices, which are typically much lower than international border prices
Credit policy	The government provides subsidized production credit to farmers through PBDAC accounts in village banks
Fertilizer policy	The government controls fertilizer trade and sells domestic and imported fertilizers at fixed prices
Improved seed policy	The government subsidizes distribution of improved seed for certain crops at fixed prices
Pesticide policy	The government controls pesticides and sells pesticides at fixed prices, which especially affects cotton farmers
Irrigation policy	Irrigation water is distributed free to all farmers for all crops; there is no direct cost recovery

the sector in the form of regulated prices, crop requisition quotas and a complex system of subsidies. The sector has also benefited from major efforts in some countries to expand land reclamation and improve agricultural infrastructure, particularly irrigation systems.[37] Although this support has helped maintain economic viability, in many cases it has proved inadequate to prevent major income inequalities within the sector; a progressive deterioration in agricultural terms of trade and farm income overall; and rural migration. State intervention has also often distorted price and competitive relationships and caused widespread resource misallocation. For instance, in Egypt such mechanisms led to a dramatic increase in the area under fodder crops at the expense of staple foods such as wheat and maize. In the Sudan, public intervention contributed to a significant decline in cotton exports, the country's major foreign exchange earner.

In recent years, however, most countries have embarked on some form of stabilization or structural adjustment programme with the general objectives of reducing current account and fiscal deficits as well as government intervention in market mechanisms. While similar in their general approach, the implementation of these programmes has varied in severity: for instance, austerity has characterized recent policies in the Syrian Arab Republic and Jordan, while a more gradual approach was followed by Egypt and Cyprus. Distortions introduced by currency overvaluation have been recognized by several countries. Significant devaluations were made, particularly since 1989, in Egypt, Turkey and Jordan, while both Egypt and the Syrian Arab Republic gradually moved toward a unified exchange rate. Divestiture and privatization have been other key elements in these programmes, particularly concerning the distribution of inputs and the liberalization of agricultural markets. Box 9 provides an example of how these new orientations affected the distribution of agricultural inputs in Turkey. Since the mid-1980s, Turkey has continued to reduce quantitative import restrictions, provide export incentives and allow for flexible exchange rate management. As another recent example, Tunisia and Algeria dismantled state farms and transferred them to private enterprises. Furthermore, Egypt is adopting new policies in support of the privatization of agricultural activities carried out by the Principal Bank for Development and Agricultural Credit (PBDAC). Egypt's adoption of a new strategic

[37] Recent examples of these efforts are the large irrigation projects in southeastern Anatolia and in the Syrian Arab Republic and Jordan, the latter being the joint construction of the Al-Wenhad Dam, which is to increase irrigation water supplies for both countries.

mix of technical, institutional marketing and price policies has also been credited for much of the large increase in its wheat production in the 1980s.

A major primary concern has been to reduce dependency on food imports through incentives to food crop production. Adjustment-related austerity has rendered the provision of such incentives increasingly difficult, however. Most countries are making efforts to control public expenditure, much of which is in the form of producer and consumer subsidies. In Egypt, prices of many subsidized food items have been raised significantly. In Turkey, the reduction of input subsidies, which started in 1983, has been pursued. The Jordanian economy, severely stressed by the recent events in the Gulf, may not allow the maintenance of food subsidy expenditure at the stable levels of 1989 and 1990.

Prospects and uncertainties of the 1990s

A number of uncertainties cloud prospects for socio-economic and agricultural development in the region during the 1990s. A fundamental concern regards the capacity of the region to increase, or at least maintain, current levels of per caput food consumption in the face of a rapidly expanding population. Demographic problems transcend agriculture but have obvious implications for food and agricultural systems. The high population growth rates in the Near East help explain the region's poor performances in per caput food production relative to most other regions. Indeed, while long-term food production trends in the region were on average comparable to those of other developing market economies, the relative rates of population growth made a difference: in the Near East, the population is currently estimated to increase by 2.9 percent yearly compared with 2.5 percent in developing market economies in the aggregate.[38] Furthermore, the large intraregional migrations associated with population pressure had a negative impact on agriculture in view of the importance of the agricultural labour force involved.

[38] Fertility rates in Arab countries are twice the world average.

BOX 9

Deregulation of fertilizer distribution in Turkey

Prior to 1984, two government agencies distributed all of the fertilizer in Turkey. Around 80 percent of the fertilizer was domestically produced. Both the ex-factory prices and prices paid by farmers were determined by the government. The difference between the costs and revenues were reimbursed by the Treasury.

The government monopoly on fertilizer distribution was terminated in 1984. Since then, fertilizer manufacture, credit and sales cooperatives as well as farmers' unions have been allowed to import and sell fertilizers to farmers. The distribution system was changed both because it was inefficient and the quality of service provided to the farmers was poor. A study of the distribution agency showed that a more efficient operation could save up to $50 million annually as a result of reduced inventories, a new network of origin-to-destination routings and a policy of shipping low-analysis fertilizers over short distances only. The quality of service provided to farmers under the old system was also not satisfactory because the agency did not provide an extension service and the product delivered was not always the most cost-effective in terms of nutrient content.

Since 1984, the new distribution system has functioned well. Fertilizer manufacturers have established their own marketing networks and have started providing farmers with extension services. Delays in payments for fertilizer purchases have been reduced considerably and greater accuracy has been achieved in estimating domestic procurement and import needs.

Migration is not a lasting solution to the region's population pressure and, in any event, regulatory policies to ensure an orderly flow of labour are lacking. Migration regulation was one of the objectives of the three regional economic groups created during the 1980s: the Gulf Cooperation Council, the Arab Maghreb Union and the Arab Cooperation Council. Despite the blow dealt these initiatives by events in the Gulf, it is to be hoped that the normalization process will permit the resumption of cooperative action in these and other areas.

Indeed, stronger intraregional cooperation and integration, objectives largely associated with political stability, are other major challenges for the 1990s. Since the pay-off for resource mobilization and agricultural investment is inherently long-term, strategies and decisions in this area depend on the prevailing conditions of economic, financial and institutional stability.

The important objectives of intraregional cooperation and economic integration should not be allowed to lose priority status because of the current difficult circumstances. Past records have already been poor in this area. In the absence of an effective framework for these objectives, including the Arab Cooperation Council which was paralysed as a consequence of the Gulf war, most countries of the region have opted for food self-reliance at the national level. This has given rise to stunning disparities in resource use. For instance, in 1985 agricultural gross fixed capital formation (AGFCF) per hectare of arable land ranged from $7 120 in the United Arab Emirates to only $68 in Tunisia. Similarly, AGFCF per caput of agricultural labour was as high as $6 198 in the Libyan Arab Jamahiriya compared with only $110 in Yemen.

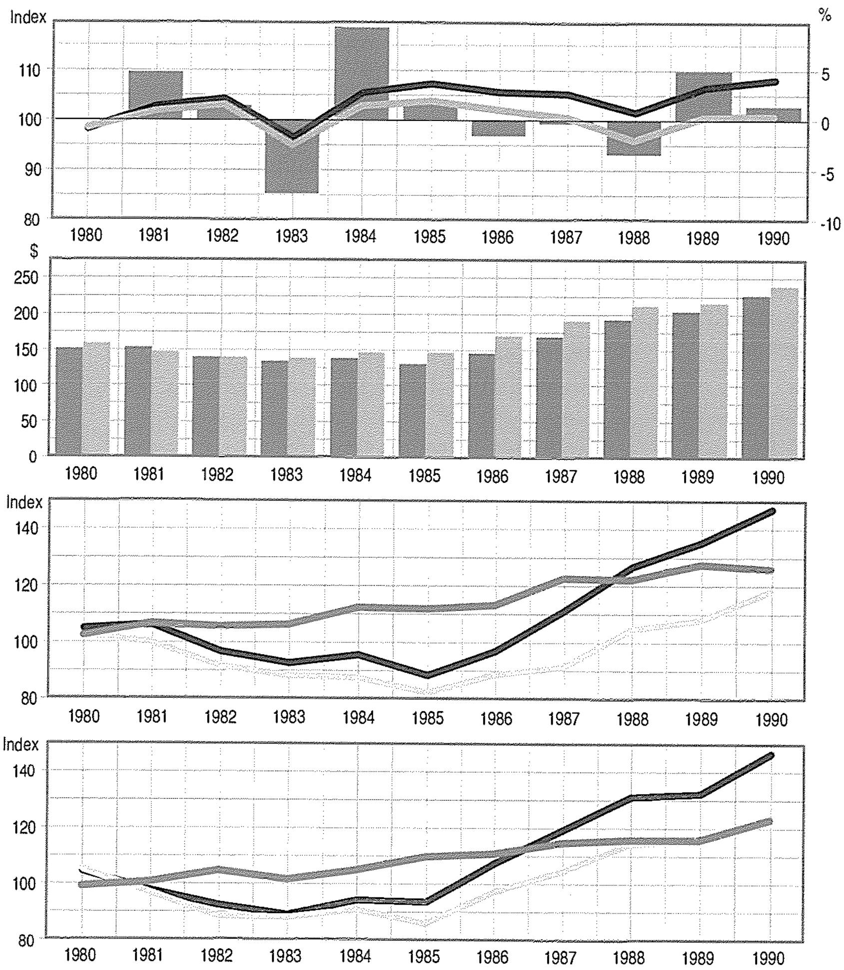
The important issue of water resources also calls for intraregional cooperation. Conflicts have developed in the past between countries sharing river waters, in particular those of the Euphrates, Jordan and Nile Rivers. These water resources are the mainstay of the agricultural systems of several countries, and dam construction and irrigation projects need to be planned and implemented while bearing in mind the concerns of neighbouring countries.

There is a major uncertainty as to how structural adjustment programmes (SAPs) and market-oriented policies will evolve in the 1990s. As already indicated, several countries have introduced SAPs affecting agricultural pricing and marketing policies but, despite some recent exceptions, progress has been slow in fundamental areas of macro-economic management. Furthermore, the record so far shows that the impact of these measures on agricultural development is not conclusive. As in many other developing countries, the political and social cost of adjustment-related austerity has often been heavy and the expected overall economic benefits elusive, thus raising doubts regarding the sustainability of these programmes.

These areas of uncertainty raise concern for the region's future prospects. Nevertheless, recent developments also offer reasons for cautious optimism. The shock created by the Gulf war has resulted in increased and concerted efforts by the international community to help achieve a peaceful and global settlement of the region's conflicts. New policy lines appear to be emerging in some oil-rich countries, suggesting that more capital will be channelled to their financially poor neighbours. These policies may be expected to help reduce the existing dichotomy in the distribution of natural and financial resources in the region. Similarly, war damages could trigger a new cycle of extensive labour mobility from the labour-surplus countries to the oil-rich states. The impact of such increased financial flows and remittances on agricultural development in the recipient countries will depend on how new policies will evolve. The challenge for the 1990s will be to mobilize and deploy these resources in effectively productive activities, while averting the pitfalls of conspicuous consumption observed often in the 1970s and the 1980s.

Figure 16 DEVELOPED ECONOMIES*

** Excluding Eastern Europe and the USSR*



AGRICULTURAL AND PER CAPUT FOOD PRODUCTION

Agricultural production growth (%)
Agricultural production index (1979-81=100)
Per caput food production index (1979-81=100)

AGRICULTURAL TRADE
(Billion US$)

Exports
Imports

AGRICULTURAL EXPORTS
(Index 1979-81 = 100)

Value
Unit value
Quantity

AGRICULTURAL IMPORTS
(Index 1979-81 = 100)

Value
Unit value
Quantity

Source: FAO and World Bank

OECD COUNTRIES AND AGRICULTURAL MARKET DISTORTIONS

Most developed countries have adopted highly interventionist agricultural policies over a long period. The primary goal has been to secure higher and more stable farm incomes and to reduce the disparity between farm and non-farm incomes. Policies aimed at easing longer-term structural problems, such as the promotion of a more efficient use of technology, resource allocation and higher productivity, have also been pursued, but to a far less degree than those aimed at short-term income support. Yet, farm support policies have generally failed in their primary objective given that real farm incomes have shown uneven, but often stagnating or even deteriorating trends. On the other hand, such policies have enabled many small farmers or marginal farms to remain in operation and so have had some social benefit. Farm support measures have taken a variety of forms: domestic price support to maintain farm incomes; protection measures such as tariffs, variable import levies, quantitative restrictions, export subsidies and promotion schemes; and interventions in factor markets such as input and credit subsidies, subsidized research and development, extension services, education and tax rebates; and several other forms of direct intervention, including disaster relief, income support, subsidized insurance and environmental payments.

The prolonged support to farm incomes has distorted resource allocation — particularly capital — in most OECD countries by shifting resources from other sectors of the economy toward agriculture or maintaining resources that would otherwise have been employed elsewhere in agriculture. Furthermore it has influenced the extent and direction of technical change in agriculture. The result has been a rapid increase in production that has by far outpaced growth in internal demand.

Externally, the increased excess supply resulting from agricultural support policies in industrial countries has depressed international commodity prices, with pervasive effects on export earnings, food imports and resource allocation in developing countries. Furthermore, countries that have tended to insulate their domestic markets from international price movements have probably contributed to increased price instability on world markets.

Even so, there are significant differences in policies and levels of support between OECD countries, ranging from the highly export-oriented countries of New Zealand and Australia, in which agricultural support is now at very or fairly low levels, to some Nordic countries, Switzerland and Japan, where high levels of farm support have also been motivated by objectives of self-sufficiency, strategic food security and rural development in mountainous or sparsely populated regions.

Although the basic thrust of agricultural policies in most developed market economies remained fundamentally unchanged during the 1980s, a number of influences supported the argument for change. These influences can be expected to become more pressing during the 1990s unless fundamental reforms are undertaken. First, agricultural support policies have led to serious oversupply in domestic and international markets for a number of commodities. This, in turn, has led to the accumulation of large stocks in some countries (for example, the United States and the EEC), which have consequently attracted widespread political criticism.

Second, the budgetary costs associated with support policies have risen, perhaps to politically unsustainable levels. This problem is to a certain extent a corollary of oversupply. Increasing budgetary costs stem from policies aimed at maintaining high internal producer prices, which induce the oversupply and depress world prices, thus creating a need for additional export subsidies.

Third, international pressure for agricultural reform has risen and there is a growing recognition of the fact that national agricultural policies, together with regional ones such as that of the EEC are not solely national issues but have major international repercussions. This has led to policy reform being addressed in international fora such as the OECD and GATT. Finally, there is an increased awareness of the environmental damage that may result from the intensive agricultural production promoted by the supportive policy regime.

Agricultural policies in the OECD

In the *United States* in the late 1970s, agricultural policies were mainly derived from the 1977 Food Security Act, under which farm support levels were generally low. Milk and beef received most of the support provided to the sector and aid to these two commodities was provided primarily in the form of market price support, with internal prices being maintained above world market levels mainly through border protection measures.

The 1980 Food Security Act led to a significant increase in support to crop producers. Its basic policy mechanisms were not new. For cereals, oilseeds and cotton, the support mechanisms were: deficiency payments calculated on the basis of a target price which was designed to secure farmers a "reasonable income"; a loan rate which established a floor price below which farmers should not have to sell and at which government agencies would be willing to purchase and hold stocks; and the farmer-owned reserve (FOR) for longer-term storage of cereals. New aspects of the 1980 legislation were the relatively high levels set for nominal minimum target prices and loan rates. As international market prices fell after 1981, the loan rate came to constitute a full-fledged support measure rather than a safety net provision as was previously the case. As a result, publicly held stocks rapidly increased. At the same time the target prices generated large deficiency payments and high treasury costs. As the loan rate maintained prices above market-clearing levels and the US dollar appreciated after 1985, agricultural exports decreased, causing the United States to lose world market shares.

These problems led to policy adjustments during the period 1981-1985. Supply controls were applied in the form of acreage reduction measures, both paid and obligatory for those who participated. Farmer participation also was required in order to qualify for other elements of the commodity programmes. After 1985, target prices and loan rates were lowered or frozen but did not prevent price support through the loan rate from remaining substantial or deficiency payments from being high. Throughout the 1980s, a series of export promotion initiatives were taken, including the increased use of instruments such as export credit guarantees. A new Export Enhancement Programme (EEP) introduced targeted export subsidies.

The 1985 Food Security Act was shaped in response to a situation of severe financial difficulties in the farm sector. These difficulties were the result of depressed agricultural exports, high interest rates, supply surpluses, increased farm programme costs and reduced market shares for United States agricultural exports. There was also growing public concern about environmental damage through erosion and excessive use of chemicals in agricultural production.

The 1985 Food Security Act signified the beginning of a movement away from market price support and toward greater reliance on direct payments to farmers. This was achieved by tying the loan rate to a formula based on a moving average world price, with the secretary of agriculture authorized to lower loan rates further, while farm income support was maintained by initially freezing target prices for 1986 and 1987 and allowing for a slow decline thereafter. In addition, the legislation continued supply controls through Acreage Reduction Programmes (ARPs), participation in which remained a condition for a farmer's benefiting from other elements of commodity programmes. The Act also strengthened export promotion measures, including use of subsidies. In the 1985 Act, a novelty reflecting environmental concerns was the Conservation Reserve Programme, a long-term retirement scheme for erodible land.

The 1990 Farm Bill continued the basic thrust of previous legislation. Target prices were frozen at the 1990 level, thus abandoning the downward trend under the 1985 Food Security Act, while the new formula for loan rate adjustments will probably lead to higher rates. This constitutes a certain retrenchment from the increased market orientation of the 1985 Act. Export promotion efforts were to be continued while the Conservation Reserve Programme was modified and expanded. Alongside the Farm Bill, budgetary legislation aimed at significantly reducing agricultural expenditure was passed. This reduction would be achieved through various fees and levies on producers of certain crops and the elimination of deficiency payments on 15 percent of base acreage. There were provisions included, however, authorizing changes in domestic price and income support as well as export programmes in the event that no agreement on agricultural trade reform was reached in the Uruguay Round of multilateral trade negotiations (MTNs).

The orientation of *Canadian* agricultural policies remained fundamentally unchanged during the 1980s. Canadian agriculture is highly regulated. Both federal and provincial governments operate programmes covering marketing and transport price and income support, supply management, credit and inputs. Partly as a response to low international prices, measures designed to secure short-term farm income were emphasized, thus leading to major increases in budgeted expenditure. The increased expenditure partly reflected the automatic activation of existing policy instruments, but also new support measures. A major agro-food policy review was pursued through 1990 and was expected to lead to legislative action in 1991. Important environment measures were introduced in 1989 and 1990, aimed at reducing the erosion of high-risk land. These included a programme to convert marginal land to the growing of perennial forage or trees.

The cornerstone of the Common Agricultural Policy (CAP) of the *European Economic Community*, in operation since the 1960s, is a system of price management aimed at preventing prices received by producers from falling below a target level. This purpose is achieved by three types of instruments: intervention purchases at guaranteed prices; variable import levies; and export subsidies to dispose of excess supplies on the world market. The specific policy instruments utilized vary according to commodities. For the most important commodities, the whole array of policy instruments is applied. For others, support is provided mainly through protection measures. For still others, processing subsidies and direct payments are paid in the aim of improving production and marketing structures and promoting rural development. Price supports are supplemented by structural policies, also aimed at improving production and marketing structures and promoting rural development, though these are far less important in terms of expenditures and their impact on agriculture. Nevertheless, they have received increased support in very recent years and are expected to grow in importance in the future. The effect of the CAP has been to insulate the EEC market for agricultural products from international price movements and to keep internal prices well above international price levels.

The main pressure for change in the CAP during the 1980s came from the problem of oversupply and associated budgetary costs. At the time when the CAP was established, the community was less than self-sufficient in most major agricultural products. Therefore, a policy of high food prices was an administratively simple way of subsidizing farm incomes, since the cost was directly paid for by the consumers. As agricultural production increased and oversupply emerged, the budgetary costs of the CAP assumed major proportions, although consumers still paid a major part of the cost of the CAP.

The most important change to the CAP during the 1980s was the limit on open-ended guarantees allowing producers to buy at guaranteed prices. The instruments of policy change included stabilizers on Maximum Guaranteed Quantities (MGQs), which trigger automatic reductions in intervention prices for current or following years if total production exceeds these quantities. In the case of milk, absolute production quotas were assigned to countries and to individual producers within each state. Co-responsibility levies, paid by producers and linked to production levels, as well as more restrictive conditions for market intervention purchases were the other measures introduced. However, these measures proved insufficient to reduce oversupply, and budgetary expenditure on the CAP doubled between 1980 and 1987 as international food prices declined.

After prolonged negotiations, further measures were introduced in February 1988. These included a ceiling on budgetary expenditures on price supports; an extension of the MGQ system; and further levies for cereals. To complement these measures, a set-aside programme was introduced that offered direct payments to producers who voluntarily choose to withdraw land from production. Direct income support to producers was included as a safety net for farmers who were the most affected.

In summary, the changes to the CAP during the 1980s consisted of adjustments to the system, though the basic structure of agricultural policies remained in place. In spite of the use of MGQs with automatic price reductions, set-aside programmes and restraint in producer price increases, the problem of oversupply remains while internal EEC price levels are still well above world market prices. In the late 1980s, rising world market prices did indeed induce some temporary savings in expenditures on the CAP. But the softening of world prices again in 1990 led to a resumption of the upward movement of expenditures.

The other *Western European* economies also have generally high levels of agricultural support, reflecting, *inter alia*, the importance of food security as a national objective as well as the preservation of rural communities in remote areas or difficult natural conditions. Overall, no major shifts occurred in the direction of these countries' agricultural support policies, although numerous adjustments were adopted, particularly in the form of supply control measures.

However, at the end of the decade some significant policy changes emerged. In *Sweden*, for example, a new food bill was introduced in 1990 to phase out the support system and export subsidies gradually, while reform of agricultural policy was to await the outcome of the Uruguay Round. Food security, regional policy and environmental objectives will be pursued through targeted, budget-financed measures rather than by high consumer prices. In 1991 the *Norwegian* Government planned to consider strategies for agricultural policy reform in the light of the findings of a government-appointed committee. In *Switzerland* a commission's report on direct payments proposed the granting of direct payments which are not linked to production but are aimed at protecting farm incomes and encouraging environmentally sound farming practices.

Japan is the largest net importer of agricultural products in the world, despite high levels of support to its farm sector. National food security and income parity between farm and urban households represent the key objectives of agricultural policy. Price supports, import quotas and tariffs are the major means for assisting agriculture. Although support prices remained very high compared with international prices, oversupply for some commodities has led the Japanese Government to reduce or freeze support prices for some products. A more general reduction in support prices was undertaken during 1987 and 1988, then halted in 1989. However, in 1990 the movement toward a reduction of support prices was resumed and prices of most commodities were reduced by 1 to 4 percent.

A number of measures were taken to reduce formal trade restrictions. These included tariff reductions for various products, associated, *inter alia*, with the accelerated implementation of measures agreed on at the Tokyo Round. Quantitative import restrictions on certain agricultural products were removed and quotas for others expanded.

The emergence of excess rice production in the late 1960s led to measures aimed at diverting land from rice to production of other crops. Policies to this effect were also pursued during the 1980s through the Paddy Field Reorientation Programme (1978-1986) and from 1987 by the Paddy Field Farming Establishment Programme. Both of these programmes actively encouraged production of other crops, some of which also receive high rates of assistance. At the same time, policies aimed specifically at increasing productivity, improving distribution, promoting the introduction of more efficient technology and fostering more efficient farm units have been pursued both for crop and livestock production. In spite of some efforts made during the 1980s to change the policy framework, increase efficiency, reduce prices and introduce a degree of trade liberalization in some sectors, overall support to agriculture is still very high.

New Zealand undertook the most radical steps toward agricultural policy reform in recent years. In the early 1980s overall support to agriculture was relatively very low. But as world market prices fell, assistance to agriculture, mainly through minimum price support schemes, rose significantly, reaching a maximum in 1983. In 1984 the government introduced a broad reform of economic policy that strongly reduced and altered the nature of public intervention in the economy. Numerous subsidy schemes on outputs, inputs and credit were phased out and charges for various government services introduced. By the end of the decade, output subsidies on the major agricultural subsectors had been virtually eliminated and the remaining price stabilization schemes funded by producers. Only a few input subsidies persisted, and most support was confined to general services (research and extension, pest and disease control, infrastructure).

In *Australia* levels of support to agriculture also remained generally low throughout the decade. Some increase occurred at the beginning of the 1980s as a result of protection provided against falling world market prices, guaranteed credit to marketing boards and continued tariffs on imports of selected food products. The general thrust of policy, particularly during the second half of the decade, was to reduce protection and support.

In order to monitor developments in support to agriculture, the OECD has adopted the concept of producer subsidy equivalents (PSEs). PSEs are designed to measure all support to agriculture, whether paid by consumers through higher prices or by taxpayers through government budgets. Percentage PSEs express support as a percentage of production value at domestic prices as well as measuring the rate of support to producers. OECD estimates of

PSEs reveal that in all industrialized OECD countries, with the notable exception of New Zealand, the rate of support to agriculture at the end of the 1980s was either above or at approximately the same level as at the beginning of the decade. Thus, despite pressures for agricultural reform, no overall decline in rates of support to agriculture took place over the decade, rather there was some increase.

The OECD data, furthermore, show a great disparity in rates of support among OECD countries. Three main groups are distinguished (based on 1989 data):

- a low-support group with average percentage PSEs of 10 percent or below: New Zealand and Australia;
- a middle group with percentage PSEs between 25 and 50 percent: the United States, Canada, the EEC, Austria and Sweden;
- a high-support group with average percentage PSEs above 70 percent: Finland, Japan, Norway and Switzerland.

Policy issues in the 1990s

Agricultural policies in OECD countries faced mounting pressure during the 1980s as a result of problems of oversupply; their increasing budgetary costs; rising international pressure for their reform; and increasing awareness of environmental problems related to agriculture. Some movement toward reform did take place during the decade but, with a few exceptions, no radical break with past policies occurred. At the end of the decade there were indications that reform is under way in a number of countries, but that the achievement of fundamental reforms in agricultural policies will most likely be a gradual process.

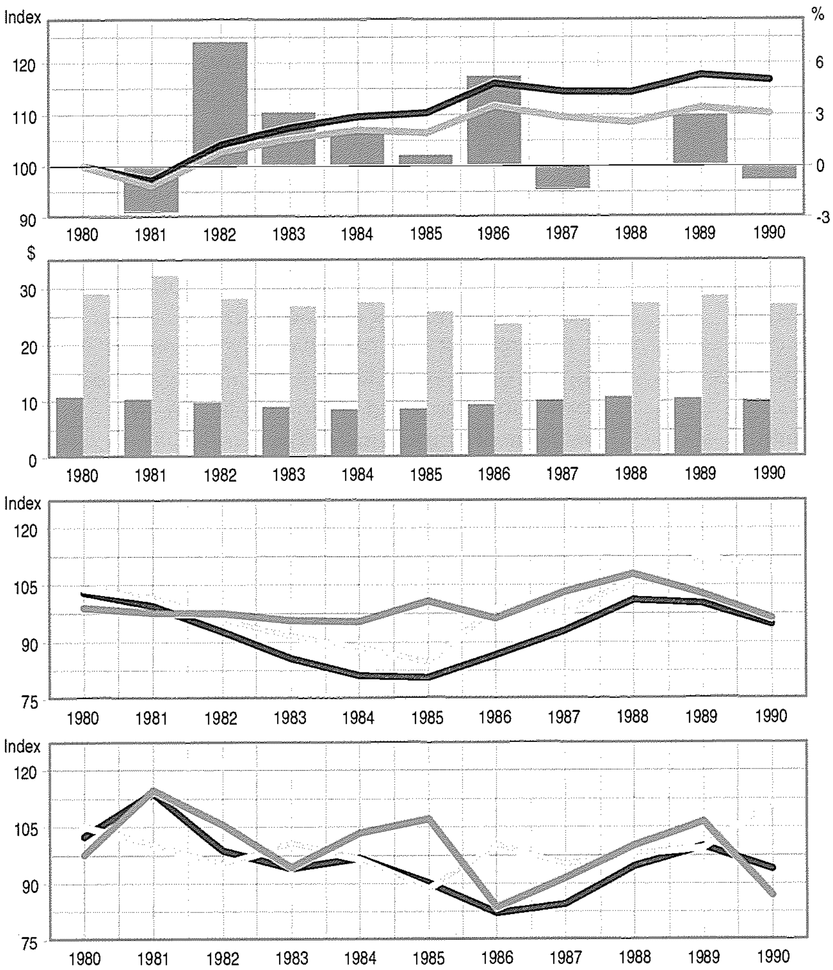
The challenges facing OECD agriculture at the beginning of the 1990s are significant. The basic task is strengthening the process of policy reform and structural adjustment in agriculture, with the objectives of reaching more market-oriented agricultural policies and increasing the competitiveness of product and factor markets. Three main challenges are likely to shape the nature of reforms during the 1990s: i) redefining the role of agriculture in maintaining the fabric of rural society; ii) reassessing the role of developed country agriculture in international trade; and iii) ensuring the observation of environmental values.

Any substantial reform of agricultural policies toward greater market orientation and reduction or elimination of the distortive effects of government intervention will necessarily lead to major adjustments in the use of land, labour and capital. This underlines the need for viewing agricultural policy reform in the context of overall rural development goals. One of the major challenges facing policy-makers is thus to assess the role and contribution of agriculture in the overall development of rural society and food systems, and to design agricultural policies with a view to reaching development goals in the most efficient and cost-effective way.

A second major challenge is reassessing the role of developed country agriculture in international trade. Any serious policy reform must be based on the concept of greater integration of agriculture into an open multilateral trading system. Indeed, making the sector more responsive to international market forces constitutes a prerequisite for eliminating or reducing the costs to consumers and taxpayers of agricultural policies. At the same time, the elimination of the distortive effects of agricultural support policies on international agricultural trade can set the basis for sound agricultural development at the global level. However, developed country farm policy reform is also bound to have significant food security repercussions worldwide. A global tightening of agricultural markets and higher prices may in the longer term encourage domestic producers and reduce import dependence in those developing countries that have agricultural potential. In the short term, however, higher food prices may have a severe negative impact on net food-importing developing countries' external balances and food prices.

Confronting the negative environmental impact of capital-intensive farming practices constitutes the third major challenge. The problem of transition to lower-input, environmentally sustainable farming practices has begun to be addressed in a number of developed countries. However, numerous problems remain in applying principles of environmental policies to agriculture and in securing the effective integration and harmonization of agricultural and environmental policies. On the one hand, the deleterious effects of intensive agricultural practices have to be better quantified to assess the appropriate type and severity of the environmental policy measure to be applied. On the other hand, the impact of environmental policies on agricultural policy objectives — levels and mix of output, producer incomes, consumer prices, land-use patterns, the welfare of rural communities — also needs to be assessed.

Figure 17 EASTERN EUROPE AND THE USSR



AGRICULTURAL AND PER CAPUT FOOD PRODUCTION

- Agricultural production growth (%)
- Agricultural production index (1979-81=100)
- Per caput food production index (1979-81=100)

AGRICULTURAL TRADE
(Billion US$)

- Exports
- Imports

AGRICULTURAL EXPORTS
(Index 1979-81 = 100)

- Value
- Unit value
- Quantity

AGRICULTURAL IMPORTS
(Index 1979-81 = 100)

- Value
- Unit value
- Quantity

Source: FAO and World Bank

USSR AND EASTERN EUROPE

Following the dramatic political changes of the late 1980s, the USSR and Eastern European countries also made radical changes in economic management. These changes have affected their agricultural sectors, moving them toward freer markets and a greater openness to international trade. It is too early to assess the impact of the new policy framework, but its general direction can be analysed.

General characteristics of socialist agriculture
Prior to the above policy changes, the agricultural and food sectors of Eastern Europe and the USSR shared many similarities, but there was also considerable diversity. The planned economies' agricultural sectors were characterized by a generally large farm size; state ownership of land and resources; a high degree of government administrative control over production and pricing decisions; and centrally planned allocation of resources.

In general, agriculture in the USSR and Eastern Europe has been characterized by large production units: most socialized farms covered from 2 000 to 18 000 ha, depending on type and country. In the early 1980s, Bulgarian farms were especially large, aggregated into "agro-industrial complexes" which averaged 13 000 to 14 000 ha. Soviet socialist farms averaged 12 000 ha. Production units in Czechoslovakia, the former German Democratic Republic, Hungary, Poland and Romania were smaller, although still quite large and in the range of 3 000 to 6 000 ha. By contrast, in Poland, which had by far the largest private sector in the region, private farms in the 1980s accounted for over 70 percent of landholdings, but the average holding size was only slightly more than 4 ha. In the other countries, private agriculture consisted almost entirely of personal plots farmed, but not owned, by socialist farm workers, and which were usually much less than 1 ha. Nevertheless, they contributed important shares of total output of some farm products such as eggs and vegetables.

The three main forms of socialist agricultural units were state, collective and cooperative farms. In Czechoslovakia, Hungary and Romania, state and cooperative farms predominated, while in the USSR state and collective farms were the main types of farm organization. On the other hand, in Bulgaria and the former German Democratic Republic, farms were mostly cooperatives. However, for many of these countries, the differences existed more in form than in practice, and by the early 1980s the real distinctions had largely disappeared. Hungarian cooperative farms were an exception, as they operated far more independently of the state than socialist production units in other countries.

The food economy in centrally planned countries formerly involved numerous government ministries responsible for planning the agro-industrial sector. The Ministry of Agriculture had direct responsibility for farm production. Other ministries with important roles included those responsible for agricultural machinery, fertilizer and food processing equipment as well as ministries responsible for construction, transportation, food processing and internal and external trade. Ministries coordinated their activities through the central planning mechanism. The countries with this broad institutional structure in the early 1980s were Czechoslovakia, the German Democratic Republic, Poland, Romania and the USSR.

Other countries experimented with different forms of coordination. Bulgaria eliminated its Ministry of Agriculture in 1979, replacing it with the National Agro-industrial Union, which had the responsibility of integrating and controlling the planning process for the entire food system. In November 1985, the USSR temporarily introduced a similar institutional arrangement, the State Agro-industrial Committee (GOSAGROPROM), as the central managerial body for the Agro-industrial Complex replacing the Ministry of Agriculture and other sector-related ministries. In contrast, Hungary granted considerable autonomy to farms as a part of a reform programme providing economic incentives for farm managers to forge a plan consistent with national goals. This approach was made possible because Hungarian farms had a more competitive market for inputs and outputs than other countries in Eastern Europe.

Planners set agricultural producer prices which were based on the average production costs plus a fixed profit margin. Prices for basic food products sold through the state retail network were also set administratively, usually at subsidized levels below production costs, and were generally fixed for long periods. However, some food was sold through other channels at unsubsidized prices. The most important alternative marketing channels were consumer cooperative organizations and farmers' markets. Prices in these markets were influenced by supply and demand conditions and were generally well above official prices.

While farm input prices were set as costs plus a profit margin, the price a farm paid for them was often subsidized by the state and so increases in input prices were not usually passed on to the farm. In this way, domestic prices were insulated from world markets and, when inputs were purchased or products sold on these markets, transactions were charged or credited to the farm enterprise in domestic prices. Bulgaria, Czechoslovakia, the German Democratic Republic, Poland, Romania and the USSR followed this practice. Insulation from international prices was less marked in Hungary where some prices were fixed, others allowed to fluctuate within a range and still others unregulated. As a result, Hungarian prices were revised more frequently.

State allocation of resources, according to which government agencies planned production-input use and investment, was a key characteristic of CPEs. Control of resource allocation allowed sectoral growth rates to be set in line with state decisions. For example, the agricultural sector received an allocation of tractors, combine harvesters and trucks etc., and the appropriate ministry assigned these resources to farms and other enterprises. These allocations were often based on technical norms that specified the optimal mix of inputs for different types of production units.

In this context, investment funds were allocated by central authorities to the different sectors based on the production capacity required. For each sector, projects were appraised to determine how the investment fund was allocated. In fact, the agricultural sector received an increasing share of resources during the mid-1970s and through the 1980s. Investment projects concentrated on production, although their effectiveness was undermined by inappropriate combinations of inputs (i.e. too many tractors with too few implements, or fertilizer with insufficient pesticide). Planners tended to select large-scale projects, such as irrigation projects and industrial livestock facilities, paying scant attention to their environmental impacts. The agricultural input industry and food processing and food marketing organizations received small allocations of investment given their potential importance, and this lack of attention has proved costly. This pattern of resource allocation applied less to Hungary, where investment funds and inputs were heavily influenced by the state but were not directly assigned.

Agricultural performance during the 1980s

Production growth of agricultural products and per caput food commodities compared favourably to that of developed non-planned economies, but two areas of difficulty overshadowed gross production performance: production costs and actual food availability.

Production growth was achieved only through excessive commitments of resources. Thus, net value added in the agricultural sector declined throughout the decade and many studies document the low growth of total factor productivity in agriculture: growth was based on the use of more resources, not on more efficient combinations of these resources.

In terms of food availability, there were increasing quantities of traditional agricultural products, but not enough to satisfy demand in most countries, with the exception of Czechoslovakia, Hungary and the German Democratic Republic. Growth of per caput consumption of food during the 1980s compared favourably with world trends. However, the growth rates fail to capture the poor quality of food, its limited diversity and the generally high rates of loss and wastage. Rapid nominal income growth and low and stable food prices, combined with the limited availability of non-food consumer goods, stimulated the demand for food to the extent that, despite the relatively high levels of food production and consumption, this demand remained unsatisfied.

Agricultural policy reform in the 1980s

In the 1980s, there was growing dissatisfaction with food supplies. This dissatisfaction led to the introduction of numerous reform programmes to improve agricultural performance but, by 1989-90, these reforms were overtaken by much more radical steps that sought to replace the planning mechanism with markets. The USSR, Poland and Hungary provide contrasting examples of such reforms.

In the *USSR*, the need for reform of agriculture and food market policies had became particularly strong during the 1980s.[39] Growth rates of agricultural production, though positive, remained disappointing in relation to the massive investment allocated to the sector. Because the government was committed to stable retail food prices, subsidies to agriculture also continued to grow and, by the middle of the decade, contributed significantly to the state budget deficit. By 1990, food subsidies were budgeted to cost 96 billion roubles, but actually amounted to 115 billion roubles or about 12 percent of GDP. By the beginning of the 1990s, retail food markets were out of balance, with extensive rationing within the dominant state marketing network and high food prices outside it.

Policy changes introduced during the 1980s did little to stop conditions from worsening in the USSR, both for agriculture in general and the food subsector. Adjustments in financial and price policies in agriculture actually increased irrationalities in the price structure and financial constraints. Procurement prices based on costs became even more detailed to the point that individual farms received different prices. The rationale behind this approach was that unprofitable farms only needed sufficient resources to improve their performance. But by virtually guaranteeing profitability for every farm, government policy greatly weakened the incentive to restructure and reform management. In addition, there is little evidence that the traditionally weak link between productivity and remuneration in agriculture was appreciably strengthened.

In the context of these difficulties, attempts were made to improve both vertical and horizontal integration within the agro-food complex by adjusting traditional administrative structures. These attempts failed to improve coordination among subsectors or to make resource allocation more efficient. Despite the need to shift investment away from agricultural production toward food processing and marketing, little change occurred in practice.[40] Interregional resource allocation also remained inefficient during the 1980s, with disproportionately large investments going to high-cost production regions such as the Non-Black Soil Zone of the Russian Republic.

The increasing imbalances in food markets in the USSR were partly a result of the inability to increase agricultural production fast enough, but were even more a result of pricing and monetary policies. The large increases in the state budget deficit beginning in 1986 were financed largely through money creation, with direct inflationary impact, for nominal money income increased by over 50 percent between 1986 and 1990. Because there were only small increases in retail food prices set by the state, food demand increased significantly, precipitating shortages in various parts of the country.

Excessive growth in the money supply also disrupted interregional trade in agricultural commodities. Because prices largely remained controlled, as inflationary pressures grew it became increasingly unattractive to sell agricultural commodities. Facing rapid growth in their own food demand, republics and regions with agricultural surpluses became reluctant to trade food commodities with neighbouring republics. As an example, sales of meat into central food reserves dropped by roughly 20 percent in 1990. Such situations led to declining meat availability in net food importing regions such as Moscow, Leningrad and the Urals.

The need for more radical policy reform in the USSR was clear by the beginning of the 1990s. Proponents of a market system argued that only prices negotiated between buyers and sellers could restore balance to the economy and make efficiency gains possible. Opponents of free market prices feared that abandonment of administrative price control would unleash an inflationary spiral and result in serious disruptions throughout the economy. In 1991 the latter position seemed dominant in USSR policy-making. The prices of most major agricultural commodities continued to be controlled and farm profitability rather than farm efficiency remained the focus of producer price policy. Few steps were taken to tighten financial constraints on farms or to free internal trade in agricultural products. Major increases in retail prices were enacted in April 1991, which reduced the gap between official and potential market-clearing prices but, until most retail prices are decontrolled, this gap is likely to expand again.

The basis for the development of private farming in the USSR was set by legislation in 1990. However, growth of the private sector is likely to be slow because land available for private farming remains limited, as few state and collective farms have been forced to

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[39] J. Butterfield. 1990. Devolution in decision-making and organizational change in Soviet agriculture. *In* W. Moskoff, ed. *Perestroika in the countryside: agricultural reform in the Gorbachev era*, p. 19-46. Armonk, New York and London, M.E. Sharpe; and A. Pouliquen. 1990. Normative planning in Soviet agriculture. In K.-E. Wadekin, ed. *Communist agriculture: farming in the Soviet Union and Eastern Europe*. p. 147-167. London and New York, Routledge.

[40] Agropromyshlennyy kompleks SSSR, *Finansy i statistiki*, p. 27. Moscow, 1990.

restructure. Further, the credit available for investment can only support a gradual expansion of the private sector. Thus, private farmers remain very dependent on local administrative authorities and neighbouring state and collective farms for access to inputs. Little progress has been made in reforming either food marketing or agricultural input and service industries. If the administrative planning system is to be replaced by a market system, these sectors must be made competitive. Debate continues over how this will be achieved.

Poland's experience with reform of its food system during the 1980s reflected the country's unique combination of a numerically large private farm sector surrounded by state-owned, centrally planned enterprises. Poland entered the 1980s with dramatic declines in food production and consumption. Policies begun in the 1970s favoured the socialized sector, leaving the private sector undercapitalized. Meanwhile, the socialized sector was flooded with inefficient investment projects and increasing bureaucratic interference. Food availability increased only thanks to agricultural imports financed with Western credit. In the early 1980s the food economy was unable to maintain production levels as credit tightened, imports declined and economic growth stagnated. The volume of food imports, which had almost trebled between the 1970s and 1980s, more than halved again by 1987. Policy reforms attempted to improve conditions for the private sector; return financial discipline and autonomy to the socialist sector; eliminate monopolies in the agricultural input and processing industries; and balance supply and demand conditions through price increases.

The government attempted to increase private farmer incentives through reduced restrictions on inheritance rights for agricultural land. Private farmers were also given greater opportunity to purchase land from the state. However, the state still effectively controlled landownership and could discriminate in land sales through selection, financing and input availability. Nevertheless, private farmers responded to the reforms with increased output, especially of grains. But continued interference with prices and input supplies and imbalances decreased farm incentives, and output stagnated again by the mid-1980s.

In the dramatic reforms of late 1989 and 1990, most restrictions on landownership and inheritance rights were removed. Since private landownership was already widespread, land-tenure issues in Poland were not so important as in the other countries in the region. However, even with these liberal ownership policies, the land market in Poland has not been dynamic. Uncertain economic conditions and underdeveloped credit markets have kept land sales to a minimum. The government's main land-tenure concern has been farm size. While there is no active policy to allow farms to adjust to a more efficient size, in effect the policy of minimum government intervention could result in inefficient farms being purchased by more successful farmers. State farms will be treated as any other state enterprise for privatization.

While Poland's landownership pattern differed radically from that of the other planned economies in the region, its price policies did not. Producer, consumer and input prices were all administratively set, with the markets for farm output, inputs and food insulated from each other. The government used price policies as the main tool to affect rural/urban income parity. The combination of high producer and low consumer prices required large subsidies from the state budget.

It proved difficult, however, for the Polish Government to balance the price policies required to meet its social goals. Producer price increases would raise farm income above urban levels, then increases in input prices would cause it to fall below urban levels once more. A policy of wage growth, unrelated to productivity in industry, built an inflationary bias into both the industrial and agricultural sectors. Attempts to increase consumer prices often brought social unrest slowing their increase. Thus producer prices rose faster than consumer prices, dramatically increasing the budgetary deficit in an already inflationary environment. Administrative pricing — which grew in nominal money income terms — slow growth in productivity and external financial constraints resulted in growing shortages and increasing inflationary pressures.

In mid-1989 the government freed most agricultural prices. Food prices rose dramatically, fuelled by increases in the money supply and rising wage demands by workers. The domestic currency rapidly devalued on the black market and farmers chose to hold commodities rather than exchange them for the declining currency. In early 1990 the government freed most remaining prices, discouraged wage growth and pursued a policy of tight monetary and fiscal control. Inflation slowed within a few months and farmers began to market commodities again. Consumer demand for food fell dramatically as real food prices rose and income declined. Consequently, farmers faced weak consumer demand and mounting surpluses of products and were squeezed between the monopsonistic food processors and the monopolistic suppliers of inputs. High retail prices for food did not necessarily feed back to farmers and declining demand for food and inputs did not result in lower prices. Although no longer state-directed, the private, newly competitive farm sector remained surrounded by imperfect competition. Former state monopolies became independent monopolies. The state attempted to create competition by breaking the large monopolies into many small regional enterprises and eventually opening the frontiers to trade, but regional enterprises merely became local monopolies and foreign firms have not yet moved into the Polish market because of the legal and economic uncertainties.

The input and processing sectors are underdeveloped from years of underinvestment and insulation from consumer preferences. Private entrepreneurs, whose numbers are growing rapidly, have yet to accumulate the capital needed to compete with these large organizations, and domestic capital markets are only now being formed. The government's privatization programme may help by securing sales to domestic and foreign investors, but the programme is expected to take several years.

Hungary began agricultural reform much earlier, in 1968, and entered the 1980s with the most market-oriented agriculture in the region. It employed a planning framework that used financial incentives rather than command instructions for the agricultural sector. As a result, Hungarian agriculture was characterized by good production growth and plentiful supplies of food for domestic and external markets. But during the 1980s, low world market prices, stagnant domestic demand, and lagging food processing and marketing sectors reduced farm income and export competitiveness. Policy reforms were implemented, focusing on improving productive efficiency, aligning domestic and international prices and making supply more responsive to world and domestic demand. Hungary faced fewer structural problems in the food sector than other East European countries, but by 1990 it still had to introduce extensive reform in response to foreign debt and uncompetitive industry.

Land was never nationalized in Hungary. Farms were established on a cooperative basis and resembled Soviet collective farms, but members theoretically retained landownership rights to the land they brought into the cooperative, which owned all other assets. Cooperatives in the Hungarian policy environment were aggressive in introducing new technology and pursuing profitable activities. Although Hungary's agricultural sector was efficient compared with those of other East European countries, it still supported inefficient farms and extended excessive credit on concessional terms. Easy credit lowered overall efficiency and contributed to rapid growth in the money supply. As world market conditions tightened during the 1980s, greater efficiency was needed in order for farmers to compete profitably. The Hungarian Government therefore tightened credit availability and introduced a bankruptcy law. Large farms reacted to tighter credit by increasing self-financed investment, thereby encouraging efficiency through greater self-interest, but the bankruptcy law had little impact because unprofitable farms continued to receive government support. To limit monetary growth, large cooperative farms faced restrictions on wage and income growth, but this also slowed growth in labour productivity.

In 1990, the Hungarian Government declared its intention to pursue a market-oriented economic system based on private ownership. In agriculture, land rights were validated with the advent of the 1945 land reform. Cooperative members can decide to keep their land in the existing cooperative or remove it in order to pursue independently other activities related to agriculture. All other assets and land owned directly by the cooperative (60 percent of all cooperative land falls into this category) will be valued and distributed to members. All assets will be marketable, but some restrictions have been placed on land markets to prevent speculation. Privatization of other sectors, including some but not all of the state farms, will be carried out under the government's privatization programme.

In the early 1980s prices were administratively set, following the pattern of a traditionally planned economy. Producer prices were set at relatively high levels to guarantee rural incomes, and farms in environmentally disadvantaged areas received even higher prices. Consumer prices were subsidized below production costs to provide urban dwellers with low-cost food. Input prices were set using the cost-plus-profit formula, though some inputs were subsidized by the state. The government had difficulty in fine-tuning these relative prices to keep domestic markets in balance, although to a lesser degree than the other countries in the region.

By the early 1980s, the Hungarian Government recognized the growing economic inefficiencies of setting prices with little regard to world market conditions. Therefore, a concerted effort was introduced to align domestic with international prices and the government started phasing out subsidies to consumers and producers. Greater competition from imports was allowed to help align input prices with world prices. With the 1990 reforms, the government removed or reduced all remaining subsidies. To prevent dramatic price swings, some minimum producer prices were set, but apparently these have been ineffective or unenforceable. Consumer prices of food rose significantly and demand dropped, but consumer prices have not fallen much in response, although their rate of increase has been less than that of prices overall. Input prices also rose while farm demand declined, but they have not yet fallen back as expected.

Hungary's recent experience with price liberalization demonstrates the negative effects of underdeveloped, highly concentrated processing and input supply sectors. The food processing sector received little investment by Western standards and domestic competition, though greater than elsewhere in Eastern Europe, is still limited. It is argued that the inefficient food processing sector drives up consumer prices more than is justified by increased farm costs, thus reducing demand further. In addition, when consumption declines, the processors and retailers maintain prices and decrease farm purchases, which is traditional behaviour for monopsonists. Historically, these firms have not innovated in the processing, packaging or marketing of their output and thus do not stimulate domestic demand. They also are not as competitive as they could be in international markets. Similar problems are found in the input supply sector.

The government's privatization programme should increase competition and improve conditions, but the process will be slow. The government's goal is to privatize 50 percent of the economy by 1993. The lack of domestic capital and the large size of firms, however, means that privatization will likely require extensive foreign participation.

Prospects for the 1990s

These three country cases show the diversity in scale of the problems the countries of this region face in their transition to a market-oriented agricultural economy and records their varying progress in accomplishing this task so far. The prospects for the food and agricultural sector are correspondingly difficult to assess. There appear to be two key issues at hand: land tenure, which requires well-defined and legally recognized property rights; and price liberalization, which underlies a market-oriented system where competition plays a full role.

The issue of land tenure revolves around the degree to which the private sector will be permitted to exist in practice and on the willingness of individuals or groups to accept the risks and liabilities of private ownership of agricultural assets. Such permission and acceptance seems more likely to be found in the countries of Eastern Europe, with their much shorter history of state control, than in the USSR. Indeed, some countries such as Poland and, to a lesser degree, Hungary, already had a large private or cooperative farm sector on which to build, even if it had been severely discriminated against in Poland.

Price liberalization is essential to bring about a better balance of food supply and demand; reduce subsidies and hence government fiscal deficits; and stimulate investment in the appropriate subsectors. Input supply and food processing and distribution facilities are priorities for investment. Without price reform, the abolition of monopolies will not improve allocation of resources, which points to the importance of reforms that introduce price liberalization and competitive market structures simultaneously.

The corollary of price liberalization is free markets, both internal and external. The success of the policy reforms already under way or being debated, and the production response they achieve, will determine the impacts of these reforms on world markets. Potentially these impacts could be significant by the late 1990s, although they are difficult to predict with precision. On the one hand, more rapid economic growth will stimulate food demand, currently rather depressed by higher prices, which will have a price-increasing effect on food commodity markets. On the other hand, significantly increased agricultural production may lead to exportable surpluses, which may have a price-depressing effect on international markets for some temperate food commodities.

AGRICULTURAL POLICIES AND ISSUES: LESSONS FROM THE 1980s AND PROSPECTS FOR THE 1990s

III. Major policy challenges for the 1990s

RURAL POVERTY: PROGRESS AND STRATEGIES

While various studies documented a reduction in the incidence of rural poverty during the 1980s (the proportion of the poor in the rural population), the total number of rural poor increased.[41] Moreover, the vast majority of the poor still live in rural areas. Most of them are concentrated in areas with high population densities, such as the Gangetic Plain of India and the island of Java (Indonesia), or in resource-poor areas such as the Andean highlands and the Sahel.

At the same time, despite severe budgetary constraints, considerable progress did occur in the developing world during the 1980s in the reduction of infant/child mortality, the raising of life expectancy and the expansion of primary school enrolments (see Box 10). Yet disparities, often severe, persisted. In general, rural areas lagged behind urban areas in social progress. Women continued to be more deprived than men, particularly in parts of Asia and the Pacific.

Successes in improving the well-being of rural disadvantaged groups owed a great deal to government policies designed to stimulate growth, as well as to public provisioning of health care and education. It was remarkable that some low-income countries were able to provide effective public support to the poor through increased access to food and health care, without necessarily waiting for national income to rise appreciably. This was accomplished not just by allocating a larger share of public expenditure to social services, but by creating conditions for the poor to participate more fully in the growth process.

Profile of the rural poor

Vast numbers of the rural poor in southern Asia and much of Latin America and the Caribbean are landless or "land poor". Tenancy is common in many countries but the terms and conditions of lease are often highly unfavourable to tenants; under sharecropping — the predominant form of tenancy throughout southern Asia — tenants usually supply most of the inputs and retain only half of the produce. Moreover, there is little security as landlords can evict tenants at any time.

Large numbers of rural poor work as agricultural labourers, planting and harvesting crops for which they receive meagre wages. Since agricultural work is seasonal in nature, there are often long periods when there is little or no demand for their labour. As a survival strategy, the poor usually derive income from diverse sources. Even smallholder households tend to rely heavily on non-farm incomes.

Women tend to work more hours per day than do men, and children are not spared from the drudgery of manual work either. Some of the work that children do is highly exploitative, cases of debt bondage and long hours worked in unhealthy conditions for a pittance are not uncommon. Work is often at the expense of schooling. Thus, poverty tends to persist.

Pastoralists and nomads form an important segment of the developing world's poor, concentrated for the most part in North Africa, sub-Saharan Africa, China, India and Mongolia. They are extremely vulnerable to natural disasters and ecological degradation. In many cases, drought or disease kill off their flocks, leaving them without assets and vulnerable to starvation. Degradation and loss of traditional grazing lands are often only a longer path to the same end.

Yet another group of rural poor is found in the small-scale fishing communities. This group is among the poorest and most disadvantaged of all. Ocean and inland fisheries alike are vulnerable to overharvesting and ecological degradation, in part the result of large-scale commercial fleets operating in the same waters. Foremost among the losers are the small-scale fishing people.

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[41] This section is a slightly revised version of Chapter 1, Rural poverty alleviation — strategies and progress, *Third Progress Report on WCARRD Programme of Action,* presented at the 26th Session of the FAO Conference, Rome, 9-28 November 1991.

The burden of droughts, famines and seasonal troughs often falls disproportionately on female members of poor households, in terms of consumption adjustments, asset depletion, work burden and, in extreme cases, destitution and abandonment. In a few instances, however, group solidarity and pressure alleviates the distress of the poor. Finally, the problems of poverty, population and the environment are intertwined: earlier patterns of development and the pressure of rapidly expanding populations mean that many of the poor live in areas of acute environmental degradation.

BOX 10

Indicators of social development

Conventional estimates of the incidence of rural poverty (as measured by the percentage of population below a poverty threshold) do not fully capture all aspects of deprivation that large numbers of people experience in developing countries. The following social indicators supplement the analysis.

Life expectancy at birth

Despite wide variations, life expectancy rose in each region during the 1980s. Over the period 1978-1980 to 1985-1987, in sub-Saharan Africa the median life expectancy rose from 47 years to about 51 years, in the Near East and North Africa from 59 to 64 years, in Latin America and the Caribbean from 65 to 66 years, and in Asia and the Pacific from 57 to 61 years.

Countries with the highest levels of life expectancy included: Mauritius (69 years), Kenya (59 years) and Botswana (59 years) in sub-Saharan Africa; Lebanon (67 years), Jordan (66 years) and Tunisia (66 years) in the Near East and North Africa; Sri Lanka (70 years), Malaysia (70 years), Republic of Korea (69 years) and Thailand (65 years) in Asia and the Pacific; and Costa Rica (74 years), Jamaica (74 years) and Chile (72 years) in Latin America and the Caribbean.

Significantly, several of these were either low-income (Sri Lanka) or lower middle-income countries (Botswana, Mauritius, Malaysia, Jamaica) and yet the share of their public expenditure devoted to social services was high.

Infant mortality rate

Over the period 1978-1980 to 1985-1987, the infant mortality rate (IMR) registered a sharp reduction.[49] The median rate in sub-Saharan Africa fell from 126 in 1978-1980 to about 112 in 1985-1987, in the Near East and North Africa from 102 to about 77; in Asia and the Pacific from 53 to a little over 46; and in Latin America and the Caribbean from 59 to about 47. Sub-Saharan Africa's achievement was the lowest.

Several of the countries which achieved high levels of life expectancy were also successful in achieving low rates of infant mortality (e.g. Botswana, Mauritius, Sri Lanka, Republic of Korea, Chile, Costa Rica and Jamaica). Most of them were either low-income (e.g. Sri Lanka) or lower middle-income countries (e.g. Botswana, Mauritius, Chile, Costa Rica and Jamaica) that maintained high proportions of public expenditure devoted to social services.

A recent FAO study, employing UNICEF data for the period 1980-1988, identifed and analysed the relative importance of some determinants of infant and child mortality.[50] Although data limitations precluded consideration

[49] The infant mortality rate denotes the number of deaths of infants under one year of age per 1 000 live births for a given year, while the child mortality rate refers to the number of deaths of children under five years of age per 1 000 children in the same age group.

[50] *Third Progress Report on WCARRD Programme of Action*, op. cit.

This characterization of the rural poor does not fully capture their deprivation and distress. To be among this massive segment of the world's population means to be hungry, malnourished; to suffer from disease or injury and be unable to get medical attention; and to live in unhygienic conditions without access to safe drinking water or proper sanitation. Inevitably, the risk of mortality — especially for children — tends to be higher among the poor in rural areas.

Changes in rural poverty

A widely used measure of poverty is the head-

of more than a few health and literacy indicators influencing infant and child mortality, some useful insights emerged from this analysis.

Infant mortality was lower when access to general health services was high; it was also lower when births were attended by trained health personnel; and such infant mortality-reducing effects were reinforced when mothers were literate. Infant mortality was more closely associated to the female literacy rate, followed by access to general health services and, finally, the share of births attended by trained health personnel.

A similar analysis was carried out for mortality among children under five years of age (U5MR). U5MR was inversely related to access to health services, female literacy and access to drinking water. As in the case of IMR, U5MR was more closely associated to female literacy, followed by access to general health services and then access to drinking water. Thus, as in the case of IMR, the combined effect on U5MR of access to health services, mother's literacy and provision of safe drinking water was substantial.

Primary school enrolments

While in 1985 the median primary school enrolment ratio for sub-Saharan Africa was only 72 percent, the corresponding figures for all other regions were either above 100 (Latin America and the Caribbean) or close to 100 (the Near East and North Africa and Asia and the Pacific).[51] As in earlier cases, these averages masked differences within regions.

Low-income and lower middle-income countries with relatively large shares of public expenditure devoted to social services (e.g. Botswana, Cameroon, Mauritius, Zambia, Sri Lanka, Panama, Peru, Dominican Republic) recorded impressive enrolment ratios.

Despite a narrowing of gender differences in adult literacy rates and both primary and secondary school enrolments, major disparities between males and females persisted in many developing countries.

Anthropometric measures of malnutrition

Even though considerable social progress was achieved during the 1980s, malnutrition was pervasive among children in the developing world. Some recent estimates suggest that, in Asia, 38 percent of the children in the age group of 0 to 59 months were stunted.[52] In Africa and Latin America and the Caribbean, the incidence of stunting in children was lower. Besides, there is some evidence of disparity in malnutrition according to gender. The percentage of underweight children was higher among females in Asia, equal between the male and female groups in Latin America and the Caribbean and slightly higher among the male children in Africa. Acute disparity in malnutrition also existed between the rural and urban areas. In Asia, for example, the incidence of stunting was 30 percent higher in the rural areas. Malnutrition was consistently higher in rural areas relative to urban areas. Specifically, the extent of stunting was markedly higher in rural areas in each of the broad regional groups.

Poverty and *rapid population growth* reinforce each other in a number of ways. Low wages, inadequate education (especially among women) and high infant mortality — all linked to poverty — contribute to high fertility rates and thus to rapid population growth. Evidence from countries as diverse as Colombia, Egypt and India showed that parents who had lost a child expected to have more children than parents in similar socio-economic conditions who had not. Reducing mortality among infants and children is thus a necessary step toward reducing fertility.

[51] Gross enrolment may exceed 100 percent if some pupils are younger or older than the country's standard range of primary school age.

[52] Three anthropometric measures of malnutrition were used: wasting, stunting and underweight. Wasting indicates current acute malnutrition, stunting refers to cumulative deficient growth and underweight is a composite measure of stunting and wasting.

count ratio, i.e. the proportion of population units (individuals or households) that are classified as poor in relation to a given norm (the income/poverty threshold).[42] Although this section focuses on the head-count ratio, other indexes are also used to address some policy choices.

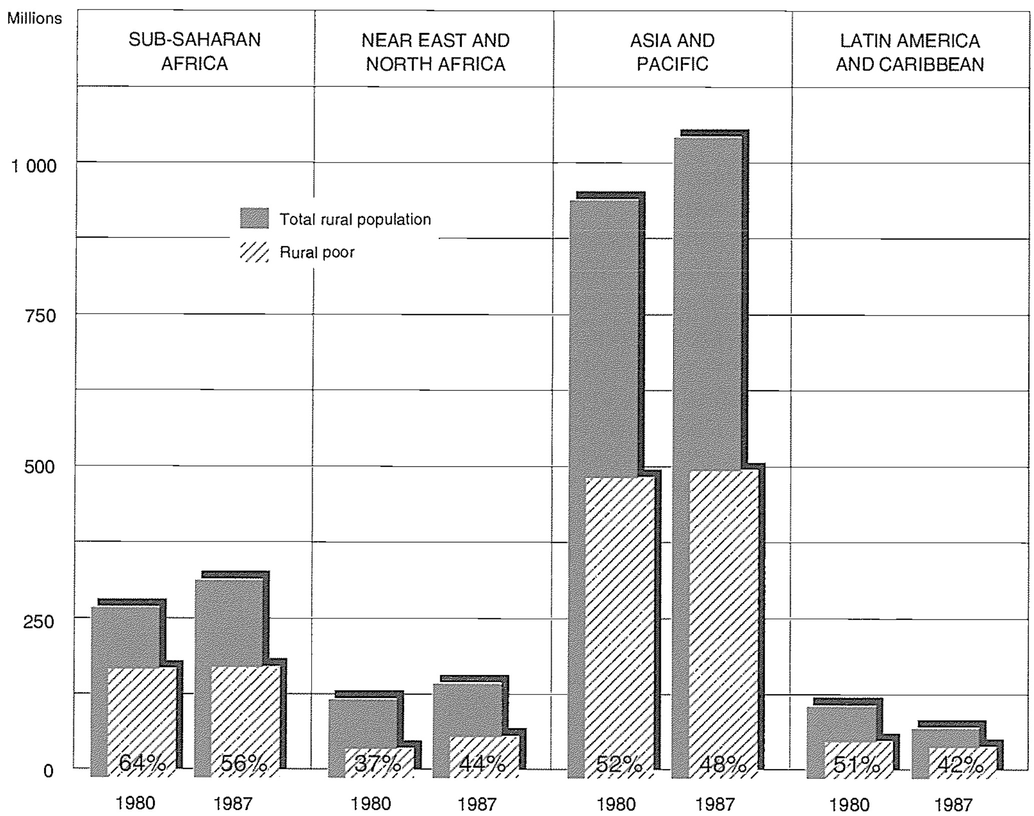
[42] The head-count ratio is a measure of the incidence of poverty, limited by the fact is that it does not take into account the severity of poverty, i.e. how poor the poor are in a specific context. Often, therefore, the head-count ratio is supplemented by the poverty gap index, i.e. the (average) shortfall in income from the poverty threshold among the poor. But this index does not register an increase if there is a transfer from an acutely poor unit to a moderately poor unit (since the aggregate poverty gap is unaffected). In order to overcome this difficulty, distributionally sensitive measures of poverty have been formulated. For an exposition of these indices, see T.N. Srinivasan. 1990. *Rural poverty: conceptual measurement and policy issues* (mimeo), AsDB, Manila.

According to an estimate in the World Bank's *World Development Report, 1990* (WDR90), based on an upper poverty line of $370 per caput per year, 1 115 million people were poor in the developing world (including China and Eastern Europe) in 1985-86. Using a lower poverty line of $275, 630 million people were extremely poor. Nearly half of the developing world's poor, and nearly half of those in extreme poverty, lived in southern Asia.

Since comparable data for rural poverty were not available, a 1991 FAO study estimated the extent of rural poverty by analysing cross-country differences in rural poverty. The analysis was based on a sample of 37 developing countries. While Asia, Latin America and sub-Saharan Africa were well represented in this sample, the Near East and North Africa region was underrepresented. Estimates of rural poverty in 1987 were derived by associating the cross-country differences in the head-count

Figure 18

ESTIMATED INCIDENCE OF RURAL POVERTY



Source: FAO

Note: Percentages represent rural poor as proportion of total rural population. The data for Asia exclude China.

ratio of rural poverty with differences both in agricultural output (per caput of rural population) and in a measure of unanticipated consumer price changes.

Based on the relationship established between rural poverty, agricultural production and consumer prices, estimates of rural poverty were obtained for 1987. These estimates of rural poverty, together with those for the base year 1980, are presented in Fig. 18.

Relative to 1980, these estimates indicate a moderate overall reduction, from about 53 percent to 49 percent, in the head-count ratio of the rural poor (percentage of poor in total rural population). There was a significant reduction in sub-Saharan Africa and Latin America and the Caribbean and a slight reduction in Asia and the Pacific. The figures show a more than moderate increase in the Near East and North Africa but, owing to the small number of countries from this region in the sample, this result should be interpreted with caution. However, the *total number* of rural poor increased by almost 26 million between 1980 and 1987. There were increases in all regions except Latin America and the Caribbean.

The majority of the rural poor were concentrated in Asia and the Pacific in 1980, followed by sub-Saharan Africa, then Latin America and the Caribbean and, finally, the Near East and North Africa. This distribution changed slightly in 1987. While the majority of the poor were still concentrated in Asia and the Pacific, followed by sub-Saharan Africa, the ranking of Latin America and the Caribbean and the Near East and North Africa was reversed.[43]

These changes must be interpreted with care. The moderate reduction in the proportion of the poor in 1987 relative to 1980 does not imply that there was a trend reduction during this period. Given the econometric method used, what is implied is that if, in any region, many countries in the sample recorded an improvement in agricultural performance, together with greater consumer price stability around a trend, a reduction in rural poverty was likely. A case in point is the reduction in the proportion of the poor in sub-Saharan Africa. Even though this was generally a difficult period for the region, many countries in the sample did in fact record improvements in agricultural performance as well as greater consumer price stability in 1987 relative to 1980. Thus, a reduction in the proportion of the rural poor was not unlikely.

There are few estimates in the rural areas of intensity of poverty, i.e. the extent to which the average income of the poor falls below the poverty threshold. The *World Development Report, 1990* contains some estimates of the poverty gap at the national level (i.e. for the poor as a whole, including those in the urban areas) for the 1980s. Within the sample of countries in Latin America and the Caribbean, the range for the poverty gap was 38 to 44 percent. The range for the sample of countries in Asia and the Pacific was 17 to 35 percent, with a clustering of countries around the mid-point of this range.

Given that the bulk of the poor were concentrated in the rural areas in the 1980s, it is likely that the severity of poverty was higher in some of these areas. In Malawi, for example, the poverty gap among poor smallholders in 1989 was as much as 40 percent, about 33 percent among poor agricultural labourers and about 31 percent among tenants. In Bangladesh, the gap among the rural poor was more than 31 percent in 1981-82 and came down to about 20 percent in 1985-86. Considering that, in some of the poorest countries, the poverty thresholds were set at subsistence levels, even a moderate income or consumption shortfall would imply quite severe poverty.[44]

Of particular interest here is the effect of structural adjustment or stabilization programmes on food security. A mixed picture emerged from an examination by FAO of the experiences of developing countries. The adjustment process often resulted in a sharp fall in the real purchasing power of some of the poor and limited their ability to buy food and other items. At the same time, the expected growth did not materialize in many countries. Thus, there was an asymmetry

[43] The reduction in rural poverty should not be taken to imply that there was a reduction in overall poverty, as urban poverty could increase. That this was in fact the case is illustrated by a recent study in Latin America, which shows a sharp increase in urban poverty (from 26 to 31 percent) and a significant drop in rural poverty (from 62 to 54 percent) since 1970. The extremely poor, however, continue to reside primarily in rural areas. ECLAC. 1991. *Magnitud de la pobreza en América Latina en los años ochenta* (LC/G.1653-P). Santiago, Chile.

[44] Note that all these estimates — culled from World Bank reports — are based on country-specific poverty thresholds. Hence, they are not directly comparable.

between negative and positive effects of adjustment. Negative effects on the poor were often certain and immediate whereas positive effects were uncertain and involved long gestation periods. Some of the negative effects were minimized, however, by the inclusion of specific provisions in the design and implementation of adjustment programmes to ensure the active participation of the poor in the development process.[45]

Progress in rural poverty alleviation

Direct estimates of rural poverty on a broadly comparable basis for at least two years in the 1980s were available for only a few countries in Asia and the Pacific. Although this restricts the analysis to a particular region, there are two reasons why this is not a serious limitation. One is the persistence of rural poverty as a largely Asian phenomenon during the 1980s. During the period 1980 to 1987, more than 63 percent of the total rural poor were estimated to be in this region. The second reason lies in the varied experiences of the small subset of developing countries in this region and the important lessons for poverty alleviation that follow from this analysis.

In order to focus on some key elements of poverty alleviation in Asia, the distinction between growth-mediated security and support-led security is helpful.[46] Growth-mediated security is characterized by the wide dissemination of the benefits of growth through public provisioning of education and health services (as illustrated by the Republic of Korea). Support-mediated security, on the other hand, is characterized by public support, even with low incomes (as illustrated by Sri Lanka). While public support is an essential feature in both systems, the difference is largely one of timing and sequencing.

Public support is not limited to state support. The former includes not merely what is done for the public by the state, but also what is done by the public itself. Public participation may have powerful positive roles in both collaborative and adversarial ways *vis-à-vis* government policy. The public's collaboration is an essential ingredient of public health campaigns, literacy drives, land reforms and other endeavours that require cooperative efforts for their successful completion. On the other hand, for the initiation of these endeavours, adversarial pressures from the public demanding such action may also be quite critical.

The estimates in Table 16, compiled from various World Bank and International Labour Organisation (ILO) studies, are based on country-specific poverty thresholds and, as a result, are not comparable across countries. The Table estimates are considered primarily in order to assess changes in poverty over time and to explore the possible effects of macro and sectoral policies as well as anti-poverty interventions such as rural public works programmes.

Using the above framework, a selective and brief assessment of macro and sectoral policies and direct anti-poverty interventions is given below.

The Indonesian adjustment experience is significant as it illustrates how a low-income country could accomplish a substantial reduction in poverty — both urban and rural — through appropriate macro-economic policies combined with public support for the poor. Some features of the government's adjustment programme were crucial in poverty alleviation. The poor gained from expansion in agricultural exports (largely non-food) and where there were sizeable gains in cash crop incomes, for instance, in parts of Java, the poor participated in those gains. Adjustment cuts in government budgets tended to shelter consumption at the expense of investment. But, in addition to favourable dimensions of the adjustment programme, an important factor was favourable initial conditions. Specifically, a decade or so of sustained and fairly equitable growth had created conditions in which the

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[45] See, for instance, FAO. *Effects of stabilization and structural adjustment programmes on food security,* Economic and Social Paper, No. 89, ESC; and *The State of Food and Agriculture, 1990,* Part three, Structural adjustment and agriculture. Among other studies sponsored by FAO and which examine the effects of adjustment on the poor from different perspectives, see A. Sarris. 1987. *Agriculture-non agriculture interactions and the impact of stabilization and structural adjustment programmes* (mimeo). Rome, ESP, FAO; R. Gaiha. 1989. *Structural adjustment and household welfare in rural areas, a micro-economic perspective* (mimeo). Rome, ESP, FAO; and J. Behrman. 1990. The debt crisis, structural adjustment and the rural poor (mimeo). A background paper for the *Third Progress Report on WCARRD Follow-up.* Rome, ESH, FAO.

[46] J. Drèze and A. Sen. 1990. *Hunger and public action.* Oxford, Clarendon Press.

TABLE 16. **Incidence of rural poverty in Asian countries**

Countries	Period	Head-count ratio
		(...... % ......)
Bangladesh	**1981-82**	**73.8**
	1983-84	**57.0**
	1985-86	**51.0**
India	**1977-78**	**56.7**
	1983	**45.1**
	1986-87	**36.8**
	1988	**38.7**
Indonesia	**1978**	**51.0**
	1980	**44.0**
	1984	**33.0**
	1987	**22.0**
Korea, Rep.	**1976**	**11.7**
	1980	**9.0**
	1982	**7.0**
	1984	**4.4**
Malaysia	**1975**	**54.1**
	1980	**37.4**
	1983	**41.6**
Pakistan	**1976-77**	**41.0**
	1979	**38.0**
	1984-85	**31.0**
Philippines	**1971**	**58.0**
	1985	**58.0**

Source: World Bank and ILO studies.

momentum of poverty alleviation could be maintained even at lower growth rates, and earlier investment in rural infrastructure had begun to yield substantial returns by the time the adjustment process got under way.

The Chinese experience following the post-1978 economic reforms further illustrates the substantial impact of growth-oriented, largely sectoral policies on rural poverty. The significance of this experience lies in the fact that, through appropriate incentives and reliance on the market mechanism, a low-income country could stimulate agricultural production and thereby achieve a substantial reduction in poverty.[47]

[47] Several rural poverty estimates were available for China for the post-reform period. One major difficulty with the official estimates was that the poverty line was not adjusted for price changes over time (hence, no specific estimates of poverty are presented in Table 16). As a result, temporal comparisons of changes in rural poverty cannot be precise. Nevertheless, in most cases, the head-count ratio registered a reduction over the period 1978 to 1984.

An important feature of the economic reforms introduced after 1978 was the dismantling of the commune system and its replacement by a production-responsibility system under which individual households were given contracts for cultivating specified amounts of land. Beginning in 1979, a series of measures were taken to lower procurement quotas and increase prices, particularly of grains. By 1985, monopoly state procurement of grains was abolished. Other changes included a gradual reduction in the number of farm products subject to planned procurement and a consequent increase in the number of commodities for which private trading was allowed.

The impact of these reforms was evident in the fact that, during the period 1978 to 1984, the annual growth rate of agricultural output was more than double the rate attained during 1965 to 1978. Furthermore, prices of agricultural products rose faster than those of industrial products. The shift in agriculture-industry terms of trade, which accompanied high growth of agricultural output, augmented rural incomes and consumption during the post-reform period. This situation was reinforced by a sharp increase in rural non-farm employment. Although inequality increased, there was an unambiguous reduction in the head-count ratio.

Another success story was that of the Republic of Korea. In sharp contrast to the above cases, the Republic of Korea is an upper middle-income country. Its economic performance during the past few decades was outstanding, with high growth rates of per caput GNP and agricultural production raising wages in both agriculture and manufacturing, and unemployment being sharply reduced. This provided the material basis for tangible improvements in basic quality-of-life components. Conventional estimates of poverty — both rural and urban — also recorded significant improvements. As shown in Table 16, the head-count ratio fell from nearly 12 percent in 1976 to a little over 4 percent in 1984. That the market mechanism had played a key role in these impressive achievements is undeniable. But the growth took place within a structure of incentives and inducements carefully planned and implemented by the government. An important initial condition was the relatively equitable distribution of assets — including land in the rural areas — in which the government had played an important role. The nature of growth was influenced through a wide range of interventions such as extensive credit controls and incentives, infrastructural investments and the promotion of an active and competitive labour market. In effect, a highly labour-intensive growth process was initiated, although the interventions were not strong enough — at least in their initial years of operation — to eliminate signals directing a movement of resources from agriculture to industry.

As regards public support, the record in the Republic of Korea was uneven. For instance, while public provisions for health care were rather meagre until the late 1970s, the state was extremely active in the area of education. Furthermore, during the recession of the early 1980s, the state introduced strong measures such as rural public works programmes and direct transfers to the needy to prevent acute destitution.

The head-count ratios for Bangladesh over the period 1981 to 1986 in Table 16 suggest a rather sharp decline in rural poverty. Doubts have been expressed, however, about the reliability of the household survey for 1981-82, and it has been argued that it underestimated income and overestimated poverty.[48] Nevertheless, it is likely that there was a small reduction in rural poverty over this period, as real agricultural wages rose slightly and small-scale construction activities expanded. Presumably, there was a reversal during the late 1980s, largely because of the devastating floods of 1987 and 1988. In fact, real agricultural wages were lower in both these years relative to 1986.

The strategy of agricultural development in Bangladesh relied largely on input subsidies (e.g. fertilizer, pesticides, irrigation equipment) and low crop prices. Credit policy, however, did not favour agriculture. Also, whatever credit was provided to agriculture accrued largely to the more affluent farmers. In recent years, the emphasis has shifted to more remunerative prices (through procurement at cost-plus prices) and withdrawal of input subsidies. But the results were not encouraging since the profit margin on agricultural crops remained low. It is plausible, therefore, that some of the anti-poverty interventions had a role in whatever poverty alleviation took place during the period 1980 to 1986.

The Indian experience in poverty alleviation deserves special emphasis. The rural poor in India accounted for a large proportion of the rural poor in southern Asia. As a low-income country, its record in poverty alleviation in recent years was moderately successful. The nature of the growth process, together with large-scale anti-poverty interventions (e.g. the Integrated Rural Development Programme), ensured that the poor — especially the poorest — participated in growth in the rural areas. At a sectoral level, various programmes were launched; for example, to promote smallholders' access to credit, fertilizer and extension services. In spite of a drought in 1987, the head-count ratio rose only slightly in 1988, testifying to the effectiveness of relief operations.

Pakistan's experience in the late 1970s and early 1980s provides an interesting contrast. Between 1976 and 1979, there was a moderate reduction in rural poverty. Since agricultural output per caput registered only a small increase and there were no direct anti-poverty interventions, the reduction in poverty was largely a result of external influences, particularly large-scale overseas migration and remittances. In some cases, this led to acute and widespread shortages during the peak agricultural seasons. Also, as a result of the substantial inflow of remittances, there was considerable injection of demand in the non-farm sectors (particularly construction and services) which led to a substantial increase in the aggregate demand for labour in the rural areas. Consequently, there was a sharp rise in rural wages. Besides, remittances added directly to household incomes of the rural poor. In the 1980s, the growth rate of the economy as well as that of agriculture picked up — partly a reflection of labour-intensive export orientation. Non-farm employment in rural areas grew rapidly during this period. Not surprisingly, therefore, rural poverty declined more rapidly in the early 1980s.

The incidence of rural poverty in the Philippines remained unchanged from 1971 to 1985. While part of the explanation lies in the recession of the early 1980s, which resulted in a marked slow-down in the growth rate of both the economy and agriculture, a more significant factor was the initial emphasis on import-substituting industrialization and capital-intensive expansion. Although there were attempts at export orientation and trade liberalization during

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[48] See, for example, R. Islam. 1990. *Alleviation of rural poverty, growth and macro-economic policies: the Asian experience* (mimeo). A paper prepared for the EDI seminar on poverty Alleviation Through Agricultural Projects, ARTEP, ILO.

the late 1970s and early 1980s, employment grew rather slowly.

As regards Malaysia, the poverty alleviation experience of the 1980s was mixed. While the situation worsened during the recession of 1980 to 1983, it recovered during the period 1983-1985.

SUSTAINABLE DEVELOPMENT AND THE ENVIRONMENT

There has been an evolution in public awareness of environmental issues during the last two decades. Two main developments can be discerned. First, the concept of environmental values has broadened into a questioning of the sustainability of economic growth as measured by income growth in conventional national accounts and, by implication, a questioning of the development process itself. This broadening of concern was associated with the realization that environmental problems such as climate change and thinning of the ozone layer are of a global dimension.

The second main and more recent development has been the shift from the stage of drawing attention to environmental problems to that of formulating and implementing sustainable development strategies. Important signposts in this progression were the holding of the 1972 UN Conference on the Environment, which marked the opening of the extended period of sensitization and advocacy, and the publication in 1989 of the report of the UN Commission on the Environment and Development (the Brundtland Commission), which popularized the concept of sustainable development.[53]

Subsequent events have been oriented more toward the adoption of specific policy goals, such as the Montreal Convention of 1989 on chloro-fluorocarbons (CFCs), the holding of the Second World Climate Conference in 1990 and the FAO/Netherlands Conference on Agriculture and the Environment, held in April 1991. Similarly, the forthcoming UN Conference on Environment and Development (UNCED), scheduled for June 1992, will be policy oriented with an expected promulgation of Agenda 21, a programme of action for the twenty-first century.

The environment and development agenda for the 1990s will be set by UNCED itself. Therefore, this section does not follow an advocative, normative approach but sets out to

[53] The concept of sustainability first came into prominence in an environmental context in 1980 with the publication of the World Conservation Strategy of the International Union for the Conservation of Nature and Natural Resources (IUCN — now the World Conservation Union).

highlight the policy issues raised in moving from the stage of identifying and addressing environmental problems and setting criteria for sustainable development to actually formulating policies and introducing the necessary policy instruments.

Degradation of the natural resource base

During the last four to five decades, the output of world agriculture, forestry and fisheries has increased somewhat in excess of population growth, but at considerable cost to the natural resource base from which it was largely obtained. Increases in crop and livestock yields have been achieved through the intensification of production by means of technologies which often involve the use of inputs external to the farm system: irrigation, improved seeds and livestock breeds, fertilizers, pesticides, animal feed, etc. In many cases, particularly in developing countries, increases in production have been achieved by bringing into cultivation land of lower quality and greater fragility. Additions to the arable land base as a result of deforestation are often particularly susceptible to degradation, while irrigated agriculture, unless carefully managed, can lead to soil salinity or waterlogging and lower yields. Simply using more inputs, whether they be land, water, fertilizer or pesticides, or keeping more livestock without taking the environmental consequences into consideration has therefore led to a serious deterioration in the quantity and quality of the natural resource stock in both developed and developing countries.

Some examples will highlight this point:

- It is estimated that 5 to 7 million ha of arable land are lost annually through soil degradation and a further 1 to 5 million ha as a result of waterlogging, salinization and alkalization.
- Soil nutrient depletion in sub-Saharan Africa is about 20 kg of N, 10 kg of P_2O_5 and 20 kg of K_2O, with rates of up to twice these amounts in East Africa. In Mali, the cost of replacing soil nutrients with imported fertilizers would amount to 40 percent of net farmer incomes.
- By the beginning of the 1980s, the Sudano-Sahelian zone was overstocked by some eight million livestock units, leading to widespread degradation of the rangeland.
- Of the 235 million ha currently irrigated worldwide, some 20 to 30 million ha are severely affected by salinity and a further 60 to 80 million are to some extent affected by this problem, resulting in reduced crop yields.
- In the Near East region, high levels of nitrates in ground water resources are widespread in cultivated areas in Bahrain, Egypt and the Syrian Arab Republic, thereby posing health problems.
- Deforestation is estimated to have proceeded in the 1980s at a net loss of 16.8 million ha a year in the moist tropical areas, consequently incurring large losses of biodiversity, soils and indigenous livelihoods. The population suffering from an acute shortage of fuelwood is projected to more than double between 1980 and 2000, thus increasing the pressure to use alternative sources of fuel.
- Fish stocks in many fishing areas are seriously depleted, leading to limitations on catches and lowering returns for fishing efforts.
- Developed countries employing intensive methods of crop and livestock production, often within policy regimes that provide strong price support to agriculture, have suffered considerable environmental damage in terms of loss of biodiversity and contamination of water.

The concept of sustainable development

Given the compelling evidence of natural resource and environmental degradation in both developed and developing countries, the advocacy of sustainable development reflects a degree of consensus. FAO defines sustainable development as: "...the management and conservation of the natural resource base, and the orientation of technological and institutional change in such a manner as to ensure the attainment and continued satisfaction of human needs for present and future generations. Such sustainable development (in the agriculture, forestry and fisheries sectors) conserves land, water, plant and animal genetic resources, is environmentally non-degrading, technically appropriate, economically viable and socially acceptable".[54]

Three basic concepts are involved. The first is that of externalities, and relates to the costs of activities or the value of environmental goods such as air and water that are difficult, but not impossible, to be captured by market prices.

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[54] See FAO, *The State of Food and Agriculture, 1989,* Part three, Sustainable development and natural resource management, which also provides several alternative definitions.

The second concept concerns intergenerational equity and, hence, an appropriate stock of natural and human-made capital. This stock has to be assessed in the light of decisions on an appropriate rate of discount in order to rank the weights to be given to present and future consumption, as well as assumptions on how effectively and fast technological change can substitute human-made capital for natural resources. The third concept relates to extra-territorial impacts of one country's action on the environment in another country or group of countries.

Despite the consensus on these basic concepts, clear divisions emerge once the operational content of sustainable development is discussed, not least because of the wide differences in the environmental and socio-economic situations existing in developed and developing countries.[55]

First, sustainable development takes on a different operational meaning according to the perspective of the observer. For economists, it refers to the optimal interaction between three systems: biological, economic and social, involving trade-offs between each.[56] Another economic view is to emphasize the trade-offs between present and future generations; such trade-offs consist of maximizing the net benefits of economic development by maintaining the services and quality of natural resources over time.[57] Others take more of an accounting view, considering the natural resource stock as a form of natural capital which has to be maintained in conjunction with human-made capital to sustain a given income level.[58] These views support the interest in environmental accounting both as a means of monitoring a country's stock of physical natural resources as a form of patrimony accounts, and as a means of quantifying environmental losses and the costs of environmental protection involved in producing national income.

Other observers, including the Brundtland Commission in its report, *Our common future,* take a more human-focused approach by emphasizing human needs. According to this view, sustainability is that "which meets the needs of the present without compromising the ability of future generations to meet their own needs".[59] The report regards sustainable development as a normative goal in political, social, cultural as well as economic terms, and its achievement essentially as an expression of political will. This approach also involves the need to redefine the political and economic relations necessary for sustainable development, linking the developing countries to the developed. Hence, the developed countries have not only to adjust their consumption patterns to reduce their demands on natural resources and to adopt the policy instruments required to avoid or repair environmental damage, but they also must assist developing countries to develop sustainably, implying larger transfers of financial resources and technology, together with improvements in the prevailing economic order.

Yet other observers have an even more anthropocentric focus which gives little value to sustaining the resource base if it is separated from the human agents who manage it.[60] They also refer to the ability of livelihood systems to withstand shocks and offset risks, and to the need for secure ownership of and access to resources and income-earning activities.

There is, therefore, a wide range of nuances in the actual meaning of the definitions of sustainable development in an operational sense. Despite these difficulties, some issues are becoming clearer, however, and have been treated in the Den Bosch Declaration.[61] Chief among these sets of operational issues is recognition of the complex and often misunderstood interrelationships between humans, the conditions in which they live and the natural environment. Simply stated, the existence of widespread and chronic poverty and lack of food security is incompatible with sustainable agriculture and rural development (SARD). This recognition underlines an important difference between the developed and

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[55] For further discussion, see M. Redclift and R. David. 1990. Sustainable development and the rural poor. Paper prepared for the *Third Progress Report on the WCARRD Follow-up,* Rome, FAO.

[56] E. Barbier. 1989. *Economics, natural resource scarcity and development.* London, Earthscan.

[57] D. Pearce, A. Markandya and E. Barbier. 1989. *Blue print for a green economy.* London, Earthscan.

[58] P. Bartelmus. 1987. *Environment and development.* London, Allen and Unwin.

[59] Brundtland Commission. 1987. *Our common future.* Oxford, Oxford Univ. Press.

[60] R. Chambers. 1988. Sustainable rual livelihoods. In C. Conway and M. Litvinoff, eds. *The creating of aid.* London, Earthscan.

[61] In *Report on FAO/Netherlands Conference on Agriculture and the Environment* ('s Hertogenbosch, 15-19 April 1991), CL 99/23, May 1991.

developing countries: when trying to promote SARD in the former, the policy-maker is not having to grapple at the same time with the problems of widespread poverty and hunger.

Income and environmental degradation
In the developing countries, where the prevalence of rural poverty is the key developmental problem, poor people are both the victims and agents in a chain of events, mutually reinforcing environmental degradation and poverty (see footnote 55). This form of environmental poverty trap has been aptly termed "integrated rural poverty".[62] Its symptoms are the rural household's powerlessness, vulnerability, physical weakness, poverty and isolation, with each factor feeding the others.

The situations of the poor are not identical the world over, however. Their survival strategies depend very much on whether they are in resource-poor "marginal" but often accessible lands, or in land-scarce but more productive areas where access to land can become a major problem.[63] Nevertheless, a common thread running through these poverty situations is the pressure of population growth on natural resources. This is not to say that population pressure necessarily degrades the environment. In fact, it may be a powerful means of stimulating the use of more labour-absorbing but productive and sustainable techniques of agricultural production. Yet the ecological and economic preconditions for this generally desirable outcome are not widely found. Moreover, in most developing countries in modern times, the rate of population growth is faster than the rate of adoption of technical change, while it also imposes severe burdens on social delivery systems — health care and education — which are vital for that change to take place.

There is little purpose, however, in attributing blame for environmental degradation to poor men and women farmers and herders who suffer the consequences of declining production, as their demands on the natural resource base are determined by economic and socio-political forces beyond their control. Technical terms such as "population pressure" and "carrying capacity" derive from such forces. For example, the migration of the rural poor in Brazil to Amazonia is caused not by population pressure as such in their regions of origin but primarily by land-use changes arising from government incentives (in some cases) and from the extremely unequal distribution of property rights.

It would also be a gross error of fact, leading to policy failure, to attribute environmental degradation to poverty alone. People with an extremely wide range of income, from the non-poor but small-scale farmers in developing countries to intensive farm operators in the industrialized countries, commercial loggers, fishing communities and, indeed, affluent consumers of the Western world may also directly degrade the environment or indirectly motivate others to do so.

For example, some agricultural policies in the industrialized countries, such as those aimed at guaranteeing higher farmer incomes, have encouraged the increased use of agrochemicals and concentrate feedstuffs as well as the intensification of production. These agricultural practices have resulted in a variety of environmental problems, including pollution and contamination of soils, water, air and food; degradation of natural resources and rural landscapes; the disturbance and reduction of wildlife habitats; and the reduction and loss of biological and genetic diversity.

The main reason for such situations is that markets are failing to reflect environmental costs. A major part of environmental policy in the industrialized countries, and in developing country situations where poverty is not the overwhelming constraint, will therefore be to correct that failure by affecting market signals or by imposing environmental regulations, as discussed below.

The indirect effects of affluent societies on the environment are usually conveyed through trade in many different ways. Powerful effective demand for potentially environmentally damaging products on international markets may be pulling the developing countries' resources into unsustainable use. Subsidized exports of food products in surplus in the industrialized countries may drive down prices

[62] R. Chambers. 1983. *Rural development: putting the last first.* London, Longman.

[63] *The State of Food and Agriculture, 1989,* Part three, Sustainable development and natural resource management, discusses the general strategic approach to be followed in the high- and low-potential land areas. The discussion was carried further in *Strategies for sustainable agriculture and rural development in areas with different resource endowments,* Main Document No. 3, FAO/Netherlands Conference on Agriculture and the Environment, 1991.

in developing country domestic markets and thereby undermine the latter's efforts to introduce sustainable but more costly production methods. Moreover, lower international prices force many developing countries to export larger quanties of primary commodities to compensate for falling prices, often leading to additional environmnental degradation.

Finally, the imposition by Western countries of excessively zealous environmental controls on traded agricultural commodities could — indeed, has — become a new form of trade protectionism.

Prerequisites for SARD

Efforts to promote SARD will involve attaining a better understanding of the many variations in rural livelihood systems. To facilitate the process, the Den Bosch Declaration (see footnote 61) identified certain prerequisites, which are summarized here.

The first prerequisite is for the developed countries to improve the overall economic environment in order to enhance the development prospects for developing countries. This implies further action on debt relief as well as measures to improve the rules governing international trade so as to assure developing countries' better access to agricultural markets and strengthen development financing. In addition, the lifestyles and production and consumption patterns of the affluent societies will have to be modified in order to reduce their demands on the global natural resource base and their adverse impact on the global environment. Moreover, affluent societies should reduce their agricultural production incentives which not only encourage the excessive use of inputs and create local environmental problems but also raise price levels, thus contributing to constraints on environmentally sustainable production in other areas, particularly in developing countries.

The second group of prerequisites focuses on the developing countries themselves. They include the implementation of population policies to improve these countries' long-term prospects for sustainable development and to restore or sustain an appropriate balance in policies and expenditures between the rural and urban sectors. Recognizing the vital role of a dynamic rural sector in improving food security while conserving the natural resource base would involve not only correcting any previous bias against the rural sector in terms of incentives and services, but also the decentralization of decision-making down to the local level, thus allowing rural people to associate as groups and increase their influence and power within a democratic framework.

The third broad prerequisite lies in the mutual search for innovative forms of agricultural and rural development, drawing from proven local practices but incorporating improved techniques and technologies that do not involve the increased use of inputs external to the farming system itself.[64] Nevertheless, most developing countries currently are not in the favourable situation of being able to sacrifice agricultural output in order to reduce their usage of external inputs.

Policy instruments for SARD

It is in the selection of appropriate policy instruments that the differences between typical situations in the developed and developing countries become most apparent. However, one must first step back and consider why such policies are needed at all.

Environmental degradation in its multiple forms is caused by failures in policy, markets or institutions, which are to some extent interlinked. Such failures also share a common cause: that of externalities. Policy failure occurs with the introduction of policies that directly harm the environment. Examples are the awarding of tax breaks to people who clear forested land in order to gain title to it; the heavy subsidization of polluting inputs such as pesticides; and policy decisions, usually made on politico-strategic grounds, to devote resources to the production of a chosen product — one often-cited example is cotton, produced around the Aral Sea in the USSR.

Market failure is when the market price or value attributed to an environmental good, fails to capture its true environmental value; or conversely, when the market price or value of a non-environmental good fails to incorporate the environmental damage caused by its production. Failures in agricultural product markets are widespread and are a major cause of environmental damage. Of course, they are often combined with policy failure. For example, high support prices arising from the EEC Common Agricultural Policy (CAP) have greatly stimulated intensive agricultural production methods in Europe, resulting in considerable

[64] The generic name for these is the acronym LEISA, low external input sustainable agriculture.

environmental damage — loss of biodiversity and local habitats, pollution of watercourses, etc. Therefore, a key component of environmental policies and their instruments is to attempt to account accurately for externalities.

The third type of failure is institutional and mainly concerns property rights, meaning the right to own or use resources — land for cultivation or grazing, water and forests. Such rights are often traditional or customary rules concerning access to common property, i.e. property that is shared among a group of people. Such property rights are liable to break down under the pressures of rising population or increasing commercialization of agriculture. Common property may be expropriated by more powerful members of the society, which will increase pressure on the resources remaining under the common property regime, or it may become an open-access resource with no rules governing its sustainable use, in which case it is liable to be exploited to destruction.

Returning, then, to the developed-developing country differences in the context of environmental policy-making, the developed countries tend to have relatively young, temperate, not very biologically diverse but more robust ecologies, together with well-developed markets and property rights. The developing countries typically have much more mature, tropical or subtropical, biologically diverse yet fragile ecologies, and their market and property right systems are less well-developed. Policy goals, therefore, will differ between them. In the developed, more industrialized countries, objectives may include greater reliance on renewable energy resources, more rigorous standards of air and water quality and conservation of biodiversity and wildlands.

Sustainable development in the developing countries, to the extent that it is explicitly formulated in policy, is expressed more in terms of natural resource management in order to enhance agricultural production and national food security and contribute to income growth and poverty reduction.

The natural resource base frequently represents a source of social conflict in developing countries because of unequal land ownership and the importance of this factor for survival in situations that offer few alternative employment opportunities. In contrast, environmental conflicts in industrialized countries usually involve disputes between commercial and conservationist interests over the alternative use of resources. In these disputes, human health, amenity and aesthetic values are often the primary issues rather than questions of livelihood and survival.

Given that micro-economic decisions — those made by the household — predominate in determining natural resource use, the typical farming household in developed countries has a far wider range of choices regarding that use than the typical, much poorer household in developing countries. The environmental benefits of reducing poverty in the latter derive mainly from the widening of the choices open to the main users of the resources at risk.

Prospects for implementing SARD in the 1990s
With the focus increasingly on making the concept of sustainable development operational, such differences between developed and developing country contexts gain importance in attempts to frame policies and select the appropriate instruments. On a broad scale, the task is similar, being that of ensuring that environmental benefits and costs are taken implicitly into account when making production and consumption decisions. To this end, methods have been devised to assign monetary values to environmental goods and services in order that they can be incorporated into price signals and national income accounts.

If monetary values were placed on environmental resources, it is argued, economic calculations would then influence the resource utilization decisions of policy-makers, producers and consumers. Society would then possess a common measure with which to calculate the trade-off between environmental degradation, and hence losses for future production, and present consumption. Recognition that natural resources are critical to long-term economic productivity would challenge what has been referred to as "the false dichotomy between the economy and the environment", which leads policy-makers to ignore the latter.[65]

Various pricing techniques have been developed to arrive at environmental values, such as contingent valuation, based on the willingness to pay for environmental benefits, and travel cost models, which highlight the value of time in collecting water or

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[65] R. Repetto, W. Magrath, M. Wells, C. Beer and F. Rossini. 1989. *Wasting assets: natural resources in the national income accounts.* Washington, D.C., World Resources Inst.

fuelwood.They have application in developing country situations and can sharpen cost-benefit analysis and project appraisal.

These methods of analysis lead to the problem of selecting an appropriate rate of discount. A relatively high rate selected on the realistic basis that capital in developing countries is scarce, can greatly reduce the importance attached to environmental costs and benefits arising in the distant future. Unless these receive adequate weight in investment decisions, long-term sustainable development may be compromised. On the other hand, if environmental projects yield only a low rate of return, alternative criteria to direct investment will be necessary.[66]

These recent efforts to integrate environmental values into conventional rules for investment decision-making have been accompanied by renewed discussion of the economic principles of environmental policy. The "polluter pays" principle, advocated since the mid-1970s by the OECD, has attracted particular attention because it is explicitly intended to maintain the quality of environmental resources by ensuring that environmental costs are paid by the polluter, or internalized rather than being passed on to society at large as externalities. This principle may be applied by setting mandatory environmental standards or by levying pollution charges or taxes. However, studies reveal that, in practice, most pollution costs are not fully internalized even when pollution charges are levied on producers (see footnote 57).

The polluter pays principle represents a further step toward the appropriate or sustainable valuation of environmental goods and services, but it is difficult to employ in many pollution cases, particularly those associated with agriculture. Examples include the pollution of surface and ground water by nitrates, phosphates and pesticides, and water and air pollution caused by intensive livestock production. The sources of contamination are numerous; hence it is difficult to link contamination to individuals, while detection may require highly sophisticated techniques.

It is also difficult to calculate the appropriate level of charge or tax to be levied to achieve the desired reduction in pollution when the polluting input represents only a small fraction of production costs. In some cases the charges would have to attain punitive levels to achieve even modest reductions in pollution and, consequently, may start to bear on other aspects of agricultural policy such as farmers' incomes and the viability of rural communities based on farming. Indeed, while much has been written about the adverse impact of intensive farming practices on the environment, little research has been undertaken on the socio-economic impacts of environmental policies on agriculture.[67]

Several European countries have adopted novel approaches to encourage agricultural producers to reduce the intensity of production. For example, areas have been identified where farmers receive compensation in return for voluntary agreements to restrict their use of all types of nitrogen fertilizer. Thus, the environmental impacts of modern agriculture are being addressed by subsidy payments to restrict the user's choice of technology, which represents an important turn in the environmental regulation of agriculture. A new regulatory approach is emerging which breaks with the long-standing tradition of voluntary compliance. Governments have introduced environmental standards for agriculture, complemented in some cases by payments to prevent farmers from polluting or otherwise harming the environment.

Conclusion

In developed country situations, in the 1990s policy issues relating to sustainable agricultural development will be determined primarily by the extent to which political support will permit environmental costs to be more fully embodied in agricultural production costs. At the same time, consumers will be increasingly expressing a preference for "organically" produced foods, which also involves shifts in production techniques and hence costs. A prevailing policy dilemma will also have to be resolved: does it make sense to tax or regulate input use and production techniques that incur environmental costs, while at the same time supporting an overall level of agricultural producer prices which is significantly above that of world markets? The current, if so far tentative, moves

[66] For a discussion of these issues, see FAO. 1991. *Criteria, instruments and tools for sustainable agriculture and rural development*, Main Document No. 4, FAO/Netherlands Conference on Agriculture and the Environment, 1991.

[67] See FAO. *Socio-economic aspects of environmental policies in European agriculture*. Document presented to 17th Regional Conference for Europe, Venice, April 1990.

toward direct support to farm incomes in some industrial countries indicate the likely direction of policy. However, as already noted, the socio-economic impacts of environmental policies on the evolution and structure of agriculture in the developed countries have not yet been adequately researched.

The diversity of agro-ecological and socio-economic systems found in the developing countries shows that sustainable agricultural development can take a variety of paths. Recognition of this diversity lends weight to the importance of people's participation and traditions of managing local resources. It is also vital to engage and reward the energies of the rural poor. Without more secure and equitable participation in the benefits of rural development, it will be virtually impossible to reverse the potentially resource-degrading practices of poor households in their struggles to meet immediate subsistence needs. In developing countries, therefore, strategies for sustainable agriculture and rural development in the 1990s must extend beyond the technical issues of resource management to address wider issues of economic and political participation of the rural poor. Strategies must also embrace sectors outside agriculture itself in order to offer wider opportunities for gainful employment off the land or in activities not directly related to the exploitation of renewable natural resources.

AGRICULTURAL TRADE ISSUES AND THE URUGUAY ROUND OF MULTILATERAL TRADE NEGOTIATIONS

In the 1980s agricultural trade problems, arising in particular from subsidized trade competition between major agricultural exporter developed countries, contributed to the inclusion of agriculture in the Uruguay Round of multilateral trade negotiations (MTNs). This round is the most ambitious effort made to date in negotiating comprehensive reform of world rules for trade in agricultural products. The key problems of market access, domestic agricultural support and export subsidies, addressed in the negotiations, will set the scene for the agricultural trade and policy agenda of the 1990s irrespective of the outcome of the Uruguay Round. Issues relating to trade and environment will also appear on the trade agenda, while more rigorous attention will be paid to the impact of health and safety measures on trade. Agricultural trade could also be importantly affected by movements toward economic integration, occurring in both developed and developing countries, and by Eastern Europe and the USSR's transition to market-oriented economies.

Overall and agricultural trade in the 1980s

The 1980s witnessed a significant increase in the economic importance of world merchandise trade. According to GATT, the volume of world trade rose by 50 percent and its total value by more than 70 percent during the 1980s. With trade increasing more rapidly than output, the 1980s represented a period of growing integration of the world economy.

However, the distribution of trade growth among countries and groups of products was uneven. The expansion was largely in manufactures and concentrated in North America, Western Europe, Japan and a number of other Asian countries. African and Latin American countries generally failed to participate in the rapid growth of trade. Agricultural trade was far less dynamic, in particular with regard to many products exported primarily by developing countries. Developing countries' agricultural export prices fell by about one-third in real terms between 1980 and 1990. Some of the largest declines in prices were in key commodities such as the beverage crops and rubber, which were only partially offset by higher prices of other products such as fish, some meat products and bananas. Developing countries achieved some gains in the purchasing power of agriculture, fishery and forestry exports thanks to an expansion in the volume of these exports.

Growth in the volume of developing country imports of food declined from 9.4 percent during the period 1975-1981 to only 0.9 percent annually during the period 1981-1986. Growth in the volume of developing country food exports also fell, from 6.2 percent to 0.7 percent for the same periods.

Stagnant demand and protectionism

Globally, this slow growth in import demand for agricultural products reflected slower growth in many economies, debt-related problems in nearly one-half of all developing countries; reduced demand in the oil-exporting countries and the USSR; and increased food self-sufficiency in some countries. Developed countries' exports were also negatively affected by the depressed economic conditions and lower import demand of developing countries. This situation was exacerbated by ample supplies of many commodities, especially cereals and dairy products in the developed countries, but also sugar, cotton, coffee and natural rubber, produced primarily by the developing countries. For these countries, trade in many of their traditional export commodities was affected by stagnant import demand in their main markets in high-income countries, where per caput consumption levels were little changed during the 1980s.

These countries also faced market access problems and, for cereals especially, subsidized export competition from developed countries. Farm support policies in most of the developed countries resulted in agricultural surpluses, leading to intensified competition through the subsidization of exports in world agricultural markets. Not only did the exporting developing countries suffer from a loss of markets, but the developed countries themselves incurred heavy budgetary costs while the real price of food to domestic consumers fell by less than that on international markets.

Agricultural trade protectionism grew during the 1980s; in the developed countries, the producer subsidy equivalent (PSE) measure of support rose from an average of 34 percent in the 1979-1985 period to a forecast 44 percent in 1990.[68] However, some developing countries benefited from the expansion of developed countries' generalized trade preference systems and from modest trade concessions on tropical products resulting from the Mid-term Review of the Uruguay Round. Agricultural trade among developing countries expanded only a little, however.

Debt crisis and price stabilization

Financial constraints linked to rising external indebtedness and austerity measures related to structural adjustment forced many developing countries to restrict their imports of food and other goods. Far-reaching structural adjustment programmes (SAPs), often mandated as a condition for international assistance in dealing with problems of the debt crisis, were implemented by many countries to provide a basis for a resumption of long-term growth and economic development. However, the immediate impact was often for economic growth to slow down, thereby placing pressure on these countries to restrict imports while expanding exports. This resulted in further downward pressure on international market prices and foreign exchange earnings.

Instability of commodity prices for some products, including tropical products and agricultural raw materials, affected food and agricultural commodity trade during the decade. However, the 1980s marked the virtual disappearance of commodity agreements with price stabilization provisions. By the end of the decade, natural rubber was the only commodity for which an internationally agreed stabilization mechanism still existed. Factors contributing to this outcome included technical problems, associated in particular with establishing reference price levels, which proved extremely difficult to resolve in the face of pronounced fluctuations in exchange rates and declining prices. More fundamentally, perceptions shifted with regard to the comparative virtues of market orientation versus market regulation. The collapse of the International Tin Agreement in 1985 also had a profound negative impact on political attitudes toward market regulatory mechanisms. Against this background, the Common Fund for Commodities which came into effect in June 1990, 13 years after it was initially proposed, has little role at present in relation to price stabilization, although its financial support for commodity development

[68] See Regional reviews, OECD countries and agricultural market distortions, Part III, II of this issue.

programmes and projects (the Second Account) may help improve market prospects for many commodities.

The adverse effects of market instability were addressed by IMF special facilities or by developed country schemes, such as the EEC's Stabilization System for Export Earnings (STABEX), to compensate for declines in developing countries' commodity earnings. The IMF's Compensatory and Contingency Financing Facility (CCFF) was intended to provide relief to countries experiencing balance-of-payment problems as a result of shortfalls in export earnings and, since 1981, excess costs of cereal imports. However, the CCFF was limited by the resources available, repayment conditions and the amount of relief it could provide in situations where export earnings remained low for long periods of time. As regards the IMF's Buffer Stock Financing Facility (BSFF), no drawings have been made since 1986.

Under the Lomé III Convention, the EEC allocated ECU 8.5 billion in aid to 64 signatory African, Caribbean and Pacific States (ACP). The STABEX programme under Lomé III was funded at ECU 925 million, which proved inadequate to compensate for falling commodity prices during the 1980s. Lomé IV, concluded in March 1990, raised total aid resources for the period 1990-1995 to ECU 12 billion; STABEX was allotted ECU 1.5 billion, but as grants rather than interest-free loans.

Agriculture and the multilateral trading system

Under the General Agreement on Tariffs and Trade (GATT) rules, agriculture has always been largely immune from multilateral trade discipline and rules. It generally escaped the discipline of the basic principles on which the GATT was founded:

- non-discrimination in trade;
- protection through measures that are "transparent", in the sense that they can be easily measured and monitored;
- the establishment of "bound" levels of protection through negotiation; and
- notification, consultation and arbitration in the event of disputes.

In addition, agriculture was not subject to most of the prohibitions against quantitative import restrictions and export subsidies applied to industrial products.

Even where agricultural trade practices were covered, waivers, such as the one granted the United States in 1955, were sometimes available to cover discriminatory quantitative import restrictions on products affected by domestic price supports; sugar, for example. Before the Dillon Round (1960-61) of negotiations, the EEC's Common Agricultural Policy (CAP) was authorized to replace national tariffs with common border measures which, for the EEC, included variable levies on imports to help maintain domestic prices at desired levels in what was then a net food-importing region. An unforeseen development was the subsequent emergence of the EEC in the 1970s as an agricultural exporter which, because of CAP price levels, required export subsidies to dispose of its surplus domestic production. Many developed countries and a number of developing countries, particularly in the Latin America and the Caribbean and the Asia regions, shielded their farm sectors by means of a complex set of customs duties, import quotas and other border measures, combined with direct government payments to producers and a wide array of other domestic subsidies.

Previous attempts to bring agriculture under GATT discipline in the Kennedy (1963-1967) and the Tokyo (1973-1979) Rounds of negotiations had failed. During the 1980s, the multilateral trading system became increasingly unable to cope with problems besetting world agriculture. The existing system had not prevented the accumulation of surplus agricultural commodities, particularly by developed countries, which had resulted in more support and protection measures being introduced. Competition for markets and market shares intensified and international trade became highly distorted as a result of such measures. While some unilateral efforts had been made to control overproduction, there was growing tension in the trade dialogue as various countries felt that efforts to bring order into world production and trade were falling disproportionately and unfairly on different producers. All developed agricultural exporting countries were subjected to major and growing budgetary burdens. At the same time, falling per caput incomes, export earnings and increasing difficulties in meeting food import needs in many developing countries added to a growing consensus that the multilateral trading system was in disarray and consequently required substantial revision. These tensions relating to agricultural trade were thus a major contribution to the decision taken to initiate the Uruguay Round, the eighth round of MTNs.

Agriculture in the Uruguay Round

To date, the Uruguay Round represents the most ambitious attempt to grapple with the problems of agricultural trade in the context of MTNs. At the initial ministerial meeting in Punta del Este in 1986, the GATT contracting parties agreed to work toward "greater liberalization" in agricultural markets and to bring under "more effective GATT rules and disciplines" all measures affecting import access and export competition. The major issues were thus import access, especially quantitative restrictions and other non-tariff barriers; export competition, especially export subsidies; and domestic support for agriculture, which brought domestic agricultural policies into the arena of international trade negotiations for the first time. A separate negotiating group was established to negotiate reductions in trade barriers applied to tropical products, of special interest to many developing countries. A working group was set up to provide provisions relating to sanitary and phytosanitary measures with a view to minimizing the risk of restrictions — required to protect health and safety and prevent the importation of biological threats to plants and animals — constituting unreasonable barriers to trade.

During the initial years, views on the conduct and the substance of the negotiations failed to coalesce. At the Mid-term Review, delayed until April 1989, the negotiators agreed on language covering agriculture, which resolved few substantive problems but provided a negotiating framework and timetable. However, only in July 1990 was it possible for the chairman of the Negotiating Group on Agriculture to prepare a draft of a unified negotiating text, calling, *inter alia*, for specific commitments on import access, export competition and domestic subsidies. The level of reduction was left unspecified but, according to the chairman's draft, export subsidies were to be reduced faster than import barriers or domestic subsidies. However, the July 1990 Houston Summit of the Group of Seven was only able to agree to make this draft a basis for intensifying the negotiations.

The subsequent United States negotiating proposal of October 1990 called for a 75 percent cut in domestic support and tariffs, including those to be formed by conversion of non-tariff import barriers, and a 90 percent cut in export subsidies, all to be carried out over a period of ten years. The proposal of the Cairns Group of 13 agricultural trading nations[69] broadly concurred with the United States' position, although Canada expressed some reservations on the import access issue. The EEC, by contrast, continued to maintain that separate commitments on import access, export competition and domestic subsidies were both unnecessary and undesirable. The Community's own proposal of November 1990 was considerably less ambitious than those of the United States and the Cairns Group; it put forward a quantitative target for support reduction of 30 percent from the 1986 levels within 10 years.

The substance of these positions, and those of other country groups affected by agricultural trade liberalization, was also reflected in the regional and country group negotiating dynamics, which broke down conventional North and South alignments. The most influential actors were the net cereal exporters, the United States and the Cairns Group, which generally argued in favour of more radical liberalization measures and sharp reductions in export subsidies, particularly damaging to heavily indebted agricultural exporters such as Argentina and Brazil. The EEC, on the other hand, argued in favour of fewer restrictions on subsidies. Other European countries, Japan and some developing countries argued that domestic food security considerations should exempt certain agricultural sectors from trade liberalization. However, developing countries, whether in the Cairns Group or not, strongly supported the concepts of special and differential treatment for developing countries as well as market-opening measures for tropical products.

Many developing countries also agreed in general with the group of net food-importing developing countries (NFIDs). The NFID group was formed relatively early in the round to differentiate the needs of these countries from those of the food-exporting developing countries, most of which were represented in the Cairns Group. The NFIDs cited the numerous studies predicting that trade liberalization would lead to a rise in food import prices. They called on the other GATT contracting parties both to alleviate the burden of increased prices on the NFIDs' import bill and balance-of-payments situation and to enhance the group's capacity to increase agricultural production. Debt servicing was also a concern: because alleviation of export

[69] Australia, Canada, Chile, Brazil, Argentina, Hungary, Indonesia, Fiji, Colombia, Malaysia, Uruguay, Thailand and the Philippines.

subsidies and internal reforms in the North were expected to raise world prices, the food bill of net importers would increase, thus rendering debt servicing even more difficult. Accordingly, the NFIDs' proposal argued for compensation in the form of concessional food sales, financial grants, improved market access, increased food aid and/or reduced levels of debt servicing.

Brussels and beyond

The Brussels ministerial meeting in December 1990 proved unable to bridge the differences in agriculture and in other difficult areas such as textiles and trade-related services and intellectual property rights. Late in the week-long negotiating session, a compromise proposal on agriculture had emerged, providing for 30 percent reductions in the three key areas of export subsidies, market access and internal measures of support. However, failure to agree on this compromise led to adjournment of the negotiations, leaving agriculture and the 14 other negotiating areas in limbo.

The GATT director-general's subsequent discussions with key Uruguay Round participants resulted in an endorsement in February 1991 of a proposed programme of work and resumption of the Uruguay Round, initially at a technical level. Furthermore, the negotiating effort was reorganized: agriculture remained the subject of a separate group, but the previously separate negotiations on tropical products and natural resource-based products were integrated into the market-access area, which is to deal with tariff and non-tariff barriers across the board. The efforts to restart the Round were aided by the EC Commission's internal reform proposal of January 1991, which called for reduced payments to large producers, environmental improvements in disadvantaged areas and progressive reductions in internal support.

Although the new proposal has not yet been accepted by the EEC ministers, nor has the EEC so far evolved new positions on access or export subsidies, the proposal was seen as a move within the EC to help revitalize the Uruguay Round.

At the same time, the United States Administration requested, and obtained from Congress in May 1991, a two-year renewal of its "fast track" negotiating authority. Japanese Government leaders have also indicated that revisions to its rice policy may be required as part of negotiating an entire MTN package.

Key negotiating issues[70]

It remains to be seen whether or not these initiatives will be sufficient to allow problems relating to the negotiations on agriculture to be resolved. Strong differences in opinion continue to characterize the approaches to resolving key outstanding agricultural trade issues:

- *Domestic subsidies*. Domestic subsidies are clearly covered under existing GATT rules; however, in agriculture they have escaped scrutiny. The current consensus approach is to categorize domestic subsidies according to their a priori trade impact; those judged innocuous would be eligible for "green light" treatment while others would be subject to monitoring and, possibly, countervailing duties. Decisions will be needed to determine which would qualify for "green light" treatment, but the list will probably include research, extension, inspection and grading services and programmes that are targeted at environmental and health objectives, as well as developing country programmes of rural development. The main differences include the use of income safety nets, stocks programmes, domestic and international food assistance measures and capital grants and subsidies.
- *Import access*. Efforts are aimed at converting quantitative restrictions and other non-tariff barriers to tariffs and then negotiating these tariffs downward. One key issue concerns safeguards, particularly against world price falls and import surges. Other major issues include disciplining the use of quantitative restrictions in support of domestic prices (since domestic supports are likely to be retained in some form for a certain period) and "rebalancing". The latter was sought by the EEC to permit import regulation of products such as cereal substitutes and oilseeds, which are not currently subject to regulations that affect other livestock feeds, while achieving an overall net reduction in levels of protection.
- *Export competition*. Discipline on the use of export subsidies has been, and remains, the principal challenge. The extent to which subsidies should be reduced, over what period and under what conditions is a key to the negotiations.
- *Special and differential treatment*. The need

[70] See *Follow-Up to the GATT Uruguay Round of Multilateral Trade Negotiations*, CCP 91/21.

for special and differential treatment for developing countries is generally accepted but particular difficulties may be encountered in implementing an agreement that encompasses the three previous points mentioned. The present negotiating approach focuses on providing for flexibility in the application and timing of general rules instead of creating separate rules for developing countries.

- *World price increases.* The possibility that food prices on international markets might rise, as predicted by many studies, raises the issue of the need for and nature of transitional arrangements for developing countries with significant imports of food.
- *Food aid availability.* Many developing countries are concerned about possible reductions in the availability of food aid, which could stem from reduced surpluses in major donor countries and higher world prices. At the same time, concern about the future levels of food aid shipments stems from the possible development of new rules on export subsidies that may be more restrictive. Thus, the issue is how to devise ways to ensure that a Uruguay Round agreement does not adversely affect food aid but rather ensures a level of food aid that is consistent with the needs of developing countries.

The probable outcome of the Uruguay Round negotiations is by no means clear. The negotiations will continue but a successful outcome depends on political and other decisions in agriculture as well as in other difficult areas of the negotiations, such as trade in services. A complete breakdown of the negotiations would tend to stimulate movement toward the strengthening and enlarging of regional and bilateral trading arrangements. However, it is difficult to foresee how such actions would lead to a significant liberalization of agricultural trade or a reduction in the use of export subsidies, particularly for cereals and other temperate zone agricultural commodities, or to a decrease in protectionism.

Significant improvements in agricultural trade rules would not be likely to result from a round with weak provisions on agricultural trade, as was the case with the Kennedy and Tokyo Rounds. A more probable result would be a continuation of subsidized export competition. Basically, the lack of an agreement could interfere with the ongoing process of agricultural policy reform. This process is under way in many countries, usually as part of a broader revision of government's appropriate role in the incentive structure of an economy. Developing countries have been attempting to provide farmers with appropriate incentives for making the best use of agricultural resources and to avoid both macro-economic and sectoral policies that distort those incentives. Former centrally planned economies, faced with the issue of introducing an incentive system for private firms, are anxious to make price signals appropriate to ensure international competitiveness. Industrial countries are realizing that the desired mix of rural income, consumer and environmental objectives can be achieved more efficiently by downplaying the role of open-ended price supports tied to the production of a few major commodities. These reforms are easier in times of stable and predictable world prices. The instability in world markets arising from subsidy wars and highly protected import markets makes such reforms difficult, if not impossible.

A successful Uruguay Round agreement that initiated a process for reform of trading rules; reduced the level of market support given by agricultural policies; and encouraged changes in domestic policies to make them more trade neutral could benefit the trading system and the domestic economies of the reforming countries. Agreement in agriculture could also provide a major impetus to the achievement of agreements in other negotiating areas. Reductions in market support could expand export opportunities for agricultural products and reduce the likelihood of price slumps caused by competition through export subsidies. Increased transparency would stimulate trade and reduce uncertainties for traders and investors. Domestic policy reform could also have positive budgetary implications for many countries and would also tend to reduce overinvestment in uncompetitive activities. There would also be the benefits of a strong multilateral trade system in terms of maximizing the role of collective decision-making and the even-handed enforcement of rules for settling disputes.

The multilateral framework for agricultural trade in the 1990s is highly dependent on the outcome of the Uruguay Round. However, other issues, such as the impact of continuing efforts to mitigate the impact of the international debt crisis, will also have an important impact on the trade agenda.

It is impossible to foresee the length of future Uruguay Round negotiations and their likely outcome. Even if concluded successfully, with the substantial liberalization of trade policies in the near future, the changes are likely to be phased in over a five- to ten-year period, extending well into the 1990s and perhaps even into the start of the next century. Thus, the major unresolved trade issues addressed by the Uruguay Round — market access, internal measures of support and export subsidies — will continue to be central to the trade agenda of the 1990s.

Environmental, health and safety trade measures

In the 1980s, concern for the protection of the world environment and of domestic consumers' health and safety from contaminated or unsafe products resulted in numerous unilateral, bilateral and multilateral initiatives designed to set standards, harmonize practices and find ways to accommodate such concerns with trade and market needs. These efforts will continue into the 1990s.

Health and safety measures, including those designed to protect domestic plants and animals from imported biological threats, are recognized as necessary by all countries. Both past and recent efforts have focused on negotiating agreed standards or processes for establishing reasonable measures. For instance, the 1979 Tokyo Round's "Standards Code" attempted to grapple with the balance between health, safety and environmental standards and trade liberalization.[71] The code was designed to supplement the existing GATT rules by aiming to prevent any product, technical, health, safety or environmental standard from creating "unnecessary obstacles to international trade". Disciplines relating to the use of sanitary and phytosanitary measures, a focus of negotiations in the Uruguay Round, achieved a substantial measure of agreement and, like other items, has been awaiting the resumption of negotiations in areas including the role of the FAO/WHO Codex Alimentarius Commission and the role of FAO in relation to the International Plant Protection Convention.

The promulgation and negotiation of environmental and ecological trade-affecting measures is fragmented. Biological diversity is protected by international undertakings such as the Convention on International Trade in Endangered Species (CITES). Considerably more controversial are unilateral measures such as the United States' ban on imports of tuna that is caught in ways defined by United States legislation as insufficiently protective of dolphins. The 1985 Montreal Protocol on Ozone Layer Depletion and the CFC Control Convention of 1987 address problems related to the upper atmosphere, in part by imposing trade restrictions. Even more ambitious measures may result from international efforts to address the problems of global warming as a result of carbon dioxide emissions, produced primarily by the burning of fossil fuels in the developed countries.

The implementation of measures, both unilateral and multilateral, to combat environmental degradation raises many concerns. Developing countries, in particular, fear that gains in market access could be vitiated by the growing use of health, safety and environmental standards as non-tariff trade barriers. There are fundamental differences between the views of countries concerning the appropriate level and extent of environmental health and safety regulation. In many developed countries, environmental quality and health concerns have grown in importance with rising income levels and have a prominent place on the political and economic agenda. While environmental and health risks are acknowledged, the income levels of most developing countries do not permit a structure of environmental regulation comparable to that in the developed countries. This dichotomy in the approach to environmental regulations, with stricter regulatory regimes in developed countries, increases the possibility of trade-related conflicts.

The challenge for the 1990s will be to accommodate differences in national environmental, health and safety priorities, allowing them to be linked to levels of economic development, while being consistent with the needs of protecting the global environment and maintaining a move toward a freer multilateral trading system. The response is likely to consist in more international understandings on environmental, health and safety regulations, whether these be ad hoc or incorporated into the existing international institutional framework.

Regional trade and integration

The latter part of the 1980s witnessed a

[71] GATT. 1979. *Agreement on technical barriers to trade.* Geneva, GATT.

resurgence of efforts to promote greater regional economic integration, particularly among industrialized countries. Trade has been particularly dynamic within the EEC, with intra-EEC trade increasing substantially faster than world trade. The impact that the creation of a single European market by 1992 will have on food and agricultural commodity trade is unclear and will depend greatly on what future modifications are made to the Community's policies. It is widely expected that the single market will raise income levels within the Community. Thus, it seems probable that EEC consumers will seek greater variety, including more exotic, tropical foods, and raise consumption of some agricultural raw materials. These trends could benefit developing country producers.

The United States-Canada Free Trade Agreement (FTA) has created a free trade area which should raise income levels in both countries. However, the external tariffs of each partner with non-members were not changed and there has therefore been little evidence of a commodity trade impact on third countries, directly attributable to the FTA. Agricultural commodities did not figure prominently in the FTA, although it provided for a phased elimination of tariffs on most agricultural and food products,[72] nor did the FTA remove pre-existing non-tariff barriers to agricultural trade. Discussions have commenced on extending the FTA to include Mexico under a North American free trade agreement.[73] For other Latin American countries, the United States has proposed an "Enterprise for the Americas" initiative covering trade, investment and debt.[74]

The late 1980s witnessed a resurgence of interest in greater trade integration among developing countries, although most groupings have yet to recover the ground lost in the early part of the decade or before. Nevertheless, the level of activity in the early 1990s, particularly in Latin America, suggests that economic integration among developing countries could grow in importance during the 1990s.

The changes currently under way in the USSR and in Eastern Europe are of considerable potential importance for agricultural trade in the 1990s. This internal and external restructuring process has been directly responsible for major changes in trading patterns within the area and with developed and developing countries alike.[75] In 1991, it led to the dissolution of the Council for Mutual Economic Assistance (CMEA) and its controls over intramember trade. Eastern Europe's food trade with the USSR, accounting for about 34 percent of these countries' agricultural exports in 1988, has been affected by these changes which, *inter alia,* were expected to lead to increased competition from countries outside the CMEA area.[76] Over the longer term, a key issue for agricultural trade arises from the possibility that the region could turn from being a major agricultural importer to self-sufficiency or even to being an exporter of temperate agricultural commodities.

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[72] OECD. *Agricultural Policies, Markets and Trade: Monitoring and Outlook, 1990,* p. 81.

[73] US Information Service. *Joint communiqué by the United States, Mexico and Canada.* 5/2/91.

[74] UNCTAD. *Protectionism and Structural Adjustment, Part I: Restrictions to Trade,* TD/B/1282, p. 5, para. 22. 20 December 1990.

[75] FAO. *Policy Changes Affecting European Agriculture,* CL 98/20, October 1990. paras 96-101.

[76] FAO. *Commodity Review and Outlook, 1990-91.*

AGRICULTURAL POLICIES AND ISSUES: LESSONS FROM THE 1980s AND PROSPECTS FOR THE 1990s

IV. Conclusions

The above review shows a wide variety of contrasting features and experiences. For many developing countries the 1980s were a decade of failure and frustration. For others, including some of the most populous ones, the decade saw periods of remarkable progress in key development areas. Industrialized countries entered into a long period of growth, stability and integration that placed them in an increasingly dominant position in the world economic and political scene. Several former centrally planned economies took historic steps toward democratic and market-oriented systems of political and economic management. For many observers, the latter part of the decade was a major turning point that marked the end of the post-Second World War era. Following the dismal record of economic and social performance in many developing countries, widespread awareness emerged for a need to re-examine past development strategies. This awareness arose from the new demands for growth placed on policy-makers by a more hostile international environment; from the recognition that previous policies had in many cases been flawed, irrespective of their external context; and from the disappointing record of more recent policy packages in reversing or even arresting the economic stagnation and decline of many countries during the 1980s.

Re-examination of past strategies led many countries and development analysts to rediscover a fundamental principle: development should first and foremost emphasize its human dimension. This renewed emphasis had a number of important implications. First, recognition of the need to "adjust adjustment" in such a way as to attenuate or reverse its recessive effects and alleviate social hardship. Second, recognition of the importance of people's knowledge, skills and aptitudes and the strengthening of appropriate institutions and mechanisms that would enable them to take control of the development process. Third, the human focus also involved recognition of the key role of women in development, particularly in agricultural and rural development. Throughout the developing world, the process of "feminization of agriculture" has become increasingly evident.[77] This fact points to the need to improve women's access to resources, services, employment and markets. Fourth, the focus on human development also prompted recognition of the need to increase people's participation in the formulation of policies and in their implementation.[78] Last but not least, human development also involved increased priority by both national and international bodies to enhance food security policies and programmes. Attention turned to further elaboration of the food security concept in its multiple dimensions. It was noted in particular that food access often has more to do with incomes than with supply — many developing countries having been relatively more successful in producing food than ensuring a regular flow of adequate food supplies to consumers or increasing food access in the context of demand-depressing adjustment measures. This recognition went along with food security policies and programmes that emphasize national nutritional and rural development considerations in view of, *inter alia,* distorted international food markets. It was also recognized that, besides being intrinsically intolerable, hunger and malnutrition incur losses in human potential that translate into economic costs that no country can afford.

Having seen the above issues move to the forefront of developmental concerns, the 1980s will perhaps also be remembered as the decade in which environmental considerations moved from the fringes to the centre stage of policies. In the context of the richer countries, these concerns reflect the perception of a deteriorating environment; the need to conserve natural resources; and, one would hope, the willingness to pay for intrinsic environmental values. In the developing countries, concerns

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[77] See FAO. 1991. *Women in Agricultural Development: FAO's Plan of Action,* CL91/13. See also D. Elson, ed. 1991. *Male bias in the development process.* Manchester, Manchester Univ. Press.

[78] See FAO. 1991. *Plan of Action For People's Participation in Rural Devlopment,* CL91/22.

revolve more around the sustainability of conventional development processes and likely conflicts between resource preservation and development needs, the latter being largely based on the exploitation of natural resources.

FAO has played an active role in helping to translate developmental concerns relating to agriculture into policy action. Many FAO studies have provided quantitative and policy analyses at global, regional and country levels, with a view to identifying issues and constraints to agricultural and rural development, exploring prospects for the years to come and defining appropriate policy action. Examples of such studies are the revised 1987 version of the study *Agriculture: toward 2000;* the regional studies undertaken since 1986 on Africa, Latin America and the Caribbean and Europe; and many FAO or FAO-sponsored sectoral strategies and plans of action.[79] Furthermore, major consultations such as the forthcoming FAO/WHO International Conference on Nutrition serve as a basis for the design and implementation of strategies, policies and programmes to reach — in this case — agreed nutrition and dietary goals.

FAO's perceptions of sectoral as well as overall developmental objectives are also reflected in two recent documents: the Long-term strategy for the food and agricultural sector referred to at the beginning of this chapter; and Medium-term perspectives and programme priorities for food and agriculture.[80] The "long-term strategy" focuses on the food and agricultural policies that would contribute to the achievement of four major and inter-related objectives contained in the IDS: economic growth with equity; poverty eradication — an issue closely related to food insecurity and malnutrition; development of human resources and institutions; and sustainable development and the environment. A number of policy guidelines, drawn from experience, are outlined to these ends. In particular, the strategy emphasizes the importance of creating and strengthening the policy-analysis and policy-making capability of countries and international institutions.

These concerns are echoed in the Medium-term Plan, which identifies the main developmental challenges for the coming years and defines priority areas across the wide spectrum of the Organization's programmes and activities. After analysing changes in perceptions on what should be priority areas for future policy action, the plan identifies the following activities:

- ensuring the provision of timely, reliable and comprehensive food and agricultural information on which to base sound policy analysis and decision-making;
- increasing the incomes and food production or purchasing power of the poor through productivity increases that, in turn, reduce real prices of food to consumers, and through greater employment and reduced underemployment;
- ensuring that small-scale farmers have access to the services, incentives and means necessary for increased agricultural production, including indigenous crops, through appropriate institutional and infrastructural development;
- ensuring that rural people participate more actively in the process of development and that this process is focused more on the human aspects of development;
- improving natural resource management and achieving sustainable development through the introduction of environmentally sound technologies and farming systems that are inherently conservationist while still permitting development;
- enhancing the development of a more liberal agricultural trade regime, and in particular improving developing country access to world markets;
- recognizing women's critical roles and special needs in all developmental areas, overcoming the constraints they confront as agricultural producers and workers as well as environmental and household managers.

These tasks have been defined as guidelines for formulating FAO's programme of work in the medium term. However, their developmental relevance transcends this specific purpose, and must be seen as an urgent task for each country as well as for international

[79] These include the World Conference on Agrarian Reform and Rural Development (WCARRD) Programme of Action; the Guidelines for International Agricultural Adjustment; the World Food Security Compact; the Tropical Forests Action Programme (TFAP); the Strategy for Fisheries Management and Development; the Plan of Action for the Integration of Women in Development; the People's Participation Programme; and the International Code of Conduct on the Distribution and Use of Pesticides.

[80] Document COAG 91/5, January 1991.

development agencies and institutions. The extent to which these action principles will be adopted and translated into operative realities will critically affect developmental prospects, particularly in food and agriculture.

Among the conclusions that may be drawn from the above review, a simple but fundamental axiom emerges: policies matter. Inappropriate national and international policies were at the root of many of the problems that made the 1980s a "lost" decade for many countries. Lessons from this hard experience can help the international community turn the 1990s into a genuine decade for development.

ANNEX TABLES

1. VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	`000 TONNES											PERCENT
WORLD												
AGRICULTURAL PROOUCTS												
TOTAL CEREALS	1565208	1646665	1707418	1641677	1799281	1840327	1852751	1788529	1742923	1883933	1952175	1.75
WHEAT	445845	455083	481293	492766	515841	504456	534268	510535	506673	542339	596565	2.22
RICE,PAOOY	399201	412023	423956	451516	469425	472018	471450	464562	490737	517584	517668	2.50
BARLEY	159719	151525	163969	161693	172177	176114	181682	180336	167183	167961	180473	1.24
MAIZE	397529	449052	450452	348546	452076	487280	477645	450597	400259	473669	472384	1.18
MILLET ANO SORGHUM	82473	100489	95489	93992	94752	105545	96828	91565	94487	88967	87160	-.25
ROOT CROPS	536816	556557	560066	562785	592500	578813	579095	590040	580051	598814	598094	.92
POTATOES	241609	268687	266222	265456	291962	282901	287087	279554	270871	276798	271451	.77
CASSAVA	124424	129011	129853	126778	131623	136407	133398	139765	148626	159319	156952	2.41
TOTAL PULSES	40753	41504	45763	47572	49760	50793	52945	54983	55966	55563	59427	3.71
CITRUS FRUIT	58948	59226	58301	62625	58410	61864	64480	68030	69408	74988	72672	2.56
BANANAS	37229	37915	38093	36969	39324	40057	42427	44528	44692	44697	45704	2.40
APPLES	33980	32887	41490	39547	40124	38849	41874	38346	42085	42027	40351	1.71
VEGETABLE OILS,OIL EQUIV.	50083	53845	57321	53487	59585	64696	64831	67728	68529	72092	74897	3.96
SOYBEANS	81020	88197	92108	79453	90693	101124	94299	99925	93404	106944	108069	2.53
GROUNDNUTS,IN SHELL	16901	20436	17963	18995	19908	20775	21304	21563	25337	23049	23358	3.19
SUNFLOWER SEEO	13632	14359	16429	15698	16609	18843	20779	20630	20585	21253	22187	5.08
RAPESEED	10762	12485	15210	14146	16709	19244	19821	22627	22040	22439	24423	8.20
COTTONSEEO	26621	28663	28046	27427	34901	32203	28286	31016	33957	31769	34141	2.08
COPRA	4540	4575	4651	4558	3852	4405	5456	4974	4547	4432	5268	.98
PALM KERNELS	1774	1806	2167	2010	2375	2598	2744	2716	2986	3368	3508	7.16
SUGAR (CENTRIFUGAL,RAW)	84239	93235	102782	97536	99223	98532	101124	101762	103807	105483	108355	1.73
COFFEE,GREEN	4843	6058	4990	5585	5171	5842	5232	6445	5750	6068	6104	1.73
COCOA BEANS	1668	1740	1607	1596	1756	1958	2058	2047	2487	2440	2411	4.81
TEA	1881	1874	1948	2045	2188	2298	2294	2389	2470	2436	2511	3.29
COTTON LINT	13850	15251	14906	14251	18223	17376	15228	16595	18343	17092	18431	2.42
JUTE ANO SIMILAR FIBRES	3550	3607	3208	3426	3562	6311	4418	3515	3273	3407	3673	.24
SISAL	547	509	521	422	446	492	466	374	373	417	368	-3.56
TOBACCO	5305	5965	6894	5938	6487	7021	6068	6170	6872	7049	7446	2.17
NATURAL RUBBER	3797	3785	3807	4110	4179	4331	4555	4736	4913	4832	5150	3.36
TOTAL MEAT	134626	137036	138124	142546	146268	151584	155872	160955	167836	170869	175102	2.85
TOTAL MILK	462563	465989	476344	495098	498465	509242	518198	517126	523429	529550	535552	1.51
TOTAL EGGS	27265	27936	28782	29297	30787	32457	33576	34463	36145	36191	36422	3.31
WOOL,GREASY	2789	2850	2881	2898	2881	2969	3011	3088	3161	3184	3354	1.66
FISHERY PROOUCTS 1/												
FRESHWATER + DIAOROMOUS	8008	8562	8899	9727	10436	11342	12255	13111	13778	14435	14880	6.8
MARINE FISH	55306	57039	58387	58106	63428	64474	69379	68605	72244	72265	67800	2.8
CRUS.+ MOLLU.+ CEPHAL.	8560	8689	9203	9233	9777	10188	10705	12036	12338	12670	12468	4.5
AQUATIC MAMMALS	1	1	1	2	2	2	2	3	4			
AQUATIC ANIMALS	96	197	264	402	249	299	350	366	278	317	319	7.8
AQUATIC PLANTS	3559	3269	3283	3447	3775	3877	3856	3547	4140	4340	4400	2.7
FOREST PROOUCTS 2/												
SAWLOGS,CONIFEROUS	614137	581104	561147	623521	661120	667167	697654	716287	722920	714774	716971	2.48
SAWLOGS,NON-CONIFEROUS	263964	255370	243301	252696	260689	253002	266404	283259	289561	292817	293940	1.70
PULPWOOD+PARTICLE	370764	372394	361990	369698	382636	379302	400480	412708	423471	432699	433687	1.95
FUELWOOO	1480942	1524091	1558165	1589644	1638346	1672716	1707099	1735081	1760484	1786263	1786305	1.98
SAWNWOOO,CONIFEROUS	333769	315612	311543	327350	343309	348976	360756	376857	377668	374144	375006	1.99
SAWNWOOO,NON-CONIFEROUS	113671	110962	107921	110967	114549	115504	118963	124422	124897	124617	125015	1.51
WOOO-BASEO PANELS	101020	100337	96234	105459	108592	111831	117349	121339	127046	129224	129705	3.19
PULP FOR PAPER	128856	128808	123474	132359	140224	141186	146794	152881	159308	162000	164345	2.98
PAPER ANO PAPERBOARO	170220	170954	167264	177227	189967	192644	201949	212673	225469	231398	236566	3.87

1/ NOMINAL CATCH (LIVEWEIGHT) EXCLUOING WHALES
2/ EXCEPT FOR PULP FOR PAPER ANO PAPER ANO PAPERBOARD, ALL FOREST PROOUCTS ARE EXPRESSED IN THOUSANO CUBIC METRES

1. (Cont.) VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	`000 TONNES											PERCENT
WESTERN EUROPE												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	177560	167233	181315	173598	211609	195693	191112	186523	196616	198034	192133	1.24
WHEAT	70024	66271	73690	73720	92695	80179	81148	81126	85539	89206	91722	2.81
RICE,PADDY	1702	1597	1705	1519	1750	1933	2012	1932	1973	1968	2269	3.08
BARLEY	57235	50636	53714	49748	62856	58834	53698	52871	56961	53343	52719	-.06
MAIZE	31280	32622	35505	34533	36438	37681	39891	36556	38145	38427	30236	.83
MILLET AND SORGHUM	617	600	505	460	491	393	384	393	444	585	485	-2.02
ROOT CROPS	49186	48603	48371	42526	50514	51552	48694	48389	47476	46998	47296	-.15
POTATOES	49040	48465	48240	42403	50406	51437	48591	48292	47390	46919	47217	-.14
TOTAL PULSES	1895	1666	1985	2181	2789	3392	4000	4906	5909	5588	6317	15.78
CITRUS FRUIT	6629	6777	6740	8650	6413	8036	8737	7794	8797	9483	8912	3.44
BANANAS	511	522	492	500	489	454	527	512	457	439	422	-1.57
APPLES	10701	7646	12696	9089	10924	9206	10710	9070	11058	9831	9607	.03
VEGETABLE OILS,OIL EQUIV.	3310	2930	3762	3642	4251	4676	4751	6739	5832	5986	6042	8.06
SOYBEANS	66	118	233	300	389	523	1130	2044	1870	2205	2328	44.71
GROUNDNUTS,IN SHELL	19	15	14	17	16	18	19	16	15	19	21	1.58
SUNFLOWER SEED	1302	1219	1736	1895	2484	3008	3769	4753	4495	4024	4682	15.96
RAPESEED	2543	2523	3295	3141	4160	4388	4371	6519	5978	5753	6544	10.84
COTTONSEED	333	366	285	329	363	419	527	516	669	616	573	8.14
COPRA											1	30.02
SUGAR (CENTRIFUGAL,RAW)	15732	19077	18002	14945	16551	16536	16802	15838	16422	17486	17766	.10
COTTON LINT	178	196	156	176	196	238	291	254	354	315	304	7.73
TOBACCO	401	435	459	431	477	494	494	475	466	459	461	1.08
TOTAL MEAT	29515	29694	29739	30193	31035	31155	31551	32329	32613	32308	33350	1.26
TOTAL MILK	135988	136329	139996	144287	142563	141150	142101	136909	133712	133502	133491	-.38
TOTAL EGGS	5443	5536	5692	5562	5479	5562	5503	5440	5509	5349	5361	-.32
WOOL,GREASY	161	161	160	164	167	173	177	181	190	200	204	2.60
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	260	249	267	274	290	322	362	355	416	475	480	7.3
MARINE FISH	9959	10016	9545	9747	10197	9920	9617	9488	9757	9226	9213	0.69
CRUS.+ MOLLU.+ CEPHAL.	1135	1197	1264	1371	1281	1411	1439	1481	1428	1403	1390	2.1
AQUATIC ANIMALS	1	1	1			1			1			
AQUATIC PLANTS	250	208	226	222	242	249	264	272	319	326	330	4.38
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	97381	90791	89591	94371	96228	95221	95420	94340	99187	106261	108685	1.35
SAWLOGS,NON-CONIFEROUS	24240	23838	22524	21723	22843	22796	23332	23281	24424	26024	27290	1.23
PULPWOOD+PARTICLE	83788	86401	84045	82462	86245	87144	91118	97160	101627	105721	106846	2.74
FUELWOOD	37305	38303	38905	39520	39921	40331	40496	39577	39345	40559	40579	.64
SAWNWOOD,CONIFEROUS	54877	50554	50134	52307	53470	51566	51750	52395	53446	56295	57284	.74
SAWNWOOD,NON-CONIFEROUS	12437	11472	11210	10631	11284	11228	11317	11307	11655	11912	12331	.32
WOOD-BASED PANELS	26602	24960	23577	23901	24225	24448	25215	26389	29546	31370	31901	2.52
PULP FOR PAPER	26647	26489	25045	26880	29161	29299	30045	31436	32943	33698	33558	3.03
PAPER AND PAPERBOARD	44736	44707	43738	45571	49971	50106	51867	54611	58749	60815	61097	3.77

1/ NOMINAL CATCH (LIVEWEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

1. (Cont.) VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	`000 TONNES											PERCENT
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	263297	230310	267162	266677	256963	270066	293194	289898	275475	295442	314449	2.09
WHEAT	127525	107396	113442	107166	104912	110225	126265	118564	123202	131017	147126	1.97
RICE,PADDY	2934	2664	2651	2817	2932	2814	2905	2902	3099	2710	2610	
BARLEY	59102	51413	59740	64483	58199	62174	70382	74818	61215	67039	74793	2.58
MAIZE	30030	28205	37978	34281	34481	35980	34916	33039	32460	32874	23671	-1.00
MILLET AND SORGHUM	2077	2034	2717	2709	2150	3153	2570	4259	3417	4394	3915	7.56
ROOT CROPS	111059	135403	129664	135629	147334	133933	146809	133124	118119	125325	117849	-.30
POTATOES	111057	135399	129661	135627	147332	133930	146806	133120	118117	125323	117848	-.30
TOTAL PULSES	7125	5290	7803	9872	10220	10795	9322	11419	10520	11179	11346	6.00
CITRUS FRUIT	161	313	286	415	367	154	332	194	461	121	265	-1.34
APPLES	8550	10008	13287	13125	11934	11666	13621	8840	10347	10951	9457	-.49
VEGETABLE OILS,OIL EQUIV.	4353	4364	4675	4555	4478	4753	5082	5298	5420	5969	5467	3.01
SOYBEANS	1104	907	1007	953	1001	855	1189	1175	1301	1400	1088	2.78
GROUNDNUTS,IN SHELL	7	9	9	8	8	6	9	10	11	12	16	5.75
SUNFLOWER SEED	6308	6636	7350	6904	6528	7068	7568	8121	8040	8971	8194	3.00
RAPESEED	1226	1097	1064	1312	1718	1932	2295	2301	2518	2932	2563	11.14
COTTONSEED	6095	5901	5691	5648	5279	5362	5047	4980	5319	5247	5084	-1.69
SUGAR (CENTRIFUGAL,RAW)	10842	10943	12450	13563	13434	12923	13406	14158	12992	13884	13637	2.12
TEA	130	137	140	146	151	152	146	156	123	131	115	-.97
COTTON LINT	2813	2905	2800	2597	2354	2793	2660	2475	2772	2697	2644	-.55
JUTE AND SIMILAR FIBRES	52	45	45	45	45	45	45	45	47	47	49	-.02
TOBACCO	545	574	637	670	704	697	710	634	541	443	405	-2.79
TOTAL MEAT	25130	24865	24767	26074	26939	27378	28624	29437	30292	30686	30095	2.44
TOTAL MILK	131292	127674	129251	137243	140471	141441	144832	146143	148810	151200	149458	1.75
TOTAL EGGS	5621	5834	5862	6062	6178	6251	6474	6556	6723	6655	6474	1.69
WOOL,GREASY	559	574	571	584	595	574	595	579	599	590	595	.50
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	1121	1146	1216	1276	1215	1325	1275	1383	1291	1423	1408	2.19
MARINE FISH	9065	9119	9308	9520	10365	10007	10660	10504	10766	10353	9144	1.1
CRUS.+ MOLLU.+ CEPHAL.	565	540	732	428	369	481	625	581	570	667	570	1.16
AQUATIC ANIMALS				1		1	6	6	5	5	5	
AQUATIC PLANTS	143	134	109	93	109	122	155	150	178	140	150	2.94
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	155724	155698	153520	156432	158709	157347	165092	168613	168855	163749	163633	.84
SAWLOGS,NON-CONIFEROUS	33594	33619	33109	33368	34357	33003	32610	33333	33545	32203	32031	-.39
PULPWOOD+PARTICLE	55992	55666	56524	57323	58951	58714	61664	62292	65326	61596	61460	1.39
FUELWOOD	92415	96413	99038	95838	100756	103259	104366	103149	99188	95522	95546	.29
SAWNWOOD,CONIFEROUS	101494	100809	100153	100268	100630	101194	103222	103882	103849	101387	101337	.20
SAWNWOOD,NON-CONIFEROUS	18260	18269	18060	18272	18430	18202	17881	17417	17482	16771	16752	-.90
WOOD-BASED PANELS	17464	17598	17988	18563	19480	19682	20662	20801	21413	21588	21538	2.46
PULP FOR PAPER	11607	11774	12052	12869	13261	13432	13342	13339	14922	14611	15139	2.68
PAPER AND PAPERBOARD	14102	14264	14356	14993	15387	15636	15783	15961	16754	16508	16447	1.80

1/ NOMINAL CATCH (LIVEWEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

1. (Cont.) VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	`000 TONNES											PERCENT
NORTH AMERICA,DEVELOPED												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	311491	382085	386769	255460	357905	395739	372730	332478	242624	332556	371136	-.46
WHEAT	84092	100608	101966	92323	91806	90227	88275	83353	65316	80007	106243	-1.20
RICE,PADDY	6629	8289	6969	4523	6296	6122	6049	5879	7253	7007	7027	.20
BARLEY	19257	24033	25198	21289	23324	25263	27926	25311	16526	20466	23235	-.40
MAIZE	174400	212895	215702	111972	201705	232415	214854	188157	130563	197535	208666	.18
MILLET AND SORGHUM	14836	22357	21322	12514	22164	28626	24009	18743	14828	15812	14683	-1.48
ROOT CROPS	16762	18680	19565	18245	19804	22102	19734	21222	19390	20133	21388	1.64
POTATOES	16263	18097	18889	17694	19215	21437	19169	20692	18889	19614	20794	1.71
TOTAL PULSES	1676	1954	1720	1161	1373	1494	1814	2378	1581	1776	2282	2.41
CITRUS FRUIT	14954	13703	10938	12411	9836	9548	10042	10881	11577	11962	9888	-2.41
BANANAS	2	3	3	2	4	4	4	5	6	5	5	11.24
APPLES	4553	3933	4162	4283	4213	4073	3953	5378	4619	5035	4808	1.80
VEGETABLE OILS,OIL EQUIV.	11883	13252	14342	10895	13030	14190	13231	13395	11429	12719	13244	.11
SOYBEANS	49612	54742	60459	45253	51565	58140	53840	54007	43306	53573	53595	-.28
GROUNDNUTS,IN SHELL	1045	1806	1560	1495	1998	1870	1677	1640	1806	1810	1634	2.48
SUNFLOWER SEED	1863	2201	2514	1497	1783	1492	1250	1235	861	867	1147	-8.78
RAPESEED	2483	1849	2218	2593	3412	3498	3787	3850	4300	3152	3331	6.07
COTTONSEED	4056	5803	4304	2791	4671	4789	3448	5234	5499	4243	5413	1.72
SUGAR (CENTRIFUGAL,RAW)	5420	5774	5384	5241	5485	5527	6197	6798	6393	6076	5998	1.71
COFFEE,GREEN	1	1		1	1	1	1	1	1	1	1	5.97
COTTON LINT	2422	3406	2605	1692	2827	2924	2119	3214	3355	2655	3374	2.22
TOBACCO	918	1048	975	760	873	782	596	601	680	696	803	-3.78
TOTAL MEAT	27156	27555	26929	27871	28141	28776	29174	29790	30786	31289	31575	1.68
TOTAL MILK	66099	68182	69691	71166	69490	72760	72962	72717	74069	73406	75160	1.11
TOTAL EGGS	4463	4477	4456	4359	4382	4379	4419	4494	4434	4303	4342	-.22
WOOL,GREASY	49	51	50	48	45	41	40	40	42	42	41	-2.40
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	497	530	530	563	644	731	706	662	650	757	723	4.08
MARINE FISH	3154	3122	3519	3774	3949	4181	4532	5347	5311	5010	5202	6.05
CRUS.+ MOLLU.+ CEPHAL	1350	1558	1378	1324	1674	1481	1423	1515	1541	1521	1464	0.68
AQUATIC ANIMALS	1	1	9	8	8	10	15	24	31	30	30	40.17
AQUATIC PLANTS	191	78	103	29	63	109	82	126	113	125	130	3.18
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	260961	238884	220996	276510	304302	310133	333140	348289	348493	340669	340669	4.34
SAWLOGS,NON-CONIFEROUS	43206	39834	29093	36240	37061	35511	42142	43671	44601	44134	44134	2.11
PULPWOOD+PARTICLE	163894	164429	156026	161024	165399	158513	171356	175472	176865	185815	185815	1.56
FUELWOOD	95976	107410	107595	108119	120638	125203	126047	123102	123102	123102	123102	2.30
SAWNWOOD,CONIFEROUS	109483	98688	94908	109365	122153	127361	135351	148552	147374	143050	143030	4.51
SAWNWOOD,NON-CONIFEROUS	18650	17087	12357	14415	15957	15376	18924	20704	20680	19025	19025	2.74
WOOD-BASED PANELS	31026	32011	28338	34842	36378	38257	40829	40506	40366	40117	40117	3.39
PULP FOR PAPER	65241	65672	61122	65863	69877	68336	72386	75780	77662	78645	79916	2.55
PAPER AND PAPERBOARD	70229	71502	67307	72157	76588	75407	79703	83576	86226	86069	89040	2.77

1/ NOMINAL CATCH (LIVEWEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

1. (Cont.) VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	`000 TONNES											PERCENT
OCEANIA, DEVELOPED												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	17159	24472	15066	31940	29719	26362	25282	20871	22717	23224	24387	1.62
WHEAT	11162	16686	9168	22317	18981	16477	16499	12624	14141	14349	15590	.99
RICE, PADDY	613	728	854	519	634	864	716	608	740	748	923	1.99
BARLEY	2910	3721	2295	5236	6125	5513	4167	3878	3598	4371	4594	3.04
MAIZE	307	325	382	282	392	466	465	383	345	355	380	1.74
MILLET AND SORGHUM	936	1231	1355	987	1929	1395	1448	1458	1727	1264	985	1.45
ROOT CROPS	1091	1089	1168	1127	1327	1277	1250	1311	1366	1337	1469	2.79
POTATOES	1071	1075	1157	1117	1314	1264	1239	1297	1352	1321	1453	2.82
TOTAL PULSES	210	226	315	323	618	862	923	1605	1569	1666	1423	26.65
CITRUS FRUIT	566	509	534	525	587	637	643	612	505	538	620	.83
BANANAS	124	130	140	146	145	134	178	181	209	196	180	4.97
APPLES	510	549	520	534	513	629	632	666	679	675	719	3.70
VEGETABLE OILS, OIL EQUIV.	120	126	118	105	157	266	223	180	223	213	186	7.21
SOYBEANS	82	73	77	53	89	110	105	90	69	130	90	3.33
GROUNDNUTS, IN SHELL	39	43	58	23	47	42	43	48	39	25	21	-4.54
SUNFLOWER SEED	142	139	115	104	170	293	215	137	219	174	92	1.34
RAPESEED	18	15	7	18	33	88	84	74	65	76	119	27.24
COTTONSEED	136	161	191	164	190	410	382	330	445	449	458	14.41
SUGAR (CENTRIFUGAL, RAW)	3330	3435	3536	3170	3548	3379	3371	3440	3679	3797	3570	.90
COTTON LINT	83	99	134	101	141	249	258	214	284	286	305	14.72
TOBACCO	18	17	15	15	16	14	12	14	14	12	13	-3.12
TOTAL MEAT	3799	3811	3854	3923	3583	3777	3816	4063	4197	4053	4189	1.03
TOTAL MILK	12248	12079	12203	12593	13711	14089	14440	13625	13948	13857	14135	1.72
TOTAL EGGS	265	278	274	275	264	250	249	247	247	251	250	-1.16
WOOL, GREASY	1066	1082	1080	1073	1091	1188	1188	1237	1257	1264	1409	2.62
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	5	4	4	4	6	6	5	5	7	8	8	6.63
MARINE FISH	227	257	261	289	308	308	382	477	586	525	598	10.86
CRUS.+ MOLLU.+ CEPHAL.	116	121	152	158	178	152	140	149	170	207	135	2.65
AQUATIC PLANTS	15	16	11	11	18	14	13	16	18	25	30	6.71
FOREST PRODUCTS 2/												
SAWLOGS, CONIFEROUS	8443	8607	8357	7703	7308	8267	8297	8398	9233	9694	9694	1.62
SAWLOGS, NON-CONIFEROUS	5881	6077	5725	4569	4556	4911	4784	4795	4748	4660	4660	-2.37
PULPWOOD+PARTICLE	9890	10177	9513	9865	10455	11137	11577	11577	11812	11528	11528	2.15
FUELWOOD	1458	1818	2118	2524	2924	2924	2930	2930	2936	2936	2936	6.28
SAWNWOOD, CONIFEROUS	3101	3370	3414	3141	3163	3496	3595	2996	3278	3736	3736	1.15
SAWNWOOD, NON-CONIFEROUS	2069	2145	2013	1790	1739	1830	1801	1838	1867	1845	1845	-1.19
WOOD-BASED PANELS	1166	1215	1228	1053	1210	1292	1330	1498	1620	1739	1739	4.71
PULP FOR PAPER	1824	1913	1896	1794	1917	2065	2032	2039	2217	2307	2273	2.42
PAPER AND PAPERBOARD	2104	2151	2188	2101	2214	2316	2267	2170	2492	2605	2813	2.48

1/ NOMINAL CATCH (LIVEWEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

1. (Cont.) VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	....	....	....	....	....	`000 TONNES	....	....	....	....	....	PERCENT
AFRICA,DEVELOPING												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	47561	46697	50487	47287	43917	59520	62830	57894	64851	65883	61381	3.86
WHEAT	5418	4388	5600	4584	4699	6589	6992	6425	6471	6830	7188	4.36
RICE,PADDY	6227	6321	6543	6658	6714	7110	7553	8100	8398	8710	9285	4.21
BARLEY	4464	2866	4435	2882	3113	5522	5873	3974	5109	5190	4574	3.89
MAIZE	13295	15190	15206	14490	14590	18509	19449	16688	20848	22005	19952	4.68
MILLET AND SORGHUM	16492	16512	16992	17299	13649	20459	21536	21345	22621	21892	19098	3.32
ROOT CROPS	83745	86983	91100	88279	93432	98822	99997	102326	109645	115646	115989	3.41
POTATOES	3366	3125	3455	3611	3321	4467	4142	4052	4074	4412	4639	3.64
CASSAVA	48122	50855	53310	52208	55186	58144	58298	61325	66842	72499	72100	4.17
TOTAL PULSES	4599	4623	5270	5006	4428	4921	5994	5259	5926	6066	6144	3.03
CITRUS FRUIT	2753	2663	2585	2481	2631	2453	2779	2617	2891	3110	2690	.91
BANANAS	4510	4631	4648	4630	4608	4851	5022	5220	5455	5543	5571	2.37
APPLES	116	134	154	194	233	262	288	333	382	402	408	14.29
VEGETABLE OILS,OIL EQUIV.	3831	3819	3911	3840	3839	4102	4546	4566	4621	4823	4812	2.85
SOYBEANS	201	181	197	158	169	192	199	222	226	250	254	3.44
GROUNDNUTS,IN SHELL	3204	3613	3664	3187	3152	3311	4177	4105	4185	4457	4444	3.39
SUNFLOWER SEED	140	134	136	139	155	170	184	249	311	243	320	9.82
RAPESEED	52	64	60	74	73	83	93	110	104	118	128	9.20
COTTONSEED	891	844	854	936	1062	1169	1376	1361	1507	1506	1357	6.70
COPRA	179	175	189	203	201	213	218	228	237	238	241	3.44
PALM KERNELS	700	691	691	611	673	696	683	654	678	673	685	-.11
SUGAR (CENTRIFUGAL,RAW)	3534	3762	3900	3978	3962	3968	4195	4248	4353	4278	4420	1.97
COFFEE,GREEN	1161	1290	1203	1111	1002	1154	1219	1223	1180	1235	1282	.59
COCOA BEANS	1028	1072	881	887	1058	1034	1114	1203	1442	1360	1284	3.89
TEA	189	195	208	218	225	259	251	254	270	289	311	4.90
COTTON LINT	504	470	490	550	605	669	766	773	888	867	825	7.17
JUTE AND SIMILAR FIBRES	8	9	9	9	9	10	10	10	10	10	11	2.34
SISAL	168	146	142	124	115	103	103	105	95	95	95	-5.55
TOBACCO	275	215	235	253	296	277	270	292	292	315	342	3.21
NATURAL RUBBER	201	206	202	207	223	235	248	264	305	332	357	6.19
TOTAL MEAT	4547	4670	4794	4790	4857	5019	5139	5267	5405	5489	5703	2.19
TOTAL MILK	8725	8887	9295	9596	9649	9859	10678	11052	11473	11734	11805	3.36
TOTAL EGGS	644	674	731	798	810	868	912	951	978	1005	1025	4.90
WOOL,GREASY	73	76	82	95	98	109	112	117	122	124	128	6.11
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	1227	1201	1263	1287	1372	1349	1473	1525	1586	1612	1647	3.45
MARINE FISH	1394	1546	1502	1633	1642	1693	1842	1827	2003	1959	1987	3.63
CRUS.+ MOLLU.+ CEPHAL.	95	115	133	174	185	187	201	255	206	227	241	9.06
AQUATIC ANIMALS							1		1	1	1	
AQUATIC PLANTS	5	5	6	5	5	5	5	5	6	6	6	1.50
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	1279	1266	1305	1129	1232	1233	1315	1452	1479	1552	1573	2.58
SAWLOGS,NON-CONIFEROUS	17462	17224	16066	15963	16528	16579	16341	16021	16275	16339	16346	-.46
PULPWOOD+PARTICLE	2002	2008	2037	2109	2297	2380	2171	2590	2675	2847	2846	4.01
FUELWOOD	312691	322488	333648	345217	355826	366029	377549	389119	400635	411907	411907	2.96
SAWNWOOD,CONIFEROUS	592	624	642	577	643	623	643	720	725	747	759	2.55
SAWNWOOD,NON-CONIFEROUS	5169	5259	5015	4724	4994	5383	5471	5784	5786	5866	5866	1.83
WOOD-BASED PANELS	1086	1109	1169	1212	1217	1349	1395	1397	1429	1425	1425	3.12
PULP FOR PAPER	435	471	359	381	387	415	424	465	502	488	465	1.80
PAPER AND PAPERBOARD	378	399	386	417	449	505	574	609	641	639	639	6.61

1/ NOMINAL CATCH (LIVEWEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

1. (Cont.) VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	`000 TONNES											PERCENT
LATIN AMERICA												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	88463	104523	105309	99828	106808	110602	106758	111845	108981	105415	99135	.85
WHEAT	14873	15200	22729	20140	21921	20214	21675	22321	20703	23199	20622	2.99
RICE,PADDY	16401	15724	17525	14755	16924	16990	17760	18192	19963	19622	15512	1.34
BARLEY	1263	1232	1132	1177	1336	1262	1276	1596	1429	1682	1529	3.20
MAIZE	45283	55315	47922	47203	50862	55782	52257	56313	53685	50853	49963	.80
MILLET AND SORGHUM	9573	16063	14791	15091	14231	15193	12688	12007	11899	8563	10066	-3.12
ROOT CROPS	43921	46416	45760	42005	44008	45025	47025	46059	46680	48275	47432	.78
POTATOES	10487	11990	11836	10217	12161	11602	11213	11542	13677	12808	11608	1.25
CASSAVA	29877	30955	30455	28281	28038	29625	32062	30590	29228	31632	32037	.55
TOTAL PULSES	4323	5343	5586	4328	5110	5047	4857	4545	5207	4466	5103	-.05
CITRUS FRUIT	19249	20195	20826	20781	21683	23310	22514	24481	25133	26567	26719	3.39
BANANAS	16184	16340	16636	15843	16987	17045	17395	18367	18293	18608	19162	1.81
APPLES	1702	1769	1816	1801	2177	2209	2064	2641	2681	2684	2667	5.41
VEGETABLE OILS,OIL EQUIV.	6528	6357	6245	6638	7424	8650	7997	7862	9139	9738	10077	5.06
SOYBEANS	19814	20499	18680	20331	24445	27169	22254	26181	30089	33932	33635	6.09
GROUNDNUTS,IN SHELL	1095	1009	898	796	887	992	825	946	864	732	758	-2.66
SUNFLOWER SEED	1757	1353	2068	2463	2268	3521	4280	2381	3149	3354	4044	9.15
RAPESEED	96	64	32	17	17	46	111	112	139	128	73	10.97
COTTONSEED	2950	2727	2554	2257	3018	3417	2748	2343	3442	2646	2806	.46
COPRA	235	227	281	282	244	248	263	257	288	283	260	1.24
PALM KERNELS	326	313	307	291	302	318	302	313	313	332	371	1.00
SUGAR (CENTRIFUGAL,RAW)	26418	27157	28889	28542	28840	28093	28406	27725	28378	26894	27491	.03
COFFEE,GREEN	2973	4058	3053	3742	3501	3866	3169	4256	3598	3656	3713	1.23
COCOA BEANS	553	562	607	571	534	738	729	572	682	674	658	2.08
TEA	50	38	49	54	56	63	59	63	48	51	61	2.19
COTTON LINT	1634	1519	1393	1251	1674	1921	1504	1322	1942	1536	1643	.98
JUTE AND SIMILAR FIBRES	102	126	88	95	105	95	90	92	87	70	46	-5.77
SISAL	352	339	357	276	307	365	336	244	254	299	250	-3.04
TOBACCO	731	689	761	707	722	703	691	690	750	757	725	.19
NATURAL RUBBER	46	51	54	57	58	62	58	48	57	55	58	1.13
TOTAL MEAT	15028	15770	15780	15841	15390	15980	16086	16767	18049	18602	19033	2.21
TOTAL MILK	35426	35790	36508	36368	36680	38060	38564	39326	40168	40221	40884	1.54
TOTAL EGGS	2579	2622	2744	2705	2921	3135	3469	3581	3687	3649	3783	4.51
WOOL,GREASY	306	314	317	314	297	293	314	315	316	321	317	.30
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	297	323	336	444	470	463	497	582	557	523	546	6.64
MARINE FISH	8670	9384	10367	8174	10911	12630	14761	12782	15028	16618	16587	7.38
CRUS.+ MOLLU.+ CEPHAL.	537	530	568	599	653	668	665	741	732	776	763	4.16
AQUATIC ANIMALS	22	25	20	20	24	41	35	33	31	32	32	5.18
AQUATIC PLANTS	124	152	222	213	213	235	179	167	199	229	254	3.93
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	29294	28493	29038	30038	31453	32405	31529	31810	31876	31794	31668	1.12
SAWLOGS,NON-CONIFEROUS	30174	29789	29624	30115	31134	31564	33746	34447	34644	34762	34783	1.97
PULPWOOD+PARTICLE	29274	29132	29006	30745	32431	33806	35264	36846	38151	38177	38177	3.40
FUELWOOD	236060	239840	244625	250846	256862	261959	266721	272330	278171	283300	283300	1.99
SAWNWOOD,CONIFEROUS	11671	11498	11174	12064	12575	12972	12684	13463	13485	13432	13365	1.92
SAWNWOOD,NON-CONIFEROUS	13708	14479	14006	14353	15073	15180	15950	16202	16334	16544	16542	2.05
WOOD-BASED PANELS	4221	4421	4322	4400	4518	4448	4609	4911	5027	4995	4995	1.86
PULP FOR PAPER	5408	5261	5566	6106	6192	6516	7055	7152	7577	7372	7182	3.84
PAPER AND PAPERBOARD	7730	7451	7723	7962	8764	9090	9940	10455	11296	11201	10755	4.74

1/ NOMINAL CATCH (LIVEWEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

1. (Cont.) VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	`000 TONNES											PERCENT
NEAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	55788	59037	57655	55064	54899	62168	66072	63974	74209	58123	69980	2.13
WHEAT	30739	31792	31884	30304	30699	33167	36319	36827	39418	32294	40497	2.42
RICE,PADDY	4705	4862	5036	4565	4591	4988	4983	4898	4445	5391	5428	.89
BARLEY	9573	10471	10587	10176	10299	11622	12399	11821	16269	9350	12996	2.62
MAIZE	5546	5536	5721	6004	6218	6618	6745	6950	7204	7595	7905	3.80
MILLET AND SORGHUM	4151	5340	3531	3189	2303	4992	4886	2712	6268	3046	2610	-2.17
ROOT CROPS	7223	7513	7785	7760	8056	9239	9786	10353	10976	9043	8515	3.11
POTATOES	6763	7050	7291	7294	7617	8783	9360	9981	10570	8732	8231	3.50
CASSAVA	122	125	125	125	100	90	80	80	65	15	6	-21.49
TOTAL PULSES	1858	1922	2123	2476	2375	2628	3248	3559	3713	2957	3563	7.24
CITRUS FRUIT	3701	3796	4361	4812	5039	5057	6004	6451	6709	7283	7415	7.68
BANANAS	299	326	370	373	401	436	474	530	630	633	652	8.54
APPLES	2339	2513	2825	3213	3540	3476	3445	3377	3858	3648	3727	4.49
VEGETABLE OILS,OIL EQUIV.	1694	1349	1572	1329	1431	1348	1648	1583	1881	1457	1587	.93
SOYBEANS	145	209	319	340	301	357	425	476	371	344	361	7.55
GROUNDNUTS,IN SHELL	814	841	610	524	495	399	477	582	726	349	511	-4.57
SUNFLOWER SEED	794	630	652	763	758	867	1030	1200	1273	1352	1030	7.13
RAPESEED	12	6	2						1	3	2	-11.94
COTTONSEED	2284	2226	2335	2460	2520	2479	2327	2292	2514	2296	2372	.28
SUGAR (CENTRIFUGAL,RAW)	2492	3104	3747	3801	3707	3682	3763	4067	3543	3388	4052	2.54
COFFEE,GREEN	5	5	4	4	5	5	5	5	6	6	6	3.19
TEA	128	76	103	137	160	179	196	187	209	178	179	7.59
COTTON LINT	1360	1334	1392	1441	1504	1478	1395	1342	1460	1358	1334	-.09
JUTE AND SIMILAR FIBRES	12	11	8	8	8	8	8	8	8	8	8	-2.84
TOBACCO	295	238	278	305	243	245	230	252	274	317	344	1.31
TOTAL MEAT	3478	3698	3818	4032	4299	4496	4435	4551	4654	4714	4877	3.26
TOTAL MILK	15751	16629	16460	16594	14627	16551	16236	16288	16472	16397	16469	.21
TOTAL EGGS	744	837	907	967	1020	1085	1150	1150	1266	1300	1281	5.56
WOOL,GREASY	183	189	194	195	176	185	180	187	186	184	186	-.19
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	174	176	204	215	232	261	282	294	330	316	335	7.42
MARINE FISH	685	722	800	880	882	916	943	1035	1264	1057	1062	5.11
CRUS.+ MOLLU.+ CEPHAL.	33	29	32	35	39	41	43	50	51	56	55	7.0
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	4964	5218	5214	4190	4152	4061	4397	4058	3777	3733	3728	-3.35
SAWLOGS,NON-CONIFEROUS	1315	1366	1366	1371	1351	1338	1140	1335	1211	1082	1083	-2.23
PULPWOOD+PARTICLE	672	714	712	765	513	380	740	726	717	719	719	.59
FUELWOOD	41586	40715	41149	41540	40671	38016	38806	39458	40147	40288	40286	-.39
SAWNWOOD,CONIFEROUS	4127	4107	4101	3787	3794	3792	3791	3786	3786	3781	3778	-.92
SAWNWOOD,NON-CONIFEROUS	1139	1121	917	1142	1719	1725	1722	1722	1718	1722	1722	6.08
WOOD-BASED PANELS	652	629	623	654	888	988	986	1010	1009	1016	1016	6.15
PULP FOR PAPER	494	487	487	517	588	588	588	588	588	588	588	2.26
PAPER AND PAPERBOARD	774	832	821	674	808	763	762	786	748	748	748	-.57

1/ NOMINAL CATCH (LIVEWEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

1. (Cont.) VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	`000 TONNES											PERCENT
FAR EAST, DEVELOPING												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	577138	600401	617977	690753	713438	693247	707380	698772	731856	775774	792955	2.89
WHEAT	99706	109598	119491	139408	146923	144693	153728	144987	147111	162224	164663	4.48
RICE, PADDY	347764	358980	369800	403173	414702	416582	414883	408739	432411	458457	461455	2.66
BARLEY	5440	6644	6355	6130	6348	5284	5406	5413	5539	5860	5398	-1.23
MAIZE	86471	84259	83504	95427	102644	91507	100723	105129	109748	111955	122161	3.57
MILLET AND SORGHUM	33063	35780	33968	41508	37339	30707	28842	30123	32782	32929	34938	-.96
ROOT CROPS	216002	204040	208062	218956	219446	208006	196663	218269	217626	223142	229190	.61
POTATOES	39276	39305	40710	42868	45698	44991	41255	45375	51749	52531	54581	3.27
CASSAVA	46154	46921	45801	45997	48101	48348	42770	47592	52318	55004	52619	1.50
TOTAL PULSES	18849	20253	20696	22053	22577	21393	22523	21061	21272	21579	22964	1.12
CITRUS FRUIT	5074	5657	5954	6735	6976	7408	8550	9585	8836	11381	11421	8.47
BANANAS	14447	14802	14619	14324	15538	15911	17618	18384	18242	17827	18213	2.94
APPLES	4022	4963	4527	5767	5175	5916	5620	6540	6842	7141	7325	5.63
VEGETABLE OILS, OIL EQUIV.	17617	20823	22013	21834	24267	25904	26572	27326	29164	30331	32581	5.57
SOYBEANS	9781	11227	10888	11819	12458	13510	14873	15408	15832	14759	16405	5.14
GROUNDNUTS, IN SHELL	10225	12694	10954	12779	13153	13851	13882	14018	17387	15412	15788	4.25
SUNFLOWER SEED	985	1516	1592	1718	2273	2173	2198	2165	1813	1820	2034	4.82
RAPESEED	4328	6863	8529	6987	7293	9207	9079	9660	8933	10275	11661	7.13
COTTONSEED	9638	10383	11631	12647	17611	13925	12245	13766	14340	14593	15908	3.99
COPRA	3800	3841	3859	3774	3067	3593	4646	4200	3746	3637	4475	1.04
PALM KERNELS	731	779	1131	1068	1347	1526	1699	1701	1949	2300	2389	12.59
SUGAR (CENTRIFUGAL, RAW)	13514	16504	23138	21670	19674	20839	21271	21890	24153	25911	27738	5.25
COFFEE, GREEN	648	653	687	671	617	759	793	897	904	1100	1035	5.68
COCOA BEANS	54	71	90	105	127	147	179	236	324	353	422	22.71
TEA	1261	1312	1334	1370	1486	1532	1529	1615	1713	1676	1731	3.39
COTTON LINT	4719	5175	5816	6325	8807	6965	6125	6885	7157	7276	7905	4.05
JUTE AND SIMILAR FIBRES	3375	3414	3057	3268	3393	6151	4264	3358	3119	3270	3558	.40
SISAL	22	17	17	17	19	18	19	18	17	17	17	-1.31
TOBACCO	1945	2581	3361	2621	2982	3653	2916	3079	3739	3941	4242	5.81
NATURAL RUBBER	3545	3524	3547	3842	3893	4028	4242	4419	4547	4441	4731	3.21
TOTAL MEAT	21582	22626	23914	25155	27205	29965	32012	33582	36612	38495	41022	6.92
TOTAL MILK	47147	50421	52752	56739	60632	64451	67357	70122	73550	77493	82233	5.63
TOTAL EGGS	5246	5416	5776	6201	7301	8470	8874	9373	10595	10941	11188	8.96
WOOL, GREASY	288	299	316	311	303	301	309	343	359	364	373	2.46
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	4111	4588	4743	5311	5860	6486	7293	7925	8567	8910	9312	9.05
MARINE FISH	12373	12893	13149	13693	14194	14445	15595	15959	16257	17529	18064	3.85
CRUS.+ MOLLU.+ CEPHAL.	3089	3121	3383	3538	3820	4175	4595	5370	5781	5890	5867	7.91
AQUATIC ANIMALS	37	80	154	262	100	152	166	163	113	130	133	6.54
AQUATIC PLANTS	2124	2012	1960	2148	2339	2414	2353	2126	2485	2684	2750	2.89
FOREST PRODUCTS 2/												
SAWLOGS, CONIFEROUS	34366	31386	31966	33163	37717	38459	38878	38964	38477	36016	36016	1.55
SAWLOGS, NON-CONIFEROUS	101943	97975	99477	103377	106766	101349	106457	120675	123970	127634	127634	2.90
PULPWOOD+PARTICLE	8608	7820	7909	8411	9123	9399	9690	10016	10248	10246	10246	2.89
FUELWOOD	650074	663692	677639	692620	707330	721576	736719	751955	763502	775187	775187	1.89
SAWNWOOD, CONIFEROUS	17035	18375	19194	20305	21670	22770	22928	23328	23517	22951	22951	3.07
SAWNWOOD, NON-CONIFEROUS	34779	34212	37907	39721	40097	41632	41693	45102	45382	47099	47099	3.35
WOOD-BASED PANELS	7974	8761	9771	11053	11169	11830	13081	14712	16501	17400	17400	8.47
PULP FOR PAPER	6995	7619	7730	8528	9274	10707	11044	11731	11858	13263	13281	7.07
PAPER AND PAPERBOARD	10773	11271	11835	13233	14871	16733	18229	20237	22132	24189	25112	9.73

1/ NOMINAL CATCH (LIVEWEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

2. INDEXES OF FOOD PRODUCTION

	TOTAL						PER CAPUT					
	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990
	................1979-81=100................					PERCENT	................1979-81=100................					PERCENT
WORLD	116	116	118	123	125	1.64	105	103	103	105	105	-.09
DEVELOPED COUNTRIES	109	108	105	110	111	.37	105	103	99	104	103	-.08
WESTERN EUROPE	108	109	107	109	108	-1.16	107	107	105	106	104	-1.56
EEC	108	110	108	109	108	-1.12	107	108	106	107	105	-1.54
BELGIUM-LUXEMBOURG	116	110	116	117	117	.06	116	110	115	116	116	.06
DENMARK	120	115	122	128	135	5.45	120	115	122	128	134	5.20
FRANCE	106	109	106	103	105	1.86	103	106	102	99	100	1.41
GERMANY, NEW LANDER	116	118	114	115	114	-.12	117	119	114	115	118	2.13
GERMANY, FEDERAL REP.	116	110	114	113	113	-.48	117	111	114	112	110	-1.87
GREECE	103	102	108	113	95	-15.57	100	99	104	108	91	-15.73
IRELAND	114	115	111	108	118	8.71	110	111	107	105	114	9.08
ITALY	101	104	100	102	95	-7.69	99	102	98	100	93	-7.82
NETHERLANDS	119	116	114	124	117	-5.51	116	112	109	118	111	-6.19
UNITED KINGDOM	110	109	106	110	109	-.68	109	108	104	108	107	-.69
AUSTRIA	109	107	111	107	107	-.23	109	107	110	106	106	.23
FINLAND	113	99	103	114	120	5.25	110	96	99	110	115	4.97
ICELAND	101	98	91	90	87	-2.64	95	91	83	81	79	-2.74
MALTA	118	113	105	114	115	.44	125	118	109	118	118	-.19
NORWAY	103	107	104	106	105	-1.10	101	105	101	102	101	-1.41
PORTUGAL	105	116	93	119	127	6.67	101	110	88	112	120	7.02
SPAIN	110	123	118	118	120	1.42	106	118	113	113	115	1.16
SWEDEN	106	92	91	100	112	11.65	105	91	90	98	108	10.76
SWITZERLAND	110	106	107	115	111	-3.36	107	102	102	109	105	-3.46
YUGOSLAVIA	112	106	101	104	95	-8.16	107	101	95	98	89	-8.62
USSR AND EASTERN EUROPE	117	115	115	119	118	-.79	112	109	108	111	110	-1.06
EASTERN EUROPE	113	108	110	112	109	-2.25	110	105	106	108	106	-2.11
ALBANIA	109	114	109	114	113	-.80	97	99	92	96	93	-2.52
BULGARIA	106	100	100	106	98	-7.02	105	99	99	104	97	-7.22
CZECH SLOVAK FED.REP	119	121	125	127	125	-1.02	117	119	122	124	122	-1.17
HUNGARY	108	109	115	114	104	-8.57	109	110	117	116	106	-8.35
POLAND	117	111	114	117	117	-.01	111	105	107	110	110	
ROMANIA	109	96	102	102	93	-8.61	106	93	98	98	89	-9.11
USSR	119	119	119	123	122	-.75	113	112	110	113	112	-1.19
NORTH AMERICA,DEVELOPED	104	101	93	104	107	3.00	98	94	86	96	98	2.48
CANADA	123	116	104	115	127	10.20	117	109	97	105	115	9.09
UNITED STATES	102	100	94	103	105	1.93	96	94	87	95	96	1.47
OCEANIA,DEVELOPED	107	106	110	107	111	3.26	99	97	98	95	97	1.85
AUSTRALIA	107	103	109	107	114	6.02	98	93	97	94	98	4.63
NEW ZEALAND	112	113	114	112	107	-4.56	107	108	108	104	98	-6.11
OTHER DEV.ED COUNTRIES	105	106	105	109	107	-1.21	99	99	97	100	98	-1.98
ISRAEL	119	131	123	123	127	2.91	107	116	107	106	107	.89
JAPAN	108	104	100	102	104	1.26	104	99	95	97	98	.93
SOUTH AFRICA	97	102	105	112	106	-5.94	85	87	88	92	85	-8.01

2. (Cont.) INDEXES OF FOOD PRODUCTION

	TOTAL						PER CAPUT					
	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990
	...............1979-81=100...............					PERCENT	...............1979-81=100...............					PERCENT
DEVELOPING COUNTRIES	123	125	132	136	140	2.70	109	108	112	113	113	.56
AFRICA,DEVELOPING	119	119	125	129	129	-.24	99	96	98	98	95	-3.32
NORTH WESTERN AFRICA	135	134	133	142	140	-1.80	114	111	107	112	107	-4.29
ALGERIA	126	140	132	127	135	6.33	106	114	105	98	101	3.51
MOROCCO	160	138	173	176	162	-7.95	137	116	141	139	125	-10.28
TUNISIA	114	139	101	122	131	7.51	98	117	83	98	103	5.10
WESTERN AFRICA	123	124	133	138	136	-1.19	102	100	104	104	99	-4.31
BENIN	139	127	150	157	158	.22	117	104	119	121	118	-2.80
BURKINA FASO	142	130	147	144	132	-8.73	122	109	120	115	102	-11.20
COTE D`IVOIRE	121	127	141	137	136	-.66	96	97	104	97	93	-4.35
GAMBIA	120	113	113	122	105	-14.21	100	92	90	94	78	-16.59
GHANA	132	138	148	151	134	-10.85	107	109	113	111	96	-13.62
GUINEA	110	110	111	107	114	6.67	96	94	91	86	89	3.50
LIBERIA	117	121	124	120	100	-16.16	97	97	96	90	73	-18.78
MALI	118	111	126	128	126	-1.23	100	91	100	98	94	-4.27
MAURITANIA	105	109	114	116	111	-4.45	89	91	92	92	85	-7.07
NIGER	89	79	107	96	100	3.93	73	63	83	72	72	.72
NIGERIA	126	129	138	149	151	1.55	104	103	107	111	109	-1.75
SENEGAL	130	143	125	142	134	-5.68	110	118	101	110	101	-8.27
SIERRA LEONE	113	110	106	113	116	2.35	98	93	87	91	91	-.23
TOGO	108	109	121	134	133	-.53	91	89	95	102	98	-3.59
CENTRAL AFRICA	113	113	117	117	118	.52	95	93	93	90	88	-2.55
ANGOLA	103	103	102	100	100	.08	88	86	83	79	77	-2.62
CAMEROON	113	109	112	115	117	1.65	94	88	87	87	85	-1.69
CENTRAL AFRICAN REP.	113	112	117	119	121	1.49	96	93	95	93	92	-1.34
CHAD	110	110	120	114	117	2.71	96	93	99	92	92	.15
CONGO	113	119	122	117	124	6.23	95	96	96	89	92	2.86
GABON	106	108	112	114	117	2.01	83	82	82	81	80	-1.34
ZAIRE	119	121	125	127	128	.76	99	98	98	97	95	-2.41
EASTERN AFRICA	113	112	118	121	122	.78	94	90	92	92	89	-2.43
BURUNDI	120	125	126	121	118	-2.41	102	103	101	94	89	-5.24
ETHIOPIA	106	101	103	105	108	2.61	93	86	85	85	85	-.24
KENYA	136	131	143	147	155	5.43	109	101	106	105	107	1.72
MADAGASCAR	116	117	117	120	122	1.79	97	94	92	91	90	-1.42
MALAWI	107	106	112	115	113	-1.76	87	83	85	84	80	-5.20
MAURITIUS	118	120	112	113	118	4.53	111	111	102	102	105	3.33
MOZAMBIQUE	103	103	105	109	110	.78	88	86	86	86	85	-1.87
RWANDA	98	101	104	104	102	-1.82	81	80	79	77	73	-5.13
SOMALIA	126	127	132	137	134	-2.25	102	99	100	100	95	-5.07
TANZANIA	115	118	119	128	122	-4.39	92	91	89	92	84	-7.85
UGANDA	106	116	125	129	134	4.03	86	90	94	94	94	.25
ZAMBIA	121	121	145	146	126	-13.43	96	92	106	103	86	-16.61
ZIMBABWE	128	92	131	120	124	3.77	107	75	102	91	92	.54
SOUTHERN AFRICA	104	108	117	117	119	1.53	87	87	91	88	87	-1.71
BOTSWANA	91	84	111	110	108	-1.27	73	65	83	79	75	-4.81
LESOTHO	92	95	114	96	100	4.97	78	78	91	74	76	1.99
SWAZILAND	129	121	127	124	124	.17	106	96	97	92	89	-3.27
LATIN AMERICA	113	116	123	125	125	.13	99	100	103	103	102	-1.85
CENTRAL AMERICA	112	113	119	123	125	1.43	97	95	98	99	98	-.85
COSTA RICA	109	111	111	117	121	4.02	92	91	89	91	92	1.46
EL SALVADOR	102	96	106	111	109	-1.32	95	88	95	97	94	-3.46
GUATEMALA	118	118	121	122	127	4.37	99	97	97	94	96	1.40
HONDURAS	105	114	119	124	125	.54	85	89	91	91	89	-2.50
MEXICO	112	112	118	121	123	2.22	97	95	98	98	98	.07
NICARAGUA	79	78	76	85	88	3.12	65	61	58	63	62	-.23
PANAMA	110	111	99	109	110	.86	97	96	83	90	89	-1.15
CARIBBEAN	107	106	109	110	108	-2.08	98	96	97	97	93	-3.55
BARBADOS	86	77	81	77	77	.18	85	76	79	75	75	-.22
CUBA	111	106	110	110	108	-2.01	106	100	103	102	99	-3.05
DOMINICAN REP.	108	109	113	123	119	-3.73	94	93	93	100	94	-5.75
HAITI	112	114	111	111	108	-2.41	100	100	96	93	89	-4.39
JAMAICA	108	110	106	100	108	7.91	99	99	95	88	94	6.67

2. (Cont.) INDEXES OF FOOD PRODUCTION

	TOTAL						PER CAPUT					
	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990
	................1979-81=100................					PERCENT	................1979-81=100................					PERCENT
SOUTH AMERICA	113	118	125	127	127	-.04	99	102	105	105	103	-1.97
ARGENTINA	96	99	108	108	102	-5.46	89	89	97	96	89	-6.60
BOLIVIA	116	126	134	129	139	8.12	99	104	108	101	106	5.15
BRAZIL	115	126	134	140	133	-4.83	101	108	113	115	107	-6.71
CHILE	112	115	121	132	137	3.74	101	102	106	113	116	2.07
COLOMBIA	113	116	123	134	135	1.15	100	100	105	111	110	-.78
ECUADOR	122	121	133	137	139	1.35	103	100	107	108	107	-1.14
GUYANA	87	81	78	69	74	7.33	84	78	75	66	71	7.16
PARAGUAY	118	134	149	156	149	-4.73	98	107	117	118	109	-7.39
PERU	110	117	127	124	112	-9.82	96	100	106	102	90	-11.63
URUGUAY	107	106	114	125	118	-5.67	103	101	109	118	111	-6.18
VENEZUELA	120	115	122	121	129	6.78	102	95	97	94	98	4.13
NEAR EAST,DEVELOPING	123	123	129	118	127	7.29	104	102	104	92	96	4.39
NEAR EAST IN AFRICA	116	120	129	121	125	2.91	98	99	104	95	95	.34
EGYPT	139	146	152	153	159	3.81	119	122	124	122	124	1.45
LIBYAN ARAB JAM.	102	123	126	134	120	-10.64	79	92	91	93	80	-13.75
SUDAN	102	90	117	89	88	-.97	85	73	92	68	65	-3.75
NEAR EAST IN ASIA	125	124	129	117	128	8.83	106	102	104	91	97	5.80
AFGHANISTAN	78	82	84	83	85	2.04	86	89	88	84	82	-2.46
CYPRUS	90	95	111	112	106	-5.32	84	88	102	101	95	-6.25
IRAN, ISLAMIC REP.	146	150	143	136	143	5.08	116	115	107	100	102	2.59
IRAQ	133	122	119	124	140	13.31	107	95	89	90	98	9.49
JORDAN	136	157	167	138	140	1.49	109	121	124	98	96	-2.25
LEBANON	120	138	131	144	144	-.30	120	139	131	144	142	-1.13
SAUDI ARABIA, KINGDOM	278	291	351	365	401	9.74	215	216	250	250	264	5.58
SYRIAN ARAB REP.	123	105	137	91	113	23.74	100	83	104	66	79	19.32
TURKEY	115	115	122	114	122	7.28	99	98	101	92	97	5.16
YEMEN	108	103	112	110	108	-1.57	87	81	85	80	76	-5.07
FAR EAST,DEVELOPING	128	130	137	143	148	3.50	114	114	118	121	123	1.57
CHINA	133	139	142	147	157	6.73	124	127	128	130	137	5.15
SOUTH ASIA	123	123	136	144	145	.68	107	104	113	117	115	-1.56
BANGLADESH	112	112	112	128	127	-.44	96	93	90	100	97	-3.05
INDIA	125	124	140	149	149	-.08	109	107	118	123	120	-2.12
NEPAL	113	125	144	146	143	-2.20	97	104	118	117	111	-4.54
PAKISTAN	130	131	136	146	150	2.31	103	101	102	105	104	-.99
SRI LANKA	109	97	100	98	109	11.52	99	86	88	85	94	10.14
EAST,SOUTHEAST ASIA	123	123	129	135	136	.93	109	106	110	113	112	-.97
CAMBODIA	175	174	199	205	206	.25	150	146	163	164	160	-2.31
INDONESIA	138	140	147	154	161	4.87	122	121	126	129	132	2.91
KOREA,DEM. PEOPLE'S REP.	118	122	124	125	128	2.92	107	108	108	106	108	1.02
KOREA,REP.	116	107	115	114	118	4.10	107	98	104	102	105	3.20
LAOS	141	136	133	154	167	8.73	123	115	110	123	130	5.54
MALAYSIA	161	170	184	199	205	2.77	138	142	149	158	158	.17
MONGOLIA	117	111	108	117	118	.22	99	91	86	92	89	-2.48
MYANMAR	140	141	132	119	122	2.58	124	122	112	98	99	.46
PHILIPPINES	102	102	104	108	113	4.42	88	85	85	86	87	1.93
THAILAND	112	111	126	130	118	-8.86	100	98	109	110	99	-10.14
VIET NAM	128	133	136	144	151	5.27	112	115	114	118	122	3.03
OTHER DEV.ING COUNTRIES	114	111	113	120	120	-.12	100	95	94	98	96	-2.29

3. INDEXES OF AGRICULTURAL PRODUCTION

	TOTAL						PER CAPUT					
	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990
	................1979-81=100					PERCENT	................1979-81=100					PERCENT
WORLD	115	116	119	122	125	1.90	104	103	103	105	105	.16
DEVELOPED COUNTRIES	109	108	105	110	110	.74	104	103	99	103	103	.29
WESTERN EUROPE	109	109	108	109	108	-1.12	107	107	105	106	105	-1.53
EEC	108	110	108	110	109	-1.08	107	108	106	107	105	-1.50
BELGIUM-LUXEMBOURG	116	110	116	117	117	.08	116	110	115	116	117	.08
DENMARK	120	115	122	128	135	5.45	120	115	122	128	134	5.20
FRANCE	106	109	106	103	104	1.83	103	106	102	98	100	1.39
GERMANY, NEW LANDER	116	118	114	115	115	-.06	117	119	115	116	119	2.19
GERMANY, FEDERAL REP.	116	110	114	113	113	-.48	117	111	114	112	110	-1.87
GREECE	107	105	112	116	99	-14.52	104	101	108	112	95	-14.68
IRELAND	114	115	111	109	118	8.75	110	110	107	105	115	9.12
ITALY	101	104	100	103	95	-7.45	99	102	99	101	93	-7.58
NETHERLANDS	119	116	114	124	117	-5.39	116	112	109	118	111	-6.07
UNITED KINGDOM	110	109	106	110	109	-.66	109	108	104	108	107	-.66
AUSTRIA	109	107	111	107	107	-.23	109	107	110	106	106	.23
FINLAND	113	99	103	114	120	5.25	110	96	99	110	115	4.97
ICELAND	101	98	91	90	88	-2.56	95	91	83	81	79	-2.66
MALTA	118	113	104	114	114	.44	125	118	109	118	118	-.19
NORWAY	103	107	104	106	105	-1.07	101	105	101	102	101	-1.38
PORTUGAL	105	115	93	118	126	6.67	100	110	88	112	120	7.02
SPAIN	110	123	119	118	120	1.61	107	118	114	113	115	1.35
SWEDEN	106	92	91	100	112	11.65	105	91	90	98	108	10.76
SWITZERLAND	110	106	107	115	111	-3.42	107	102	102	109	105	-3.52
YUGOSLAVIA	112	106	100	104	95	-8.11	108	101	95	98	89	-8.56
USSR AND EASTERN EUROPE	116	114	114	118	117	-.84	111	108	108	110	109	-1.11
EASTERN EUROPE	112	108	110	111	109	-2.18	109	105	106	107	105	-2.04
ALBANIA	109	114	110	114	113	-.57	96	99	94	95	93	-2.30
BULGARIA	104	99	98	99	92	-7.27	103	98	96	98	90	-7.47
CZECH SLOVAK FED.REP.	119	121	124	127	125	-1.05	117	119	122	124	122	-1.20
HUNGARY	108	108	115	113	104	-8.41	109	109	116	115	105	-8.20
POLAND	117	111	114	115	115	-.19	111	105	107	108	108	-.18
ROMANIA	109	96	102	102	94	-8.02	106	93	98	98	89	-8.52
USSR	117	117	117	120	119	-.87	111	110	109	111	110	-1.31
NORTH AMERICA,DEVELOPED	103	101	94	103	107	3.90	97	94	87	95	98	3.36
CANADA	123	116	103	114	126	10.60	117	109	96	104	114	9.48
UNITED STATES	100	100	94	102	105	3.08	94	93	87	93	96	2.60
OCEANIA,DEVELOPED	109	109	113	111	116	4.83	101	99	101	98	101	3.40
AUSTRALIA	111	109	115	115	123	7.61	102	98	102	100	106	6.19
NEW ZEALAND	109	109	109	105	102	-3.39	105	104	103	98	93	-4.96
OTHER DEV.ED COUNTRIES	103	105	103	106	105	-1.10	97	98	95	98	96	-1.87
ISRAEL	113	121	115	112	114	2.41	102	107	100	96	96	.40
JAPAN	106	102	97	99	101	1.26	102	97	93	94	95	.92
SOUTH AFRICA	97	101	105	111	105	-5.50	85	87	88	91	84	-7.58

3. (Cont.) INDEXES OF AGRICULTURAL PRODUCTION

	TOTAL						PER CAPUT					
	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990
	................1979-81=100................					PERCENT	................1979-81=100................					PERCENT
DEVELOPING COUNTRIES	122	125	132	135	139	2.82	108	108	112	112	113	.68
AFRICA,DEVELOPING	119	119	125	129	129	.02	99	96	98	98	95	-3.07
NORTH WESTERN AFRICA	136	136	135	144	142	-1.39	116	112	109	113	109	-3.90
ALGERIA	127	140	133	128	136	6.32	106	114	106	99	102	3.50
MOROCCO	160	139	173	176	162	-7.74	137	116	141	139	125	-10.07
TUNISIA	114	139	102	122	132	7.60	98	116	83	98	103	5.19
WESTERN AFRICA	123	124	132	137	136	-.75	102	99	103	103	99	-3.89
BENIN	145	130	155	162	164	1.10	122	107	123	125	122	-1.96
BURKINA FASO	145	133	149	146	135	-7.36	125	111	122	116	105	-9.87
COTE D`IVOIRE	118	124	133	133	133	.59	94	95	98	94	91	-3.14
GAMBIA	119	112	115	124	106	-13.85	100	91	91	95	79	-16.25
GHANA	130	136	146	149	133	-10.77	105	107	111	110	95	-13.54
GUINEA	107	108	109	109	112	2.36	94	92	90	87	87	-.69
LIBERIA	117	118	121	111	94	-14.89	97	94	94	84	69	-17.55
MALI	119	113	127	131	130	-1.02	100	93	101	101	97	-4.06
MAURITANIA	105	109	114	116	111	-4.45	89	91	92	92	85	-7.07
NIGER	89	79	108	96	100	3.85	73	63	83	72	72	.64
NIGERIA	126	129	138	149	152	1.64	104	103	107	111	110	-1.66
SENEGAL	130	143	126	141	134	-5.32	110	118	101	110	101	-7.92
SIERRA LEONE	111	107	104	110	114	3.40	96	91	86	89	90	.79
TOGO	111	114	124	138	137	-.50	93	93	98	105	102	-3.56
CENTRAL AFRICA	113	113	118	117	118	.86	95	92	93	89	87	-2.22
ANGOLA	100	100	100	97	97	.08	86	84	81	77	75	-2.62
CAMEROON	114	108	116	113	116	2.87	95	87	90	85	85	-.51
CENTRAL AFRICAN REP.	113	112	118	119	120	1.13	96	93	95	93	92	-1.69
CHAD	110	112	123	118	121	3.06	96	95	102	95	95	.50
CONGO	113	118	122	117	124	6.18	94	96	95	89	91	2.82
GABON	106	108	112	114	117	2.00	83	82	83	81	80	-1.34
ZAIRE	119	122	125	127	128	.67	99	99	98	97	95	-2.49
EASTERN AFRICA	114	113	119	122	123	.75	95	91	93	92	90	-2.46
BURUNDI	119	125	124	119	118	-1.12	101	103	100	93	89	-3.99
ETHIOPIA	105	100	101	105	108	2.57	92	85	84	85	85	-.28
KENYA	134	131	143	145	150	3.97	107	101	107	104	104	.31
MADAGASCAR	116	116	117	120	121	1.13	97	94	91	91	89	-2.06
MALAWI	110	107	116	120	120	-.22	89	84	88	88	84	-3.71
MAURITIUS	119	120	112	112	117	3.82	112	111	102	101	104	2.64
MOZAMBIQUE	102	102	104	107	108	.87	88	86	85	85	83	-1.78
RWANDA	102	106	108	108	108	-.19	84	84	83	80	77	-3.56
SOMALIA	126	127	133	137	134	-2.24	102	99	100	100	95	-5.07
TANZANIA	115	117	119	127	120	-5.33	92	90	88	91	83	-8.75
UGANDA	106	116	125	130	135	4.17	86	91	94	94	94	.38
ZAMBIA	123	121	148	148	128	-13.64	97	92	108	104	87	-16.81
ZIMBABWE	132	108	139	129	129	-.12	110	88	109	98	95	-3.23
SOUTHERN AFRICA	104	107	115	116	117	1.47	86	86	89	87	85	-1.77
BOTSWANA	91	84	111	110	108	-1.26	73	65	83	79	75	-4.80
LESOTHO	94	97	115	97	102	4.50	80	80	92	75	77	1.53
SWAZILAND	128	121	126	123	123	.16	105	96	96	91	88	-3.28
LATIN AMERICA	110	115	121	123	123	.24	97	99	102	101	100	-1.75
CENTRAL AMERICA	109	110	117	118	120	1.39	94	93	96	95	94	-.89
COSTA RICA	111	115	117	121	130	7.43	93	94	93	94	98	4.78
EL SALVADOR	83	83	79	80	90	13.03	77	76	71	70	77	10.58
GUATEMALA	107	108	113	118	119	.91	90	88	90	91	90	-1.96
HONDURAS	104	111	119	122	132	8.11	84	87	90	90	94	4.83
MEXICO	111	111	119	119	121	1.51	97	94	98	97	96	-.63
NICARAGUA	77	74	72	75	77	1.47	63	58	55	56	55	-1.83
PANAMA	112	113	102	110	113	3.20	98	97	86	91	92	1.15
CARIBBEAN	107	106	108	109	106	-2.81	98	96	97	96	92	-4.27
BARBADOS	86	77	81	77	77	.18	85	76	79	75	75	-.22
CUBA	112	106	111	111	109	-1.89	106	100	103	102	99	-2.93
DOMINICAN REP.	108	109	112	120	111	-7.71	94	93	93	97	88	-9.65
HAITI	110	111	109	108	106	-2.22	99	97	93	91	87	-4.21
JAMAICA	109	111	107	101	109	7.82	99	100	95	89	95	6.58

3. (Cont.) INDEXES OF AGRICULTURAL PRODUCTION

	TOTAL						PER CAPUT					
	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990	1986	1987	1988	1989	1990	CHANGE 1989 TO 1990
	...............1979-81=100					PERCENT	...............1979-81=100					PERCENT
SOUTH AMERICA	111	118	123	125	125	.15	98	101	104	103	102	-1.78
ARGENTINA	96	98	109	109	103	-5.08	89	89	97	96	90	-6.23
BOLIVIA	114	124	132	127	137	8.00	97	103	106	99	104	5.03
BRAZIL	111	128	130	136	129	-4.76	97	110	109	112	104	-6.64
CHILE	112	115	121	131	136	3.77	101	102	106	113	115	2.10
COLOMBIA	110	111	118	125	130	3.47	97	96	100	104	106	1.50
ECUADOR	122	121	134	137	140	1.74	103	100	108	108	107	-.76
GUYANA	87	81	78	69	74	7.32	83	78	75	66	71	7.15
PARAGUAY	120	130	156	166	160	-3.15	99	104	122	126	118	-5.85
PERU	110	115	125	123	110	-11.21	96	98	104	101	88	-13.00
URUGUAY	109	108	116	124	120	-3.00	105	104	110	117	113	-3.52
VENEZUELA	120	115	122	121	129	6.52	101	95	97	95	98	3.87
NEAR EAST,DEVELOPING	121	121	127	117	125	6.73	102	100	102	91	95	3.84
NEAR EAST IN AFRICA	113	117	123	116	119	2.21	96	96	99	91	91	-.35
EGYPT	131	137	141	141	146	3.63	113	114	115	112	114	1.27
LIBYAN ARAB JAM.	102	123	126	134	120	-10.50	79	92	91	93	80	-13.61
SUDAN	103	93	117	91	88	-2.79	86	75	92	69	66	-5.52
NEAR EAST IN ASIA	124	123	129	117	127	8.29	105	101	103	92	96	5.27
AFGHANISTAN	78	83	85	82	84	2.09	86	90	89	83	81	-2.40
CYPRUS	90	95	111	112	106	-5.40	84	88	102	101	95	-6.33
IRAN, ISLAMIC REP.	145	149	142	135	143	5.48	115	115	107	99	102	2.99
IRAQ	133	122	117	123	139	13.02	107	95	88	89	97	9.21
JORDAN	134	155	166	137	139	1.59	107	120	123	98	95	-2.16
LEBANON	118	135	128	141	140	-.50	118	136	129	141	139	-1.33
SAUDI ARABIA, KINGDOM	276	289	348	362	397	9.69	213	214	248	248	261	5.54
SYRIAN ARAB REP.	124	105	138	94	114	21.55	101	83	104	69	80	17.21
TURKEY	114	115	122	114	122	6.76	98	97	101	92	97	4.64
YEMEN	107	103	112	110	108	-1.47	87	81	85	80	76	-4.97
FAR EAST,DEVELOPING	128	131	138	144	149	3.70	114	115	119	122	124	1.77
CHINA	134	141	145	149	159	6.94	124	129	131	132	139	5.36
SOUTH ASIA	122	122	135	143	144	.69	106	104	111	116	114	-1.55
BANGLADESH	114	113	111	126	126	-.31	97	93	90	99	96	-2.92
INDIA	123	123	138	147	147	-.17	108	105	117	122	119	-2.20
NEPAL	112	123	142	144	141	-2.03	96	103	115	114	109	-4.37
PAKISTAN	134	136	141	150	154	2.66	107	105	105	108	107	-.65
SRI LANKA	107	97	99	95	106	10.98	97	86	87	83	91	9.60
EAST,SOUTHEAST ASIA	123	122	129	134	136	1.39	109	106	110	112	111	-.52
CAMBODIA	178	178	203	209	211	.57	153	149	167	168	164	-2.00
INDONESIA	137	138	145	151	159	5.38	121	120	124	126	130	3.41
KOREA,DEM. PEOPLE`S REP.	119	122	125	125	129	2.91	107	108	108	107	108	1.01
KOREA,REP.	114	106	113	112	116	3.87	106	97	102	101	104	2.98
LAOS	140	135	133	153	166	8.70	121	115	110	122	129	5.51
MALAYSIA	145	152	163	170	174	2.23	124	126	132	134	134	-.37
MONGOLIA	112	108	106	115	115	.45	95	89	85	89	87	-2.25
MYANMAR	140	140	130	117	119	1.87	123	121	110	97	97	-.25
PHILIPPINES	104	103	105	109	113	3.46	89	86	85	87	88	.99
THAILAND	114	114	127	132	124	-6.38	102	100	110	112	104	-7.69
VIET NAM	129	135	138	146	155	5.68	114	116	116	121	125	3.43
OTHER DEV.ING COUNTRIES	112	112	113	121	120	-.53	98	95	95	99	96	-2.69

4. VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....	....	....	....	....	`000 TONNES	....	....	....	....	....	PERCENT
WORLD												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	99690	105854	104809	111792	116430	105048	96303	110530	118955	106930	107780	2.66
RICE,MILLED	12940	13075	12063	11499	12769	11535	13008	12766	12178	15178	12169	1.29
BARLEY	16226	20278	18346	17755	23006	21899	26231	22295	21090	21639	20985	5.12
MAIZE	80305	78735	69630	69121	68679	69936	57670	64611	66486	77253	71264	-1.86
MILLET	215	242	196	191	165	193	161	181	206	205	178	-4.95
SORGHUM	11166	14466	13725	11732	12438	13337	8579	7943	9292	10605	8852	-2.95
POTATOES	4923	4948	5182	4783	4788	5014	5477	6262	6511	6756	6919	3.57
SUGAR,TOTAL (RAW EQUIV.)	27505	29347	30744	29482	28558	28380	27717	28786	29232	30046	29863	.68
PULSES	2810	3148	2963	3183	3381	3703	4826	5368	6109	5473	6500	10.20
SOYBEANS	26877	26219	28928	26592	25790	26152	27653	29187	26059	24081	26114	.83
SOYBEAN OIL	3196	3489	3406	3653	4031	3503	2992	4014	3908	3754	3740	2.97
GROUNDNUTS,SHELLED BASIS	723	831	739	782	740	846	970	906	983	913	1065	2.85
GROUNDNUT OIL	477	322	450	529	302	328	367	376	326	347	331	-3.16
COPRA	461	415	438	252	287	388	404	333	289	291	307	-5.78
COCONUT OIL	1216	1357	1270	1325	985	1234	1650	1482	1339	1317	1706	1.40
PALM NUTS,KERNELS	201	138	136	120	131	98	111	120	134	104	70	-4.58
PALM OIL	3617	3228	3776	4017	4318	5221	6242	5779	5922	7057	7884	9.59
OILSEED CAKE AND MEAL	25689	27792	27630	32134	28499	30575	33972	36619	39536	39112	38828	5.45
BANANAS	6956	6996	7211	6335	6937	6807	7385	7631	7769	8321	9434	.86
ORANGES+TANGER.+CLEMEN.	5104	4941	4955	4807	5269	4922	5930	5472	5293	5328	5747	.93
LEMONS AND LIMES	986	923	1000	935	996	1040	1066	1061	1028	1013	1005	1.23
COFFEE,GREEN+ROASTED	3738	3732	3959	4031	4229	4427	4099	4473	4230	4795	4991	2.18
COCOA BEANS	1065	1336	1252	1207	1354	1386	1554	1608	1646	1631	1780	5.18
TEA	984	951	927	975	1080	1083	1096	1106	1139	1202	1216	2.58
COTTON LINT	4828	4263	4430	4272	4235	4134	4695	5411	4787	5898	5113	.93
JUTE AND SIMILAR FIBRES	519	573	512	508	495	384	526	515	352	406	481	-2.54
TOBACCO,UNMANUFACTURED	1353	1491	1429	1338	1390	1387	1328	1344	1353	1430	1510	-.57
NATURAL RUBBER	3329	3148	3113	3449	3641	3646	3713	4071	4203	4367	4099	2.44
WOOL,GREASY	907	952	874	893	882	904	949	1010	993	939	820	.81
BOVINE CATTLE 1/	7042	7187	7687	7108	6716	6475	7113	7345	7307	7198	8282	-.48
SHEEP AND GOATS 1/	18641	17608	18437	20576	19631	18695	19145	21740	21935	22466	21129	3.37
PIGS 1/	10746	9846	9357	9583	10119	10277	11862	12241	12677	13527	12565	3.98
TOTAL MEAT	8084	8853	8576	8929	8777	9059	9891	10152	10725	11287	11596	3.49
MILK,DRY	872	868	816	743	822	839	872	1044	1117	1168	983	4.51
TOTAL EGGS,IN SHELL	746	806	824	792	837	764	748	783	764	806	828	1.63
FISHERY PRODUCTS												
FISH,FRESH FROZEN	4522	4639	4765	5210	5407	6197	7266	7588	8363	7871	7848	7.67
FISH,CURED	444	470	436	415	408	428	448	453	451	493	489	.64
SHELLFISH	1074	1146	1249	1440	1601	1654	1781	2035	2145	2309	2308	8.02
FISH,CANNED AND PREPARED	1019	1063	937	904	987	1029	1115	1132	1221	1310	1312	2.82
SHELLFISH,CANNED+PREPARED	138	150	162	184	197	209	227	240	269	292	292	9.17
FISH,BODY AND LIVER OIL	741	727	686	728	945	991	807	722	837	932	932	1.95
FISH-MEAL	2370	2164	2656	2321	2654	3170	3264	3278	3299	3760	3753	5.05
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	27904	22480	26310	29382	30884	32586	32615	35777	38680	36617	33564	2.91
SAWLOGS,NON-CONIFEROUS	42138	33131	33368	32391	29717	29933	28812	32989	32068	32996	32939	-4.30
PULPWOOD+PARTICLE	39944	38834	33668	33893	37874	39266	41415	45870	50355	53404	53248	3.15
FUELWOOD	2780	2247	2391	2784	2653	2097	2067	2196	2265	3054	3054	-.10
SAWNWOOD,CONIFEROUS	65938	60656	61439	70576	72754	73472	73656	78824	81864	81217	77157	2.32
SAWNWOOD,NON-CONIFEROUS	12576	10965	10969	12500	12618	11920	12829	14950	17340	17006	16961	2.44
WOOD-BASED PANELS	16323	16758	15443	17388	18243	19332	20655	23492	25906	28217	28872	4.47
PULP FOR PAPER	19756	18755	17314	19810	20334	20599	22090	23399	24522	24604	24309	3.02
PAPER AND PAPERBOARD	35108	35370	33688	36744	39803	40972	43447	46808	50699	52613	53333	4.70

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

4. (Cont.) VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	`000 TONNES											PERCENT
WESTERN EUROPE												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	19923	23693	22408	23811	27408	29646	27688	29590	30525	33673	37385	7.60
RICE,MILLED	943	999	933	941	984	1198	1190	1156	945	1066	1087	2.61
BARLEY	8052	10796	7416	8390	11526	12791	13762	11050	13249	13549	12163	5.84
MAIZE	5474	4808	5743	7705	7809	7025	9310	9529	8248	9817	8186	7.38
MILLET	16	20	20	26	21	24	18	15	23	26	23	4.49
SORGHUM	206	240	269	159	165	190	124	191	134	208	234	-6.80
POTATOES	3455	3543	3666	3517	3526	3778	4174	4773	4522	4351	4436	4.55
SUGAR,TOTAL (RAW EQUIV.)	5628	6147	6466	6078	5631	5261	5561	6569	7152	7663	7209	3.03
PULSES	458	448	419	606	814	1240	1205	1430	1477	1719	2028	17.12
SOYBEANS	327	160	207	127	88	95	153	287	304	245	390	-3.37
SOYBEAN OIL	1204	1272	1380	1387	1427	1323	1271	1446	1148	1161	1209	1.11
GROUNDNUTS,SHELLED BASIS	18	24	25	17	24	24	33	41	57	53	48	8.96
GROUNDNUT OIL	79	68	74	99	62	61	56	51	63	71	40	-.58
COPRA	2		1							3		-37.57
COCONUT OIL	43	58	87	60	57	51	54	67	64	77	65	-2.47
PALM NUTS,KERNELS	3	1	2					1	1		1	-13.62
PALM OIL	123	114	94	123	131	141	171	156	149	172	197	5.64
OILSEED CAKE AND MEAL	4247	4921	5330	6420	6112	6364	5589	6819	5734	5989	6312	5.81
BANANAS	43	48	46	35	47	35	81	113	49	70	148	5.64
ORANGES+TANGER.+CLEMEN.	1799	1659	1880	1702	2439	1957	3024	2512	2385	2441	2662	4.02
LEMONS AND LIMES	512	433	574	449	532	542	597	566	518	540	509	1.46
COFFEE,GREEN+ROASTED	106	122	126	142	165	202	209	232	265	300	315	9.91
COCOA BEANS	44	48	52	52	66	76	78	74	43	71	28	6.98
TEA	43	44	43	51	56	56	52	55	52	51	66	2.12
COTTON LINT	57	55	75	69	69	98	78	156	107	213	135	7.45
JUTE AND SIMILAR FIBRES	17	17	15	16	14	14	13	11	12	12	11	-4.51
TOBACCO,UNMANUFACTURED	197	210	247	249	265	243	254	309	281	331	362	3.13
NATURAL RUBBER	16	14	15	16	23	23	22	28	42	37	39	6.61
WOOL,GREASY	69	61	57	69	65	62	63	79	81	73	59	1.99
BOVINE CATTLE 1/	3412	3620	3546	3493	3537	3422	3779	3731	3370	3247	3049	.70
SHEEP AND GOATS 1/	1418	927	784	1196	1142	1415	1553	1926	2033	2550	3717	3.34
PIGS 1/	4777	4747	4537	4737	4688	4751	6685	7109	6837	7004	6880	6.38
TOTAL MEAT	3673	3900	3788	4076	4303	4453	5027	4968	5203	5622	5635	5.79
MILK,DRY	660	673	599	531	641	624	616	773	832	817	703	4.08
TOTAL EGGS,IN SHELL	506	538	601	596	586	541	548	557	559	609	605	2.79
FISHERY PRODUCTS												
FISH,FRESH FROZEN	1652	1796	1927	2017	1991	2180	2341	2410	2539	2723	2707	5.49
FISH,CURED	279	309	274	271	270	281	291	291	284	295	291	.61
SHELLFISH	282	329	317	351	411	415	385	379	395	425	424	4.44
FISH,CANNED AND PREPARED	252	265	259	259	269	282	279	278	277	302	305	1.00
SHELLFISH,CANNED+PREPARED	42	47	57	72	75	86	82	81	85	103	102	10.32
FISH,BODY AND LIVER OIL	333	335	270	265	270	392	274	265	278	208	208	-.53
FISH-MEAL	918	843	822	930	1003	927	854	767	823	831	824	-.86
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	2937	2735	2429	2494	2786	3282	2906	3423	3671	4170	4170	4.84
SAWLOGS,NON-CONIFEROUS	2257	2128	1928	2011	2335	2458	2639	2873	3833	4443	4443	5.13
PULPWOOD+PARTICLE	10313	10976	9907	9008	10942	12433	13954	13995	12877	14639	14639	6.08
FUELWOOD	965	745	1010	1241	1172	940	910	1004	1082	1344	1344	4.40
SAWNWOOD,CONIFEROUS	19783	17142	18334	20620	20377	19637	19183	19395	19834	20497	20497	.51
SAWNWOOD,NON-CONIFEROUS	2395	2037	1896	2017	2428	2261	2240	2524	2581	2559	2559	-.05
WOOD-BASED PANELS	7047	6696	6312	6459	6894	7192	7476	7835	8664	9400	9400	1.74
PULP FOR PAPER	6661	6219	5616	6749	7086	7197	7298	7775	7973	7754	7725	1.99
PAPER AND PAPERBOARD	17423	18108	17770	19661	21939	22763	23507	25995	28869	30090	30145	5.83

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

4. (Cont.) VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....	....	....	....	....	`000 TONNES	....	....	....	....	....	PERCENT
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	4336	5024	4909	3998	3680	4671	3769	3537	3938	3626	2594	-2.05
RICE,MILLED	26	20	24	35	60	38	86	75	25	65	151	13.61
BARLEY	336	247	276	276	277	276	226	314	289	342	197	1.44
MAIZE	1327	1063	905	894	694	1189	987	903	751	504	478	-2.17
MILLET	6	3	5	4	3	2	4	5	12	9	22	3.92
SORGHUM	5	9	6	4	4	6	9	23	25	15	11	11.18
POTATOES	326	323	299	185	141	272	304	503	746	958	809	1.04
SUGAR,TOTAL (RAW EQUIV.)	738	631	807	762	871	1024	1240	1083	956	940	644	3.95
PULSES	122	122	112	118	193	231	274	361	399	551	568	12.86
SOYBEANS	5	4	5	5	11	6	5	33	15	13	22	6.28
SOYBEAN OIL	17	14	20	15	35	25	12	7	2	24	4	-6.63
GROUNDNUTS,SHELLED BASIS	1				2							
GROUNDNUT OIL										1		
COCONUT OIL	1											
OILSEED CAKE AND MEAL	27	91	115	120	64	205	174	323	236	235	216	25.81
ORANGES+TANGER.+CLEMEN.	1	2	2	1	1	2	2	1				
COFFEE,GREEN+ROASTED										3	3	
COCOA BEANS				5	12							
TEA	20	18	17	26	30	19	6	5	7	5	5	-10.68
COTTON LINT	863	928	970	847	695	720	769	813	781	835	554	-1.50
JUTE AND SIMILAR FIBRES								1	5	21	10	
TOBACCO,UNMANUFACTURED	103	90	88	85	81	84	89	81	90	98	63	-1.37
NATURAL RUBBER									1	7	6	
WOOL,GREASY	3	1		1	1	1	1	2	2	3	2	-4.92
BOVINE CATTLE 1/	577	460	607	705	707	642	677	884	995	1056	1488	5.02
SHEEP AND GOATS 1/	4598	3720	3654	4179	4232	3166	2768	3644	3958	3374	3600	-2.27
PIGS 1/	1144	1713	1091	973	857	1120	1151	1177	1218	1316	982	-.66
TOTAL MEAT	738	779	715	758	832	923	953	932	927	788	768	3.86
MILK,DRY									1	6	6	
TOTAL EGGS,IN SHELL	90	78	59	55	65	42	38	44	42	49	71	-10.45
FISHERY PRODUCTS												
FISH,FRESH FROZEN	612	493	418	543	540	607	823	774	1006	839	839	5.20
FISH,CURED	17	11	6	18	6				1	2	2	-42.12
SHELLFISH	11	24	51	114	135	113	78	98	90	111	111	23.03
FISH,CANNED AND PREPARED	37	36	30	38	39	66	68	81	86	66	66	10.49
SHELLFISH,CANNED+PREPARED	2	1	2	2	1	1	2	2	2	2	2	4.39
FISH,BODY AND LIVER OIL	1								31	37	37	
FISH-MEAL	22	12	9	12	8	11	12	12	14	20	20	-5.63
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	7430	6783	7025	7762	8085	8271	9662	9311	9033	7454	7454	.84
SAWLOGS,NON-CONIFEROUS	384	285	289	315	232	165	152	173	121	110	110	-10.32
PULPWOOD+PARTICLE	11463	11529	9631	10909	12616	12617	12948	13752	14968	14544	14544	2.62
FUELWOOD	183	94	70	92	121	132	149	171	201	202	202	2.86
SAWNWOOD,CONIFEROUS	9513	9363	9630	9697	9476	9701	10238	9978	10789	9776	9776	.26
SAWNWOOD,NON-CONIFEROUS	597	539	487	536	564	389	338	488	510	501	501	-4.44
WOOD-BASED PANELS	1827	1683	1548	1598	1437	1488	1623	1818	1720	1726	1726	-1.05
PULP FOR PAPER	895	896	982	1162	1217	1227	1366	1326	1259	1174	1174	5.16
PAPER AND PAPERBOARD	1732	1697	1745	1775	1806	1795	1881	1905	1756	1712	1712	.80

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

4. (Cont.) VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....					`000 TONNES					....	PERCENT
NORTH AMERICA, DEVELOPED												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	54495	61342	61264	63319	65263	43528	42833	55214	62600	49757	46915	.30
RICE,MILLED	3054	3133	2540	2385	2141	1940	2392	2472	2260	3061	2474	-1.46
BARLEY	4195	6853	7097	7258	5876	2938	7586	8468	4873	5627	6008	2.74
MAIZE	63923	56067	49658	48083	49584	44345	27473	41097	46815	56544	52294	-4.32
MILLET	60	24	28	41	55	39	74	58	47	113	63	10.79
SORGHUM	8050	8032	6051	5325	6828	7239	4149	5009	6532	8413	6804	-1.45
POTATOES	344	395	461	363	296	321	319	353	442	510	625	1.81
SUGAR,TOTAL (RAW EQUIV.)	654	1187	154	323	397	436	544	673	358	486	535	8.73
PULSES	913	1141	854	679	635	646	851	930	1030	947	1100	5.54
SOYBEANS	21882	21980	25652	22791	19641	17671	21576	21513	18124	15415	15633	-1.20
SOYBEAN OIL	1081	809	911	786	1043	588	540	624	892	712	536	-4.46
GROUNDNUTS,SHELLED BASIS	285	146	201	224	266	311	276	221	159	246	278	-4.07
GROUNDNUT OIL	18	20	10	2	7	17	35	3	3	7	7	-11.32
COCONUT OIL	19	14	13	11	21	19	18	39	40	33	23	16.18
PALM NUTS,KERNELS											1	
PALM OIL										3	3	
OILSEED CAKE AND MEAL	8009	7471	6917	7517	5551	5599	7379	8258	8652	6343	6099	.84
BANANAS	205	217	210	188	202	197	163	188	180	154	337	-1.50
ORANGES+TANGER.+CLEMEN.	482	443	353	497	374	412	417	403	357	393	541	.40
LEMONS AND LIMES	171	176	135	163	148	144	148	152	146	137	144	-3.31
COFFEE,GREEN+ROASTED	79	70	60	46	63	52	77	60	76	52	43	-.38
COCOA BEANS	7	14	14	16	12	11	14	17	14	16	11	6.28
TEA	5	4	4	5	5	13	22	15	3	4	3	9.29
COTTON LINT	1823	1269	1392	1126	1367	1001	662	1195	1173	1533	1697	-4.62
JUTE AND SIMILAR FIBRES									1	6	4	-2.65
TOBACCO,UNMANUFACTURED	293	300	290	264	275	274	247	226	240	247	248	-3.53
NATURAL RUBBER	28	18	16	20	35	41	37	37	56	63	31	10.27
WOOL,GREASY		1	1	1	1	1	1	1	1	2	2	8.47
BOVINE CATTLE 1/	424	441	563	440	479	506	355	399	868	605	1004	1.05
SHEEP AND GOATS 1/	144	225	287	226	332	382	145	67	204	458	591	-.16
PIGS 1/	254	171	342	483	1362	1171	515	435	960	1300	948	19.48
TOTAL MEAT	973	1073	987	926	956	1013	1150	1285	1443	1676	1654	5.44
MILK,DRY	36	37	29	37	19	49	30	12	21	51	13	8.05
TOTAL EGGS,IN SHELL	61	87	64	31	25	22	19	35	49	38	38	-4.80
FISHERY PRODUCTS												
FISH,FRESH FROZEN	480	638	801	918	1167	1465	1913	2094	2163	1542	1533	21.28
FISH,CURED	76	87	89	70	65	70	79	70	71	98	98	.30
SHELLFISH	115	88	80	80	71	83	95	115	144	158	158	-.40
FISH,CANNED AND PREPARED	81	92	68	82	96	85	100	95	111	129	129	4.87
SHELLFISH,CANNED+PREPARED	11	12	11	4	3	3	6	5	16	24	24	-5.74
FISH,BODY AND LIVER OIL	137	117	98	191	188	133	92	120	76	98	98	-1.35
FISH-MEAL	108	75	42	95	41	58	55	87	131	63	63	2.60
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	15135	11676	15269	17395	18441	19320	18316	21212	23617	22299	19138	4.21
SAWLOGS,NON-CONIFEROUS	784	751	506	755	761	602	779	879	1163	1114	1056	4.92
PULPWOOD+PARTICLE	9887	8382	6605	6422	5846	5613	5933	6249	8192	8996	8712	-3.68
FUELWOOD	63	108	85	85	90	89	82	76	104	125	125	-2.75
SAWNWOOD,CONIFEROUS	33612	31770	31423	38296	40879	42219	42232	47162	48876	48517	44322	4.09
SAWNWOOD,NON-CONIFEROUS	1190	1209	1083	1340	1373	1172	1513	2174	3422	2434	2360	8.12
WOOD-BASED PANELS	2312	2533	2088	2401	2668	2754	2948	3295	4378	4326	4764	6.38
PULP FOR PAPER	9838	9261	8531	9428	9611	9791	10917	11909	12614	13045	12680	3.61
PAPER AND PAPERBOARD	13742	13149	11941	12846	13288	13378	14558	15455	16105	16330	16921	2.85

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

4. (Cont.) VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....	....	....	....	....	`000 TONNES	....	....	....	....	....	PERCENT
OCEANIA,DEVELOPED												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	14955	10677	10998	8312	10647	15782	16171	14898	12285	10589	11630	4.21
RICE,MILLED	457	281	596	405	246	341	178	186	298	339	178	-3.59
BARLEY	3047	1650	1599	852	3231	5482	4399	2345	1530	1617	2411	5.50
MAIZE	37	52	24	73	30	164	117	103	29	10	26	6.31
MILLET	14	11	25	19	18	16	16	24	46	16	12	7.03
SORGHUM	580	463	1271	445	772	1594	1234	818	415	313	303	6.05
POTATOES	23	21	23	26	21	24	19	19	20	15	22	-.12
SUGAR,TOTAL (RAW EQUIV.)	2203	2563	2502	2551	2361	2529	2760	2481	2786	2809	2860	2.17
PULSES	72	64	71	106	78	100	219	480	441	431	430	27.02
SOYBEANS											1	14.13
SOYBEAN OIL				1								
GROUNDNUTS,SHELLED BASIS	12	4	4	8		5	3	3	3	2	1	-3.11
GROUNDNUT OIL			1				1					
PALM OIL							2					
OILSEED CAKE AND MEAL	1		1	1	2	1	13	16	1	2	6	54.11
ORANGES+TANGER.+CLEMEN.	38	32	28	32	25	30	36	48	51	29	38	5.96
LEMONS AND LIMES	4	1	2	1	1	1	5	4	2	1	1	15.02
COCOA BEANS				1	1	1			1			2.57
COTTON LINT	49	59	79	129	81	140	241	251	176	287	301	31.95
TOBACCO,UNMANUFACTURED	1	1		1								-16.39
NATURAL RUBBER	1					1	2	3	1	2	2	20.58
WOOL,GREASY	650	680	642	660	659	709	733	799	784	748	617	1.89
BOVINE CATTLE 1/	74	109	121	120	96	67	181	125	153	189	116	5.56
SHEEP AND GOATS 1/	6172	5763	6097	7035	6350	6262	6554	8416	7748	7467	5289	6.18
PIGS 1/	2	1		1	3				2	1	6	-4.16
TOTAL MEAT	1494	1602	1493	1666	1351	1323	1361	1642	1639	1537	1557	-1.12
MILK,DRY	157	137	157	146	148	152	202	227	214	234	195	5.63
TOTAL EGGS,IN SHELL	1	1	1	3	6	2	2	1	1			-3.63
FISHERY PRODUCTS												
FISH,FRESH FROZEN	81	95	88	98	94	97	119	114	162	151	150	11.84
FISH,CURED	1	1	2	1		1	3	2	6	10	10	22.21
SHELLFISH	65	57	70	68	78	70	61	70	73	114	113	9.55
FISH,CANNED AND PREPARED	3	2	4	5	4	4	4	4	5	6	6	22.13
SHELLFISH,CANNED+PREPARED	2	2	2	3	3	3	3	3	3	3	3	6.36
FISH,BODY AND LIVER OIL					2	2	1	1	1	2	2	20.07
FISH-MEAL		1		3	4	1	2	1	2	2	2	
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	971	529	479	508	452	361	389	429	820	1523	1523	-7.40
SAWLOGS,NON-CONIFEROUS	4	4				1	1	22	22	41	41	17.10
PULPWOOD+PARTICLE	7064	6647	6240	6105	7345	7376	7188	8069	8471	8507	8507	4.29
SAWNWOOD,CONIFEROUS	617	546	515	401	381	489	401	348	409	456	456	-2.51
SAWNWOOD,NON-CONIFEROUS	54	35	34	35	41	36	34	16	24	29	29	-5.50
WOOD-BASED PANELS	142	138	99	113	93	79	98	167	165	201	201	4.99
PULP FOR PAPER	475	518	421	471	459	428	504	483	483	568	568	.52
PAPER AND PAPERBOARD	418	447	340	361	342	353	336	330	265	289	289	-2.33

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

4. (Cont.) VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....	....	....	....	....	`000 TONNES	....	....	....	....	....	PERCENT
AFRICA,DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	17	19	27	14	13	8	10	28	51	42	37	-3.54
RICE,MILLED	22	18	14	8	20	13	12	5	15	7	12	-4.29
BARLEY									263		2	
MAIZE	70	245	383	782	262	352	797	800	618	359	796	10.05
MILLET	46	41	6	1	2	2	4	4	1		5	-32.78
SORGHUM	12	3	15	25	30	11	5	21	23	26	5	19.20
POTATOES	55	36	30	49	63	61	84	73	54	107	80	3.92
SUGAR,TOTAL (RAW EQUIV.)	1586	1491	1683	1685	1569	1628	1808	1826	1677	1643	1622	2.00
PULSES	220	127	166	191	128	71	126	160	150	133	118	-2.56
SOYBEANS	1	1		1		3	1	1	10	14	6	2.21
SOYBEAN OIL								1				-12.25
GROUNDNUTS,SHELLED BASIS	86	36	56	96	56	45	55	70	74	35	39	-.77
GROUNDNUT OIL	92	38	162	210	109	56	95	135	137	166	127	1.57
COPRA	32	22	20	14	11	18	18	20	12	11	13	-11.36
COCONUT OIL	15	18	21	21	23	32	34	29	29	26	38	12.21
PALM NUTS,KERNELS	140	107	97	87	98	50	87	108	116	88	51	-4.28
PALM OIL	140	85	84	70	75	92	135	157	95	126	193	3.25
OILSEED CAKE AND MEAL	480	362	492	490	336	409	460	519	546	643	577	-.34
BANANAS	243	205	187	193	193	212	193	183	192	249	234	-4.77
ORANGES+TANGER.+CLEMEN.	855	715	662	594	582	636	644	586	664	641	546	-2.86
LEMONS AND LIMES	1	1	2	7	6	7	3	3	2	3	2	11.07
COFFEE,GREEN+ROASTED	895	965	1053	939	914	972	1076	911	916	1068	1082	-.04
COCOA BEANS	759	976	826	783	894	831	1008	972	954	961	1093	3.28
TEA	180	168	190	200	195	226	224	231	242	254	258	3.06
COTTON LINT	336	340	316	349	372	380	476	489	500	627	579	5.06
JUTE AND SIMILAR FIBRES									1	1	1	
TOBACCO,UNMANUFACTURED	172	189	147	144	173	175	172	173	177	172	226	2.11
NATURAL RUBBER	138	146	151	156	186	185	204	215	244	297	271	5.73
WOOL,GREASY	4	4	4	4	5	3	5	6	4	4	4	2.18
BOVINE CATTLE 1/	1415	1461	1461	1206	1125	975	803	840	754	754	704	-5.88
SHEEP AND GOATS 1/	3646	3412	3574	3001	2488	3367	3091	3093	2737	2912	2877	-1.26
PIGS 1/	1			1			3	3	1			2.18
TOTAL MEAT	47	44	44	48	52	45	36	54	48	62	50	-5.69
TOTAL EGGS,IN SHELL	1				2	1						-4.07
FISHERY PRODUCTS												
FISH,FRESH FROZEN	113	144	156	146	164	192	168	218	223	215	215	6.66
FISH,CURED	13	11	12	9	13	17	14	18	12	9	9	2.48
SHELLFISH	34	74	78	130	135	142	154	169	165	174	174	18.82
FISH,CANNED AND PREPARED	79	94	82	101	100	105	105	108	120	129	128	5.47
FISH,BODY AND LIVER OIL	4	10	1	8	5		4	3	1	1	1	-18.73
FISH-MEAL	17	20	3	12	7	6	1	7	12	11	11	-15.99
FOREST PRODUCTS 2/												
SAWLOGS,NON-CONIFEROUS	5971	4599	4723	4547	5076	4217	3658	3553	3698	3559	3559	-5.63
PULPWOOD+PARTICLE	84	173	173	173	173	173	173	412	673	692	692	18.17
FUELWOOD	5				28							
SAWNWOOD,CONIFEROUS	108	105	81	79	82	77	79	89	83	83	83	-4.08
SAWNWOOD,NON-CONIFEROUS	611	522	554	598	681	794	777	818	832	800	800	3.07
WOOD-BASED PANELS	272	283	265	288	300	307	286	283	264	239	239	1.11
PULP FOR PAPER	240	229	192	202	252	244	244	264	282	269	269	1.97
PAPER AND PAPERBOARD	21	11	19	12	14	13	7	14	7	7	7	-8.30

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

4. (Cont.) VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	'000 TONNES											PERCENT
LATIN AMERICA												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	4620	3964	4042	10410	7491	9762	4125	4326	3904	4856	6251	5.38
RICE,MILLED	516	625	530	512	530	560	568	479	486	575	601	-2.18
BARLEY	72	32	24	59	95	86	51	36	150	181	103	10.59
MAIZE	3556	9198	5837	7321	5733	7129	7422	4000	4235	1938	3046	-1.46
MILLET	63	136	101	96	58	93	32	60	67	27	46	-10.38
SORGHUM	1545	5075	5369	5332	4278	3332	1960	1006	1511	386	1080	-9.82
POTATOES	61	45	44	32	50	55	56	39	34	33	39	-5.17
SUGAR,TOTAL (RAW EQUIV.)	12026	12702	13052	12953	12851	12321	11386	10994	12028	10560	11597	-.90
PULSES	336	286	281	358	412	349	391	306	325	249	320	-1.40
SOYBEANS	4493	3909	2877	3270	5170	7171	4469	5577	5999	7042	9025	6.60
SOYBEAN OIL	840	1355	1025	1369	1413	1511	1103	1734	1699	1704	1826	10.51
GROUNDNUTS,SHELLED BASIS	98	86	61	101	104	138	138	131	146	102	108	8.40
GROUNDNUT OIL	207	80	113	104	57	109	50	104	75	40	50	-9.35
COPRA			5			1						-20.61
COCONUT OIL	4	5	6	6	17	4	5	5	8	10	7	-.91
PALM NUTS,KERNELS	5	1	4	4	3	2	1	1	1			-18.34
PALM OIL	2	6	15	17	27	35	31	33	32	26	49	32.14
OILSEED CAKE AND MEAL	8891	10912	10498	12344	12163	13506	12750	13491	15572	17128	16810	7.10
BANANAS	5358	5471	5652	5082	5492	5370	5928	6173	6310	6858	7755	1.34
ORANGES+TANGER.+CLEMEN.	306	316	383	418	409	479	536	532	521	499	552	7.56
LEMONS AND LIMES	53	51	34	56	65	154	113	130	141	140	135	12.40
COFFEE,GREEN+ROASTED	2232	2148	2259	2426	2533	2622	2108	2693	2351	2617	2760	1.93
COCOA BEANS	183	201	241	229	211	289	239	256	260	218	262	2.70
TEA	44	35	43	54	54	53	49	48	46	54	54	2.55
COTTON LINT	636	600	599	509	481	637	372	436	550	695	666	-5.54
JUTE AND SIMILAR FIBRES	2		1		1	2						
TOBACCO,UNMANUFACTURED	255	271	273	274	290	305	270	260	299	285	311	.61
NATURAL RUBBER	3	2	3	3	2	2	8	7	8	12	12	5.82
WOOL,GREASY	105	125	108	88	79	67	78	75	67	49	68	-4.51
BOVINE CATTLE 1/	754	716	962	717	451	556	1022	1057	837	995	1568	-3.74
SHEEP AND GOATS 1/	65	312	195	634	462	14	89	20	300	71	267	-5.64
PIGS 1/	1			10	4	6	55	18	13	168	13	19.07
TOTAL MEAT	738	992	1027	983	778	806	805	625	816	879	1042	-1.48
MILK,DRY	4	11	19	17	2	1	2	3	13	28	31	-7.98
TOTAL EGGS,IN SHELL	12	14	6	3	4	6	10	6	2	6	6	.06
FISHERY PRODUCTS												
FISH,FRESH FROZEN	419	375	411	376	368	513	496	502	523	584	584	4.08
FISH,CURED	8	5	5	5	5	5	7	9	11	11	11	6.30
SHELLFISH	135	121	162	172	174	161	173	204	191	202	202	3.47
FISH,CANNED AND PREPARED	143	170	98	54	65	50	76	87	86	108	108	-3.65
SHELLFISH,CANNED+PREPARED	4	6	4	6	7	6	7	9	12	13	13	12.41
FISH,BODY AND LIVER OIL	103	77	137	23	139	204	190	138	81	388	388	5.08
FISH-MEAL	1052	962	1495	1022	1294	1844	1977	1926	1957	2516	2516	9.40
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	1029	377	906	1024	902	1271	1162	1271	1403	925	1033	7.00
SAWLOGS,NON-CONIFEROUS	114	65	54	55	68	47	37	43	99	94	94	-3.68
PULPWOOD+PARTICLE							323	1347	2737	3752	3880	
FUELWOOD	167	71	23	57	10	7	6	60	6	6	6	-28.05
SAWNWOOD,CONIFEROUS	1718	1319	1102	1172	1217	1004	1153	1342	1383	1372	1506	-2.57
SAWNWOOD,NON-CONIFEROUS	1130	994	892	851	911	894	774	859	785	846	875	-1.80
WOOD-BASED PANELS	625	606	608	584	660	660	678	732	886	917	929	4.75
PULP FOR PAPER	1318	1374	1302	1566	1532	1515	1511	1407	1606	1523	1622	5.69
PAPER AND PAPERBOARD	398	497	404	651	939	778	920	828	1323	1322	1314	15.15

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

4. (Cont.) VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....					`000 TONNES					....	PERCENT
NEAR EAST, DEVELOPING												
AGRICULTURAL PRODUCTS .												
WHEAT+FLOUR,WHEAT EQUIV.	540	652	717	1145	1046	804	873	2025	4623	2481	1757	8.98
RICE,MILLED	259	159	59	78	158	121	226	214	159	251	229	-1.46
BARLEY	229	424	1026	662	321	100	171	48	678	313	98	5.34
MAIZE	155	40	53	10	6	12	7	13	19	24	29	-21.22
MILLET	2	3	8	2	4		2	5	2	5	1	-4.47
SORGHUM	286	256	423	186	25		31	534	237	308	100	
POTATOES	453	393	463	456	511	354	376	359	499	559	655	2.33
SUGAR,TOTAL (RAW EQUIV.)	45	71	224	341	629	369	78	316	95	124	147	16.99
PULSES	299	500	573	658	609	386	560	800	1277	604	632	12.88
SOYBEAN OIL	3	5	16	11	11	5	1		1	6	8	22.95
GROUNDNUTS,SHELLED BASIS	51	108	101	24	31	19	6	10	77	32	15	-16.21
GROUNDNUT OIL	33	16	18	2	12	3	2	22	9	15	22	-14.35
COCONUT OIL		1										-11.22
PALM OIL			1				5	17	13	15	13	
OILSEED CAKE AND MEAL	261	145	105	104	133	29	73	111	192	107	114	-8.87
BANANAS	19	20	11	10	12	12	13	14	14	13	18	4.38
ORANGES+TANGER.+CLEMEN.	591	698	637	617	611	558	434	494	438	557	606	-3.38
LEMONS AND LIMES	191	190	191	202	199	137	152	159	174	153	175	.25
COFFEE,GREEN+ROASTED	2	6	5	5	8	4	5	2	5	7	4	4.71
TEA	15	17	5	7	5	6	8	6	5	32	36	-10.13
COTTON LINT	608	532	584	623	648	488	611	425	414	400	341	-4.39
TOBACCO,UNMANUFACTURED	94	138	110	75	72	105	86	115	81	120	104	.19
NATURAL RUBBER							1					85.86
WOOL,GREASY	7	3	6	6	5	5	8	11	14	15	17	4.68
BOVINE CATTLE 1/	13	60	112	77	51	18	13	2	1	6	1	-20.08
SHEEP AND GOATS 1/	2026	2858	3505	3710	3866	3353	4140	3713	4307	5015	4217	12.29
TOTAL MEAT	22	74	96	78	97	60	58	47	49	44	34	12.69
MILK,DRY	1		1	1						1	1	18.46
TOTAL EGGS,IN SHELL	13	17	27	42	70	73	51	51	31	25	23	22.05
FISHERY PRODUCTS												
FISH,FRESH FROZEN	15	28	26	29	30	29	28	31	46	47	47	12.71
FISH,CURED	1	1	3	1	1	1	1	2	3	3	3	5.47
SHELLFISH	4	4	5	7	5	5	4	14	15	16	16	11.34
FISH,CANNED AND PREPARED	8	3	2	1	1	2	2	3	2	2	2	-8.79
SHELLFISH,CANNED+PREPARED	3	4	5	7	8	5	6	3	2	2	2	7.37
FISH-MEAL					1							
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	1	2	7	11	20	15	24	1	13	115	115	24.37
SAWLOGS,NON-CONIFEROUS	4	36	36	35	100	76	24	23	22	16	16	24.31
FUELWOOD	30	24	16	23	11	11	11	11	11	11	11	-9.57
SAWNWOOD,CONIFEROUS	84	96	94	126	107	82	48	50	82	82	82	-2.88
SAWNWOOD,NON-CONIFEROUS	3	6	12	7	8	5	8	57	26	26	26	38.24
WOOD-BASED PANELS	19	19	24	27	19	19	19	18	25	23	23	-1.26
PAPER AND PAPERBOARD	21	35	35	41	71	56	65	65	65	65	65	20.16

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD. ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

4. (Cont.) VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	'000 TONNES											PERCENT
FAR EAST, DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	514	304	163	317	434	465	365	441	375	389	593	-5.67
RICE,MILLED	6968	6982	7044	6803	8522	7322	8355	8180	7989	9813	7436	3.50
BARLEY	260	276	907	257	1655	188	36	35	52	7	1	-2.35
MAIZE	2446	2862	3126	2952	4520	9321	9757	5724	5433	5123	4908	13.99
MILLET	7	3	3	2	4	16	12	9	8	9	8	-5.07
SORGHUM	209	288	320	252	331	903	1022	332	407	937	314	13.60
POTATOES	184	152	158	139	132	116	117	109	161	189	205	-2.24
SUGAR,TOTAL (RAW EQUIV.)	3379	3370	4556	3837	3159	3373	3125	3297	2852	4488	3935	-1.71
PULSES	382	449	482	468	509	676	1177	889	1002	818	1273	12 88
SOYBEANS	168	166	186	400	880	1205	1449	1776	1607	1351	1037	32.31
SOYBEAN OIL	31	32	50	79	97	48	63	200	160	146	154	29.11
GROUNDNUTS,SHELLED BASIS	140	363	242	290	246	281	428	413	441	407	545	19.38
GROUNDNUT OIL	27	62	61	100	47	66	118	52	30	25	73	7.78
COPRA	234	172	233	77	74	164	202	157	119	138	152	-7 94
COCONUT OIL	1061	1192	1064	1148	782	1050	1451	1267	1135	1109	1499	1.40
PALM NUTS,KERNELS	45	24	16	15	13	26	7	3	1	3	4	-23.00
PALM OIL	3303	2963	3487	3709	3951	4811	5755	5307	5514	6563	7293	9.74
OILSEED CAKE AND MEAL	3142	3299	3563	4696	3839	4259	7255	6766	8204	8278	8334	11.16
BANANAS	1080	1026	1094	817	976	969	996	953	1014	974	940	.35
ORANGES+TANGER.+CLEMEN.	148	104	119	137	126	132	143	158	158	165	151	.66
LEMONS AND LIMES	1	7	2	2	2	3	3	3	3	3	2	7 04
COFFEE,GREEN+ROASTED	374	373	413	420	495	531	570	509	569	662	719	5.88
COCOA BEANS	41	65	88	91	121	143	180	249	333	313	344	28.65
TEA	664	653	614	623	723	701	726	738	776	794	787	2.91
COTTON LINT	398	416	343	541	422	612	1399	1587	1034	1242	797	23.68
JUTE AND SIMILAR FIBRES	500	556	495	493	479	367	512	503	334	367	455	-2.53
TOBACCO,UNMANUFACTURED	230	287	268	236	225	192	195	158	176	167	196	-4.61
NATURAL RUBBER	3140	2962	2925	3250	3390	3388	3433	3777	3845	3945	3735	2.16
WOOL,GREASY	23	22	17	16	14	15	24	9	8	7	6	-8 54
BOVINE CATTLE 1/	332	299	296	328	255	279	278	307	328	345	353	53
SHEEP AND GOATS 1/	568	390	338	592	756	734	805	861	649	619	570	5.60
PIGS 1/	4566	3213	3386	3377	3205	3229	3451	3498	3647	3737	3736	.31
TOTAL MEAT	340	353	401	368	390	424	490	586	586	664	840	6.88
MILK,DRY	13	10	10	10	10	13	21	28	35	31	33	13.54
TOTAL EGGS,IN SHELL	59	68	64	60	74	71	76	84	75	70	78	4.51
FISHERY PRODUCTS												
FISH,FRESH FROZEN	855	820	745	855	788	887	1114	1156	1280	1345	1345	4.50
FISH,CURED	36	33	36	33	43	44	45	51	53	55	55	4.73
SHELLFISH	385	405	454	476	552	620	777	931	1026	1055	1055	10.74
FISH,CANNED AND PREPARED	99	114	138	155	182	218	307	346	436	474	474	19.74
SHELLFISH,CANNED+PREPARED	61	66	71	79	86	90	107	124	132	129	129	10.91
FISH,BODY AND LIVER OIL	2	1	1	1	2	2	2	3	3	3	3	2.40
FISH-MEAL	154	151	142	154	157	161	194	197	128	93	93	1.04
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	348	324	157	146	141	43	130	103	103	105	105	-15 19
SAWLOGS,NON-CONIFEROUS	31712	24192	24424	23304	19551	20810	19846	23676	21435	22079	22079	-5.76
PULPWOOD+PARTICLE	1003	1033	963	1122	793	927	796	1111	1210	1142	1142	2 07
FUELWOOD	1181	1164	1086	1229	1146	842	832	798	784	1290	1290	-1.18
SAWNWOOD,CONIFEROUS	420	266	210	151	198	226	285	424	374	375	375	-2.84
SAWNWOOD,NON-CONIFEROUS	6480	5550	5940	7051	6561	6328	7114	7989	9139	9788	9788	3.22
WOOD-BASED PANELS	3817	4548	4262	5656	5904	6592	7276	9137	9616	11213	11418	9.28
PULP FOR PAPER	55	97	89	73	46	84	105	101	173	145	145	9.88
PAPER AND PAPERBOARD	447	483	393	362	466	630	917	1302	1535	1636	1718	18.09

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

5. WORLD AVERAGE EXPORT UNIT VALUES OF SELECTED AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1989-90
	....	....	....	....	....	US$/TONNE	....	....	....	....	....	PERCENT
AGRICULTURAL PRODUCTS												
WHEAT	186	188	173	162	157	144	135	114	140	171	162	-1.52
WHEAT FLOUR	284	294	245	197	215	208	195	179	197	246	250	-1.58
RICE,MILLED	383	443	343	308	297	281	248	251	320	321	323	-1.70
BARLEY	175	175	161	144	147	121	107	103	130	146	153	-1.81
MAIZE	150	153	128	142	149	126	117	104	128	132	136	-1.11
POTATOES	185	178	186	168	209	124	151	170	160	190	233	.07
SUGAR,CENTRIFUGAL RAW	538	505	403	422	415	389	420	382	384	404	475	-1.42
SOYBEANS	264	282	243	256	278	218	200	200	263	258	230	-.88
SOYBEAN OIL	625	542	483	498	715	644	411	356	466	458	476	-1.90
GROUNDNUTS,SHELLED	698	964	697	655	733	602	590	589	575	619	670	-1.24
GROUNDNUT OIL	781	998	647	568	986	924	654	562	616	777	1001	-.23
COPRA	400	312	261	354	583	332	139	225	316	293	220	-2.79
COCONUT OIL	651	536	461	556	1029	589	290	397	540	518	345	-2.52
PALM NUTS,KERNELS	267	235	222	263	331	232	112	100	151	155	151	-4.22
PALM OIL	563	529	441	442	660	505	290	327	425	363	298	-3.14
PALM KERNEL OIL	652	539	450	574	908	535	261	391	501	442	332	-3.08
OLIVE OIL	1983	1808	1782	1504	1362	1174	1631	1950	1945	2299	2738	.96
CASTOR BEANS	318	324	284	291	376	275	192	202	299	377	351	-.32
CASTOR BEAN OIL	970	856	825	908	1119	709	586	704	910	929	935	-.70
COTTONSEED	179	199	136	130	175	141	105	115	146	152	162	-1.41
COTTONSEED OIL	628	627	529	526	751	639	446	428	496	476	475	-1.81
LINSEED	311	326	285	275	287	266	206	174	275	343	312	-.82
LINSEED OIL	611	662	533	417	527	625	477	305	395	665	689	-.88
BANANAS	186	199	204	214	213	220	241	253	266	268	279	2.35
ORANGES	357	347	330	325	299	334	343	388	396	389	423	.85
APPLES	435	409	432	336	329	323	401	416	442	422	561	.53
RAISINS	1677	1477	1212	1079	941	923	1070	1183	1249	1224	1317	-1.67
DATES	415	588	654	712	881	809	757	625	629	627	770	2.62
COFFEE,GREEN	3290	2238	2309	2287	2547	2518	3668	2249	2418	1966	1466	-2.52
COCOA BEANS	2663	1771	1590	1636	2099	2076	2113	1988	1689	1373	1203	-2.87
TEA	2060	1906	1772	1993	2648	2185	1870	1904	1901	2032	2283	.16
COTTON LINT	1623	1719	1443	1521	1693	1457	1134	1237	1569	1456	1650	-.70
JUTE	378	313	284	263	333	503	282	233	319	324	316	-.89
JUTE-LIKE FIBRES	259	190	235	310	304	259	219	142	165	4068	1015	6.97
SISAL	601	558	516	433	418	405	425	409	404	412	490	-2.00

5. (Cont.) WORLD AVERAGE EXPORT UNIT VALUES OF SELECTED AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1989-90
	....	....	....	....	....	US$/TONNE	....	....	....	....	....	PERCENT
TOBACCO,UNMANUFACTURED	2818	2949	3234	3125	2970	2916	2930	2916	3035	3088	3281	.45
NATURAL RUBBER	1296	1162	875	1018	1054	836	904	1148	1730	1373	1253	.49
RUBBER NATURAL DRY	1312	1066	797	963	965	755	788	903	1109	910	824	-1.95
WOOL,GREASY	2825	2956	2917	2517	2626	2514	2448	2675	4279	5152	4203	2.30
CATTLE 1/	439	423	400	379	367	375	428	460	531	533	515	1.12
BEEF AND VEAL	2514	2377	2443	2213	1954	1863	2028	2675	2933	2767	3104	.83
MUTTON AND LAMB	1761	1863	1809	1597	1515	1421	1468	1571	1810	1921	2101	.23
PIGS 1/	106	108	113	99	94	88	93	96	96	103	113	-.33
BACON HAM OF SWINE	2894	2744	2640	2345	2226	2236	2741	3057	3256	3427	3994	1.34
MEAT CHICKENS	1430	1338	1162	1031	1072	1031	1206	1260	1260	1312	1449	-.24
MEAT PREPARATIONS	2529	2414	2150	2106	1983	1845	2011	2357	2150	2159	2380	-.67
COW MILK WHOLE, EVAP.COND.	931	926	939	898	785	775	969	1068	1072	1076	1208	1.15
COW MILK, SKIMMED DRY	1047	1106	1055	864	786	783	1016	1175	1603	1863	1902	2.97
BUTTER OF COW MILK	2468	2631	2704	2395	2006	1683	1845	1748	1980	2650	2553	-.89
CHEESE OF WHOLE COW MILK	2933	2663	2568	2429	2188	2238	2806	3258	3450	3440	3934	1.46
FISHERY PRODUCTS												
FISH,FRESH FROZEN	1265	1299	1207	1091	1066	1049	1202	1424	1487	1589	1586	1.23
FISH,CURED	2439	2570	2246	2012	1806	1861	2471	3159	3217	2905	2931	1.40
SHELLFISH,	3931	3809	3820	3562	3307	3389	4328	4745	4985	4763	4765	1.42
FISH,CANNED AND PREPARED	2350	2358	2319	2427	2274	2334	2709	3062	3414	3293	3297	2.22
SHELLFISH,CANNED+PREPARED	4694	4356	4199	4351	4067	3972	5120	5973	6412	6217	6246	2.03
FISH,BODY AND LIVER OIL	432	399	343	345	348	301	255	264	352	226	226	-3.32
FISH-MEAL	468	472	370	428	390	294	340	381	496	438	438	-.51
FOREST PRODUCTS												
SAWLOGS,CONIFEROUS 2/	89	81	73	63	63	61	65	74	88	93	99	.19
SAWLOGS,UN-CONIFEROUS 2/	105	89	87	85	72	70	74	87	92	94	95	-.67
PULPWOOD+PARTICLE 2/	36	40	35	30	30	29	32	36	40	43	44	.72
FUELWOOD 2/	34	34	29	25	26	26	29	33	34	34	34	.03
SAWNWODD,CONIFEROUS 2/	138	127	114	114	110	105	117	128	140	153	159	.60
SAWNWOOD,NONCONIF. 2/	245	220	209	213	200	195	225	234	239	286	297	.81
WOOD-BASED PANELS 2/	316	294	280	268	248	251	264	309	323	331	327	.24
PULP FOR PAPER	444	451	411	356	416	353	386	502	590	663	645	2.02
PAPER AND PAPERBOARD	571	567	556	504	521	528	595	688	764	790	787	1.96

1/ US DOLLARS PER HEAD
2/ US DOLLARS PER CUBIC METRE

6. VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FORESTRY PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	'000 TONNES											PERCENT
WORLD												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	98202	102637	107797	105642	114798	104426	96600	108207	116734	109297	107100	.73
RICE,MILLED	13059	13838	11489	11902	11455	12489	12751	12282	11295	14119	12232	-.12
BARLEY	15086	18682	18655	17746	23004	21685	23526	21549	19727	21158	19975	2.28
MAIZE	79648	80806	69791	69478	67775	70778	58811	64464	66372	76453	73801	-.95
MILLET	285	223	283	267	227	281	200	182	197	228	224	-2.76
SORGHUM	11032	13691	13551	11022	13152	12296	8462	7678	8842	11593	8571	-3.90
POTATOES	4669	4701	5137	4851	4821	5302	5588	6239	6519	6725	7024	4.50
SUGAR,TOTAL (RAW EQUIV.)	27372	28326	29576	27909	28198	27372	26515	27876	28199	28805	27967	-.03
PULSES	2924	3210	3169	3269	3536	3905	4841	5441	5969	5401	6442	8.79
SOYBEANS	27037	26276	28676	26846	25646	25835	27067	29392	26558	23727	26261	-.50
SOYBEAN OIL	3239	3255	3792	3675	4028	3449	3015	3955	3795	3850	3847	1.27
GROUNDNUTS,SHELLED BASIS	713	727	814	766	755	814	902	916	964	908	1049	3.58
GROUNDNUT OIL	513	359	416	516	323	333	358	371	382	371	329	-2.59
COPRA	465	393	477	251	306	368	407	339	283	285	294	-3.79
COCONUT OIL	1125	1400	1291	1294	1052	1135	1493	1435	1371	1265	1534	1.73
PALM NUTS,KERNELS	182	161	123	127	125	99	106	135	93	103	73	-6.37
PALM OIL	3412	3224	3688	3919	3904	4876	5969	5677	5589	6563	7695	8.85
OILSEED CAKE AND MEAL	25343	27042	28452	33049	29216	31833	34068	37610	39263	38971	38817	4.62
BANANAS	6742	6786	6796	6190	6643	7145	7301	7561	7844	8278	9061	2.95
ORANGES+TANGER.+CLEMEN.	5240	5020	5160	5109	5261	4953	5301	5421	5585	5478	5736	1.06
LEMONS AND LIMES	991	970	1049	1003	997	1009	1017	992	1045	1030	1005	.26
COFFEE,GREEN+ROASTED	3794	3815	3886	3988	4048	4210	4231	4546	4253	4682	4855	2.42
COCOA BEANS	1063	1242	1270	1259	1325	1464	1400	1471	1544	1660	1776	4.34
TEA	908	883	888	915	1050	1010	1068	1025	1167	1142	1209	3.26
COTTON LINT	5069	4421	4503	4356	4496	4593	4825	5587	5016	5831	5090	1.85
JUTE AND SIMILAR FIBRES	574	531	572	518	461	380	523	529	360	383	460	-3.24
TOBACCO,UNMANUFACTURED	1410	1443	1410	1369	1434	1382	1364	1413	1333	1385	1428	-.23
NATURAL RUBBER	3392	3281	3132	3428	3696	3660	3701	4061	4328	4412	4251	3.35
WOOL,GREASY	852	857	818	823	820	909	923	991	934	905	682	
BOVINE CATTLE 1/	6665	6919	7288	6786	6658	6618	7030	6992	6790	7001	8136	.86
PIGS 1/	10498	9715	9020	9357	9987	10218	11821	12270	12635	13525	12561	3.65
TOTAL MEAT	7909	8425	8700	8673	8546	9026	9904	9949	10314	10953	11407	3.53
MILK,DRY	678	696	679	645	725	713	813	935	1091	1095	972	5.51
TOTAL EGGS,IN SHELL	740	780	825	820	847	785	745	783	768	819	828	.29
FISHERY PRODUCTS												
FISH,FRESH FROZEN	4034	4311	4693	4697	4947	5367	6029	6986	7618	7754	7778	7.62
FISH,CURED	400	424	363	434	424	466	432	464	471	451	452	1.64
SHELLFISH,	1120	1140	1238	1348	1486	1598	1756	1930	2114	2274	2275	8.33
FISH,CANNED AND PREPARED	1035	1081	977	925	944	1031	1102	1151	1172	1272	1281	2.63
SHELLFISH,CANNED+PREPARED	172	181	199	220	236	254	271	307	330	304	304	6.80
FISH,BODY AND LIVER OIL	752	732	796	731	951	1099	820	837	821	904	892	1.76
FISH-MEAL	2263	2052	2599	2336	2531	3126	3238	3213	3343	3640	3624	5.88
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	28054	23842	26400	30362	31057	33089	32712	35992	37485	35021	34652	3.74
SAWLOGS,NON-CONIFEROUS	42243	34891	32704	32986	30879	29890	31171	32013	32714	35040	34860	-.90
PULPWOOD+PARTICLE	43086	41400	36495	37710	41454	42094	44826	49018	59453	52914	52574	3.74
FUELWOOD	3112	2533	3158	3545	3924	4096	3878	3844	3558	4547	4656	4.52
SAWNWOOD,CONIFEROUS	63303	58317	59435	67696	70492	72542	73702	76009	76850	78785	77053	2.98
SAWNWOOD,NON-CONIFEROUS	12583	11309	10826	11920	12309	12295	12653	15598	15772	18006	18304	5.06
WOOD-BASED PANELS	15654	16646	15467	16852	17817	18783	20450	23924	25440	28943	29303	7.23
PULP FOR PAPER	19316	18517	17299	19597	20441	20729	22105	23932	24742	24662	24952	3.68
PAPER AND PAPERBOARD	33796	34216	33865	35685	39332	40218	43327	46805	49644	52053	52384	5.28

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

6. (Cont.) VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FORESTRY PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....	....	....	....	....	`000 TONNES	....	....	....	....	....	PERCENT
WESTERN EUROPE												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	14122	13336	13943	10586	12635	15531	16641	14965	15487	14250	15259	1.77
RICE,MILLED	1290	1490	1687	1559	1702	1901	1796	1665	1597	1827	1716	2.08
BARLEY	5247	5966	6194	6665	5119	4562	5022	5076	5362	4793	4872	-2.02
MAIZE	23448	21740	21102	18873	15992	15035	10940	10468	11443	9536	11418	-8.93
MILLET	120	130	162	129	145	142	127	128	126	133	130	-.37
SORGHUM	1273	1103	2149	685	1145	244	174	771	619	942	606	-8.46
POTATOES	3051	3026	3228	3167	3235	3629	3936	4492	4384	4268	4239	4.49
SUGAR,TOTAL (RAW EQUIV.)	3139	3063	3195	3148	3789	3151	3112	3289	4690	5120	3926	3.91
PULSES	1014	924	1067	1306	1429	1867	2094	2887	2946	2926	3364	15.26
SOYBEANS	16249	14414	16454	15009	13575	13843	13802	15420	13387	12131	14325	-1.68
SOYBEAN OIL	675	643	681	743	702	682	604	634	619	650	644	-.85
GROUNDNUTS,SHELLED BASIS	414	389	431	386	396	424	459	464	480	473	514	2.50
GROUNDNUT OIL	446	297	349	396	255	274	273	299	303	287	258	-3.38
COPRA	253	184	280	113	132	133	148	123	100	99	130	-7.53
COCONUT OIL	414	561	537	512	372	419	591	573	550	493	641	2.22
PALM NUTS,KERNELS	147	140	106	96	100	81	97	110	84	89	62	-5.81
PALM OIL	831	723	735	859	717	828	1159	1100	1105	1291	1539	7.15
OILSEED CAKE AND MEAL	17396	18205	19294	21471	19780	22424	23715	23749	23506	22936	24683	3.37
BANANAS	2221	2172	2178	2018	2183	2306	2458	2629	3019	3199	3765	5.43
ORANGES+TANGER.+CLEMEN.	3228	2969	3186	3117	3299	3010	3415	3618	3642	3589	3917	2.26
LEMONS AND LIMES	429	416	452	451	431	449	459	479	480	500	518	1.87
COFFEE,GREEN+ROASTED	1930	1999	1997	2062	1999	2098	2151	2319	2305	2390	2611	2.73
COCOA BEANS	611	664	721	649	738	793	778	790	860	932	1048	4.67
TEA	296	244	287	266	306	277	290	262	281	278	278	.05
COTTON LINT	1259	1017	1148	1246	1232	1343	1344	1518	1289	1362	1253	1.81
JUTE AND SIMILAR FIBRES	132	120	97	85	88	54	74	54	54	60	56	-8.64
TOBACCO,UNMANUFACTURED	701	679	670	683	670	678	636	672	635	662	689	-.40
NATURAL RUBBER	892	838	844	830	865	929	923	958	978	1011	989	1.89
WOOL,GREASY	399	394	353	316	395	422	409	430	409	414	348	.56
BOVINE CATTLE 1/	3405	3211	3478	3401	3335	3695	3840	3856	3546	3857	4152	2.00
PIGS 1/	5202	5496	4680	4889	4877	4973	7253	7221	7000	7798	7259	5.08
TOTAL MEAT	3761	3504	3778	3889	3835	4198	4388	4548	4708	4978	5190	3.82
MILK,DRY	156	133	145	147	146	136	131	197	233	225	180	4.40
TOTAL EGGS,IN SHELL	431	431	444	441	467	466	482	526	506	548	566	2.86
FISHERY PRODUCTS												
FISH,FRESH FROZEN	1595	1600	1707	1564	1612	1798	1894	2196	2427	2533	2538	5.66
FISH,CURED	198	176	173	217	214	249	227	246	253	266	266	4.25
SHELLFISH,	412	405	465	509	581	623	647	744	804	883	883	8.97
FISH,CANNED AND PREPARED	338	340	320	352	364	384	430	471	473	543	550	5.84
SHELLFISH,CANNED+PREPARED	87	86	90	97	97	107	120	132	148	167	167	7.73
FISH,BODY AND LIVER OIL	666	637	706	607	813	957	702	685	703	773	762	1.40
FISH-MEAL	1182	1026	1288	1230	1163	1462	1525	1396	1313	1499	1468	2.93
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	5103	4507	4660	4456	4356	4756	4391	5062	5340	5366	5208	1.35
SAWLOGS,NON-CONIFEROUS	8424	6889	6139	6174	6337	6034	6112	5986	6779	7340	7195	-.30
PULPWOOD+PARTICLE	20877	22039	19447	19140	22527	23775	24526	27943	28275	28500	28298	4.19
FUELWOOD	2016	1539	1851	2238	2490	2631	2390	2276	2151	2869	2950	4.50
SAWNWOOD,CONIFEROUS	25507	21507	22714	23839	22948	21753	24888	26258	27640	27982	28198	2.22
SAWNWOOD,NON-CONIFEROUS	6088	4933	4891	5386	5322	5516	5643	6588	6781	6617	6995	3.06
WOOD-BASED PANELS	8951	8956	8462	8980	9484	9981	11074	11836	12915	13900	14330	5.69
PULP FOR PAPER	10014	9531	8807	9611	10063	10301	11028	11745	11988	12165	12211	3.13
PAPER AND PAPERBOARD	15107	15728	15742	17301	18745	18578	20632	22454	24814	26846	27131	6.62

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

6. (Cont.) VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FORESTRY PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....					`000 TONNES					....	PERCENT
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	21470	24149	27225	26572	31330	25497	18302	21821	25450	17315	16890	-3.28
RICE,MILLED	994	1599	1127	601	490	636	741	863	719	866	556	-4.94
BARLEY	4311	6019	3258	3531	3326	5804	6597	4337	4377	5829	4551	1.95
MAIZE	18968	22480	15249	7860	13539	20015	9757	10785	13589	22539	15502	-.94
MILLET	1	1	1	1		1	7	3				-12.76
SORGHUM	1562	3967	2709	2078	1990	1452	39	155	400	912	265	-23.59
POTATOES	297	331	468	158	131	245	265	482	733	950	1328	15.63
SUGAR,TOTAL (RAW EQUIV.)	5825	6397	8146	7029	6939	5843	6194	6359	5468	6959	5239	-1.54
PULSES	62	85	60	35	77	39	80	41	59	39	34	-5.18
SOYBEANS	1707	1653	1906	1938	1205	1113	2533	2229	1727	958	1014	-3.62
SOYBEAN OIL	154	198	313	255	203	401	137	293	143	361	227	1.72
GROUNDNUTS,SHELLED BASIS	54	61	67	54	76	74	82	83	91	78	76	4.25
GROUNDNUT OIL	1		1	1		1		1	1	2		4.14
COPRA	20	10	14	14	5	2	5	4	4	5	5	-13.66
COCONUT OIL	89	77	99	79	68	60	67	83	61	94	80	-1.01
PALM NUTS,KERNELS	4											
PALM OIL	112	184	384	329	292	250	249	279	192	458	244	4.61
OILSEED CAKE AND MEAL	4599	5331	5069	6664	4010	4190	3930	6935	7119	7717	5421	3.12
BANANAS	269	232	155	167	200	206	119	174	186	239	235	-.39
ORANGES+TANGER.+CLEMEN.	748	688	645	599	616	697	690	631	668	592	491	-2.14
LEMONS AND LIMES	333	308	363	289	272	273	274	232	257	227	180	-5.11
COFFEE,GREEN+ROASTED	232	211	210	215	247	256	222	246	262	320	253	2.71
COCOA BEANS	201	199	178	243	246	253	251	248	244	269	183	1.58
TEA	102	116	107	110	129	151	146	174	174	255	274	10.13
COTTON LINT	743	638	693	764	841	868	752	676	760	725	497	-1.43
JUTE AND SIMILAR FIBRES	93	111	122	93	45	57	87	85	65	53	72	-4.93
TOBACCO,UNMANUFACTURED	178	196	201	189	202	185	167	140	122	114	105	-6.26
NATURAL RUBBER	441	418	360	446	435	374	326	340	251	290	261	-5.29
WOOL,GREASY	182	174	173	219	135	153	157	177	164	172	89	-3.61
BOVINE CATTLE 1/	173	162	160	183	209	167	166	138	209	138	109	-2.64
PIGS 1/	479	844	565	637	519	732	536	1009	896	819	700	3.81
TOTAL MEAT	956	1226	1091	1132	923	848	896	758	713	786	966	-3.43
MILK,DRY	71	78	90	47	58	70	85	74	59	82	86	1.07
TOTAL EGGS,IN SHELL	43	34	36	31	28	21	24	14	13	11	18	-11.67
FISHERY PRODUCTS												
FISH,FRESH FROZEN	280	180	151	433	524	585	626	720	846	814	815	17.52
FISH,CURED	20	26	20	40	30	36	33	44	52	44	44	8.61
FISH,CANNED AND PREPARED	38	39	37	34	33	48	56	67	66	50	50	5.59
FISH,BODY AND LIVER OIL	23	13	26	24	32	46	37	31	28	22	22	2.56
FISH-MEAL	310	233	291	218	283	341	337	260	329	337	337	2.54
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	1050	960	498	655	629	598	711	610	520	385	385	-7.49
SAWLOGS,NON-CONIFEROUS	454	487	385	367	375	405	368	370	388	317	317	-3.14
PULPWOOD+PARTICLE	1583	1390	1248	1286	1323	1248	1261	1282	1127	1040	1040	-3.24
FUELWOOD	25	25	20	25	25	12						
SAWNWOOD,CONIFEROUS	2665	2884	2544	2685	2983	3671	3081	2632	2814	2354	2354	-1.03
SAWNWOOD,NON-CONIFEROUS	274	331	213	226	222	214	187	152	150	148	148	-7.27
WOOD-BASED PANELS	1137	1115	939	832	766	797	897	950	1052	1314	1314	1.97
PULP FOR PAPER	1173	1093	1031	1101	1067	1063	1015	1124	1141	1120	1120	.14
PAPER AND PAPERBOARD	2044	1968	1965	1732	1703	1717	1530	1493	1581	1653	1653	-2.53

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

6. (Cont.) VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FORESTRY PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	…………					`000 TONNES					…………	PERCENT
NORTH AMERICA,DEVELOPED												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	8	11	74	63	110	282	279	392	487	384	705	52.78
RICE,MILLED	94	106	126	128	141	174	207	221	264	274	308	12.99
BARLEY	140	127	198	141	146	105	135	201	256	254	220	6.04
MAIZE	1228	1276	807	352	541	567	937	348	527	969	713	-4.07
MILLET									2	9	7	43.80
SORGHUM			2		7				2	2	7	30.17
POTATOES	212	340	344	280	303	330	305	388	405	507	495	6.55
SUGAR,TOTAL (RAW EQUIV.)	4587	5453	3466	3654	4150	3662	3199	2265	2125	2415	2861	-7.27
PULSES	43	61	47	48	55	51	56	64	72	100	97	7.47
SOYBEANS	483	382	468	315	285	247	166	247	131	280	340	-6.89
SOYBEAN OIL	12	9	4	35	17	42	15	26	297	11	31	17.33
GROUNDNUTS,SHELLED BASIS	55	72	61	67	69	69	79	73	61	68	82	1.90
GROUNDNUT OIL	5	4	4	6	5	4	6	9	19	6	10	10.28
COPRA								1	1		1	
COCONUT OIL	422	476	427	475	400	474	558	534	470	413	473	.79
PALM OIL	137	138	132	168	161	251	288	199	169	133	200	3.15
OILSEED CAKE AND MEAL	431	443	457	536	701	763	797	888	987	924	885	9.49
BANANAS	2669	2794	2935	2785	2922	3352	3350	3367	3212	3392	3582	2.80
ORANGES+TANGER.+CLEMEN.	320	326	304	325	301	295	325	325	283	294	310	-.65
LEMONS AND LIMES	38	43	38	40	51	66	61	66	80	80	93	9.90
COFFEE,GREEN+ROASTED	1190	1104	1150	1089	1178	1233	1283	1319	1051	1290	1307	1.18
COCOA BEANS	162	264	213	233	218	292	224	283	259	286	361	4.95
TEA	107	107	103	97	109	97	110	93	106	101	91	-.97
COTTON LINT	65	63	52	61	59	57	54	42	41	48	40	-4.49
JUTE AND SIMILAR FIBRES	10	18	18	17	11	17	16	16	15	7	4	-7.51
TOBACCO,UNMANUFACTURED	191	176	167	153	214	177	207	220	168	195	200	1.25
NATURAL RUBBER	695	759	713	773	906	927	874	934	960	1009	924	3.52
WOOL,GREASY	14	20	16	20	23	17	24	32	31	33	24	7.16
BOVINE CATTLE 1/	731	816	1085	1004	801	894	1407	1295	1401	1514	2153	9.23
PIGS 1/	248	147	295	448	1322	1227	502	447	839	1074	891	16.21
TOTAL MEAT	854	766	866	808	866	1010	1064	1170	1190	1078	1181	4.55
MILK,DRY				2	3	4	4	5	6	4	3	
TOTAL EGGS,IN SHELL	12	12	11	22	30	19	20	14	12	28	25	5.67
FISHERY PRODUCTS												
FISH,FRESH FROZEN	699	735	676	700	688	760	810	894	745	850	858	2.35
FISH,CURED	26	35	33	32	33	32	33	31	31	33	33	.82
SHELLFISH,	146	156	175	213	222	235	261	287	298	350	350	9.49
FISH,CANNED AND PREPARED	99	104	112	126	153	200	218	213	229	256	256	11.43
SHELLFISH,CANNED+PREPARED	39	47	54	69	73	84	76	89	89	48	48	2.98
FISH,BODY AND LIVER OIL	12	10	8	9	8	10	11	14	16	21	21	8.57
FISH-MEAL	45	56	79	68	81	234	171	185	140	102	102	10.48
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	2146	1674	1772	2683	2887	2837	2826	2710	3059	2567	2356	3.53
SAWLOGS,NON-CONIFEROUS	471	415	335	424	585	576	645	757	636	793	758	7.69
PULPWOOD+PARTICLE	2249	2348	2000	2409	2173	1976	2805	2142	2527	2556	2417	1.30
FUELWOOD	268	137	113	113	161	160	154	160	172	188	215	1.90
SAWNWOOD,CONIFEROUS	22839	22542	21694	28483	31316	34407	33653	34403	32625	33228	31280	4.46
SAWNWOOD,NON-CONIFEROUS	1422	1557	912	1246	1407	1432	1496	2072	1477	2058	1977	4.92
WOOD-BASED PANELS	2378	2851	2263	3366	3548	3956	4268	4392	4682	4752	4682	7.84
PULP FOR PAPER	3528	3563	3245	3645	4085	4069	4150	4489	4419	4539	4603	3.38
PAPER AND PAPERBOARD	8314	7773	7538	8434	10381	10973	11622	12494	12786	12755	12791	6.20

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD. ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

6. (Cont.) VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FORESTRY PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....	....	....	....	....	'000 TONNES	....	....	....	....	....	PERCENT
OCEANIA,DEVELOPED												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	54	53	51	71	126	67	73	45	137	142	183	11.02
RICE,MILLED	8	9	10	12	15	19	21	29	33	37	41	19.41
MAIZE	4	5	11	14	9	11	9	9	6	16	41	13.35
MILLET	1	1	1	1	1	1	1	1	1	1	1	-.77
SORGHUM			4							12	29	
POTATOES					1							
SUGAR,TOTAL (RAW EQUIV.)	151	120	147	157	169	172	149	182	167	152	183	2.27
PULSES	14	13	16	16	22	12	11	8	10	13	17	-2.35
SOYBEANS	13	41	10	23	36	38			31	77	5	-13.69
SOYBEAN OIL	32	29	45	53	48	31	21	36	40	42	53	1.96
GROUNDNUTS,SHELLED BASIS	5	9	12	6	13	8	9	9	7	14	19	6.60
GROUNDNUT OIL		1	1	1	1	1	1	1	1	1	1	4.50
COPRA	4	6	6	4							1	
COCONUT OIL	17	16	20	20	22	20	19	19	24	20	20	1.89
PALM OIL	26	24	20	4	7	9	15	48	72	96	115	22.60
OILSEED CAKE AND MEAL	12	19	10	52	11	38	33	60	26	45	23	10.51
BANANAS	37	36	36	40	30	60	37	45	45	51	49	3.76
ORANGES+TANGER.+CLEMEN.	16	16	17	18	24	21	18	25	21	23	22	3.78
LEMONS AND LIMES	1	1	1	3	3	4	2	2	2	3	2	13.96
COFFEE,GREEN+ROASTED	41	38	42	39	37	37	39	36	43	38	41	.04
COCOA BEANS	14	15	13	13	10	7	6	2	1			-39.97
TEA	32	28	30	28	28	27	26	25	25	24	23	-2.78
COTTON LINT	2	2	1	1	1	3	1			1		-33.32
JUTE AND SIMILAR FIBRES	9	11	8	8	6	8	9	7	8	7	7	-1.99
TOBACCO,UNMANUFACTURED	15	15	14	14	14	14	14	16	16	14	12	-.61
NATURAL RUBBER	54	50	47	40	40	44	43	45	47	52	49	-.10
WOOL,GREASY										2		3.86
BOVINE CATTLE 1/	1				1	2			1	2	2	13.36
TOTAL MEAT	4	4	4	5	8	7	5	6	6	10	8	7.44
MILK,DRY		1		1		1	1		2	3	2	16.72
FISHERY PRODUCTS												
FISH,FRESH FROZEN	29	33	33	29	35	41	38	40	42	37	41	3.37
FISH,CURED	4	4	4	4	5	5	5	4	5	3	3	-2.45
SHELLFISH,	4	6	6	8	8	9	10	13	12	21	21	16.97
FISH,CANNED AND PREPARED	27	27	28	25	31	30	31	31	28	35	36	2.66
SHELLFISH,CANNED+PREPARED	5	7	8	8	8	9	9	9	9	4	3	-3.61
FISH,BODY AND LIVER OIL			1			1	1	1	1	2	1	15.61
FISH-MEAL	14	8	8	11	8	13	10	12	17	30	42	13.19
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS				1					1	1	1	21.39
SAWLOGS,NON-CONIFEROUS	2	1	7	1	1	1	2	4	3	4	4	9.69
FUELWOOD	1	1	1	1								
SAWNWOOD,CONIFEROUS	697	781	881	642	823	1113	1044	860	1048	1426	1426	6.89
SAWNWOOD,NON-CONIFEROUS	317	306	290	210	282	317	265	257	268	321	321	.34
WOOD-BASED PANELS	88	104	111	79	102	112	121	106	115	134	134	3.71
PULP FOR PAPER	281	286	262	220	243	208	239	280	303	278	278	.69
PAPER AND PAPERBOARD	739	736	794	558	670	899	813	817	1046	813	813	2.45

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

6. (Cont.) VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FORESTRY PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	`000 TONNES											PERCENT
AFRICA, DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR, WHEAT EQUIV.	9067	8979	9375	9423	10188	11081	10133	9233	10933	11627	10086	1.82
RICE, MILLED	2299	2573	2829	2725	2535	2766	2903	2936	2253	2834	2446	.27
BARLEY	302	459	680	397	743	583	129	133	1096	748	430	1.11
MAIZE	2329	2358	2336	1732	2804	2723	2119	2065	2350	2543	2242	.18
MILLET	106	35	55	71	31	85	29	9	3	1		-43.33
SORGHUM	113	155	143	236	411	503	138	69	267	194	192	1.74
POTATOES	241	214	274	456	351	429	313	235	289	269	304	.73
SUGAR, TOTAL (RAW EQUIV.)	2265	2320	2101	2399	2093	2145	2670	2940	2313	2437	2748	1.93
PULSES	219	161	155	221	232	226	245	181	273	271	235	3.53
SOYBEANS	25	11	35	16	20	22	18	27	12	22	1	-13.45
SOYBEAN OIL	329	339	448	403	368	289	243	272	268	315	346	-2.49
GROUNDNUTS, SHELLED BASIS	20	17	11	8	6	35	33	25	26	34	44	12.87
GROUNDNUT OIL	16	16	21	28	11	4	28	7	3	1	1	-27.79
COPRA	3	2	2	3	5	2	2	3	4	4	4	3.62
COCONUT OIL	7	14	12	10	17	10	10	9	7	13	15	.94
PALM OIL	166	241	289	259	187	209	346	233	243	240	258	1.88
OILSEED CAKE AND MEAL	188	241	260	230	298	298	499	505	530	604	581	13.09
BANANAS	18	26	57	26	29	10	11	9	10	9	9	-13.46
ORANGES+TANGER.+CLEMEN.	12	11	12	13	11	10	12	12	12	13	13	.98
LEMONS AND LIMES	1	1	1	1	1	1	1	1	1	1	1	1.62
COFFEE, GREEN+ROASTED	80	103	67	115	97	103	58	134	74	134	93	1.72
COCOA BEANS	1	1	1	1	1	2	1	2	1	2	1	5.96
TEA	57	68	52	60	61	70	78	70	79	63	70	2.38
COTTON LINT	44	64	83	91	98	98	79	102	98	124	95	6.64
JUTE AND SIMILAR FIBRES	64	50	49	59	40	58	52	89	32	40	55	-1.59
TOBACCO, UNMANUFACTURED	58	49	49	52	46	56	75	58	62	62	45	.96
NATURAL RUBBER	21	26	23	23	23	24	26	26	32	28	27	2.63
WOOL, GREASY	2	2	1	2	2	2	4	1	2	2	2	2.42
BOVINE CATTLE 1/	624	894	839	919	1006	728	595	465	439	412	447	-8.68
PIGS 1/	1	2	2	3	4	1		1	3			-18.12
TOTAL MEAT	141	147	223	191	221	228	254	223	239	210	239	4.37
MILK, DRY	52	74	55	69	93	111	112	126	148	152	136	11.53
TOTAL EGGS, IN SHELL	50	52	71	78	49	47	20	12	8	10	8	-21.71
FISHERY PRODUCTS												
FISH, FRESH FROZEN	657	822	1044	828	795	756	799	936	901	788	789	.50
FISH, CURED	56	95	40	50	28	43	34	42	30	19	20	-10.88
SHELLFISH,	3	3	3	1	4	3	3	3	8	8	8	12.43
FISH, CANNED AND PREPARED	150	155	121	105	54	61	54	48	56	68	68	-9.60
FISH, BODY AND LIVER OIL		1	1	1								-22.01
FISH-MEAL	24	25	32	36	51	28	20	36	52	51	51	6.68
FOREST PRODUCTS 2/												
SAWLOGS, CONIFEROUS	94	84	110	169	139	91	52	59	48	48	48	-9.65
SAWLOGS, NON-CONIFEROUS	326	225	241	321	318	325	323	335	343	343	343	2.85
FUELWOOD		1	41	43	33	33	33	33	33	33	33	
SAWNWOOD, CONIFEROUS	905	1409	1541	1859	1817	1505	1433	1041	1286	1389	1389	.13
SAWNWOOD, NON-CONIFEROUS	194	232	193	183	187	209	236	243	247	284	284	3.96
WOOD-BASED PANELS	359	332	261	294	202	206	153	114	115	111	111	-12.67
PULP FOR PAPER	120	135	116	149	147	148	132	123	146	143	143	1.20
PAPER AND PAPERBOARD	537	662	577	569	539	553	564	574	569	567	567	-.30

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD. ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

6. (Cont.) VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FORESTRY PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	'000 TONNES											PERCENT
LATIN AMERICA												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	12098	12069	11126	11932	12276	11395	9133	10067	8739	7516	8652	-4 38
RICE,MILLED	1064	794	612	908	662	1062	2114	867	695	1152	1461	4 19
BARLEY	551	448	339	531	537	466	398	402	451	519	391	-1 01
MAIZE	8998	7027	3414	8160	5501	4064	5710	6613	5813	5921	8024	- 04
MILLET	3	2	2	4	1	1			24	48	46	26.99
SORGHUM	2927	3578	3226	3830	3168	3383	1562	1654	3081	3754	3011	-1 97
POTATOES	336	198	190	184	197	162	269	185	165	162	185	-3.47
SUGAR,TOTAL (RAW EQUIV.)	1910	1617	1408	1608	1200	391	430	705	818	1306	1823	4 78
PULSES	816	878	739	526	525	605	565	457	473	501	801	-3 46
SOYBEANS	1205	2235	2198	1385	2858	2122	1432	2090	1801	1571	1249	-1.53
SOYBEAN OIL	432	433	675	549	791	580	587	469	532	520	466	- 19
GROUNDNUTS,SHELLED BASIS	13	13	19	10	19	24	7	10	41	23	25	6 46
GROUNDNUT OIL	2	4	1	2	2	1	1	1	4	2	3	1 81
COCONUT OIL	25	19	21	16	15	10	22	46	48	52	31	9 55
PALM NUTS,KERNELS	1	1	1	3	2							-38 30
PALM OIL	14	10	5	5	8	6	14	11	23	57	137	25 90
OILSEED CAKE AND MEAL	966	971	1141	1152	1224	1240	1270	1498	2066	1390	1544	5.73
BANANAS	435	446	325	231	227	217	268	266	260	279	268	-4 04
ORANGES+TANGER.+CLEMEN.	57	33	26	20	18	17	19	23	29	33	35	1 54
LEMONS AND LIMES	3	5	2	3	5	5	3	4	1	2	4	2 74
COFFEE,GREEN+ROASTED	49	56	64	49	56	44	43	44	49	44	43	2 66
COCOA BEANS	3	10	13	3	6	9	5	5	4	4	7	-2 11
TEA	16	14	15	14	13	15	14	14	13	13	14	-1 06
COTTON LINT	79	94	79	79	122	119	200	222	231	273	258	15 65
JUTE AND SIMILAR FIBRES	36	34	14	14	14	4	47	47	27	3	17	6 63
TOBACCO,UNMANUFACTURED	29	24	20	19	16	16	18	17	17	18	32	-1 20
NATURAL RUBBER	187	182	158	165	201	197	218	248	262	256	248	4 81
WOOL,GREASY	13	12	13	8	9	12	8	8	7	8	6	-6.62
BOVINE CATTLE 1/	417	463	427	158	224	179	116	112	307	256	285	-5 82
PIGS 1/	10	26	55	16	8	9	4	7	205	261	62	19 79
TOTAL MEAT	342	415	338	264	298	374	878	600	547	770	746	10 05
MILK,DRY	161	161	150	126	153	120	171	180	307	277	234	6 57
TOTAL EGGS,IN SHELL	19	18	27	13	10	10	12	14	22	20	17	15
FISHERY PRODUCTS												
FISH,FRESH FROZEN	111	97	100	84	66	83	139	168	162	167	167	7 36
FISH,CURED	56	53	53	51	48	47	50	38	40	39	39	3 85
SHELLFISH,	9	10	9	7	5	7	6	6	7	6	6	-4.35
FISH,CANNED AND PREPARED	93	88	75	43	53	65	68	64	65	60	60	2.80
SHELLFISH,CANNED+PREPARED	2	2	1		1	1		1	1	2	2	-1.44
FISH,BODY AND LIVER OIL	43	64	35	69	62	34	25	47	36	27	27	-6 40
FISH-MEAL	163	126	103	72	98	59	74	53	100	85	85	-5 21
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	126	156	162	160	69	48	58	58	58	61	61	-11 00
SAWLOGS,NON-CONIFEROUS	57	30	29	30	75	82	73	76	49	34	34	1 06
PULPWOOD+PARTICLE	35	24	16	16	8	8	8	8	8	8	8	-12 58
FUELWOOD	5	7	5	3	4	6	6	6	6	6	6	2 91
SAWNWOOD,CONIFEROUS	2184	1874	1477	1666	1944	1479	1548	1492	1737	1757	1757	1 18
SAWNWOOD,NON-CONIFEROUS	917	642	652	597	734	596	700	599	297	310	310	-9 31
WOOD-BASED PANELS	493	499	482	479	399	349	342	381	380	309	309	-4 94
PULP FOR PAPER	740	762	735	645	766	774	809	970	943	855	855	2.58
PAPER AND PAPERBOARD	2395	2437	2278	1958	1798	1732	1876	1923	1854	1758	1758	-3 [illegible]

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

6. (Cont.) VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FORESTRY PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	`000 TONNES											PERCENT
NEAR EAST, DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	12860	14011	14156	16474	19465	17514	16011	19433	18183	22495	22028	5.10
RICE,MILLED	1821	2025	2006	2251	2362	2313	2302	2766	2083	2746	2577	3.19
BARLEY	2364	3292	4988	3871	9213	7762	9001	9005	5887	6774	6984	9.98
MAIZE	2685	3753	3711	4087	4190	4694	4841	5081	4028	4762	5533	5.03
MILLET	2	2	3	4	4	5	1	1	1	1	1	-16.78
SORGHUM	133	133	340	71	317	448	50	11	62	357	191	-4.31
POTATOES	353	426	462	420	430	334	315	300	356	377	300	-2.75
SUGAR,TOTAL (RAW EQUIV.)	3263	3405	3946	3429	3925	3280	3254	3725	3017	2770	4209	-.34
PULSES	257	359	339	304	332	261	328	344	375	294	325	.82
SOYBEANS	86	97	82	69	29	155	83	90	62	87	30	-4.45
SOYBEAN OIL	442	504	529	717	667	630	656	672	457	763	688	3.03
GROUNDNUTS,SHELLED BASIS	16	9	8	7	7	7	6	12	9	8	7	-2.88
GROUNDNUT OIL	3	1	1	1						1		-11.52
COPRA									1	1	1	
COCONUT OIL	14	12	16	13	13	14	50	21	23	25	29	9.40
PALM NUTS,KERNELS							1					
PALM OIL	152	295	380	421	467	513	678	553	659	859	1059	16.25
OILSEED CAKE AND MEAL	374	504	645	808	1057	1221	1163	1113	1594	1479	1538	14.43
BANANAS	306	322	292	276	277	205	183	172	249	238	289	-2.98
ORANGES+TANGER.+CLEMEN.	545	622	634	631	644	531	421	356	506	484	483	-3.44
LEMONS AND LIMES	79	77	80	88	102	84	76	66	88	88	82	.08
COFFEE,GREEN+ROASTED	46	56	74	75	63	63	49	60	64	60	48	-.58
COCOA BEANS	2	5	5	6	5	5	7	8	5	5	6	7.34
TEA	168	171	168	194	239	216	230	204	302	213	241	4.17
COTTON LINT	22	24	27	27	29	55	71	155	84	128	140	24.11
JUTE AND SIMILAR FIBRES	20	25	37	34	32	34	28	30	30	34	53	4.75
TOBACCO,UNMANUFACTURED	47	61	75	77	83	70	70	73	83	87	82	3.96
NATURAL RUBBER	41	52	65	86	82	80	82	89	104	98	111	8.62
WOOL,GREASY	18	19	13	18	25	26	22	29	28	24	30	6.18
BOVINE CATTLE 1/	507	739	735	632	650	496	432	577	364	293	484	-5.85
PIGS 1/											1	
TOTAL MEAT	992	1328	1323	1272	1262	1209	1126	1085	1071	1064	905	-2.16
MILK,DRY	39	44	48	43	56	45	53	58	58	52	56	3.49
TOTAL EGGS,IN SHELL	107	153	153	153	171	131	91	96	89	88	68	-6.77
FISHERY PRODUCTS												
FISH,FRESH FROZEN	77	107	121	141	152	111	131	145	143	156	156	5.08
FISH,CURED	3	6	5	9	6	8	7	5	5	5	5	.40
SHELLFISH,	2	2	2	2	2	4	2	3	2	2	2	2.76
FISH,CANNED AND PREPARED	65	62	53	53	46	51	37	33	30	31	31	-8.19
SHELLFISH,CANNED+PREPARED	1	2	3	2	2	1	1	1	1	1	1	-4.12
FISH,BODY AND LIVER OIL	1	1	1		2							-21 34
FISH-MEAL	77	147	113	106	163	111	120	122	51	82	84	-3.84
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	173	205	275	319	316	435	214	1211	1110	617	617	16.96
SAWLOGS,NON-CONIFEROUS	57	46	5	6	11	41	109	144	173	169	169	31.32
PULPWOOD+PARTICLE	14	38	52	69	57	42	106	47	47	47	47	6.02
FUELWOOD	126	146	183	169	198	156	212	212	212	212	212	4.70
SAWNWOOD,CONIFEROUS	3234	3490	3930	4171	4555	4131	3136	3091	2739	2746	2746	-3.42
SAWNWOOD,NON-CONIFEROUS	551	529	609	737	790	817	589	566	597	590	590	-.08
WOOD-BASED PANELS	1070	1423	1586	1321	1448	1508	1257	1250	1222	1255	1255	-.67
PULP FOR PAPER	121	111	110	178	171	196	169	189	227	228	228	7.85
PAPER AND PAPERBOARD	974	1040	1006	1004	1203	1118	1048	1051	1068	1054	1054	.53

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

6. (Cont.) VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FORESTRY PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL CHANGE 1980-90
	....					`000 TONNES				....		PERCENT
FAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	22140	23497	25268	24087	21544	16595	19295	25857	30703	29144	26321	2.15
RICE,MILLED	5149	4846	2661	3326	2961	3172	2142	2369	3154	3795	2565	-4.40
BARLEY	608	623	1425	932	2054	466	484	659	451	532	938	-3.62
MAIZE	8553	8027	9168	12011	8086	8759	9286	11989	11676	13898	13912	5.12
MILLET	3	3	6	4	5	4	5	5	7	13	14	14.29
SORGHUM	479	1017	1212	768	1018	955	1107	762	166	775	131	-11.51
POTATOES	155	145	147	160	149	150	164	138	155	169	144	.22
SUGAR,TOTAL (RAW EQUIV.)	3721	4100	4682	4278	3750	6513	5349	6311	7365	5464	4919	4.68
PULSES	279	468	504	525	627	649	1232	1255	1488	1048	1358	16.51
SOYBEANS	2403	2775	2736	2557	2715	2962	3776	4083	4327	3885	4193	6.35
SOYBEAN OIL	1140	1037	1039	892	1180	764	729	1507	1397	1169	1366	2.61
GROUNDNUTS,SHELLED BASIS	67	93	159	144	82	110	166	180	180	161	228	9.34
GROUNDNUT OIL	38	34	36	75	39	44	44	50	48	69	55	4.54
COPRA	118	113	87	47	86	143	163	122	91	126	114	2.68
COCONUT OIL	89	177	114	116	115	104	149	125	162	112	196	3.32
PALM NUTS,KERNELS	15	8	4	13	6	4	1	18	3	8	8	-4.86
PALM OIL	1820	1462	1585	1703	1888	2630	3007	3026	2869	3141	3834	9.70
OILSEED CAKE AND MEAL	1014	1041	1354	1583	1805	1301	2082	2245	2427	2943	3129	11.92
BANANAS	59	49	59	71	91	109	110	122	102	95	104	7.93
ORANGES+TANGER.+CLEMEN.	239	274	251	292	255	258	279	306	306	317	315	2.52
LEMONS AND LIMES	7	8	8	9	10	13	15	15	16	17	16	10.05
COFFEE,GREEN+ROASTED	25	43	68	102	114	110	113	86	103	90	137	11.88
COCOA BEANS	43	49	82	70	62	63	85	92	124	113	118	9.96
TEA	91	102	98	114	133	120	132	142	145	148	170	5.78
COTTON LINT	2123	1798	1616	1384	1362	1334	1595	1989	1765	2390	2157	2.17
JUTE AND SIMILAR FIBRES	166	132	207	187	204	138	193	190	120	168	186	-.13
TOBACCO,UNMANUFACTURED	114	142	116	83	95	111	92	103	133	130	157	1.90
NATURAL RUBBER	540	428	458	536	583	504	628	804	991	959	920	8.62
WOOL,GREASY	91	117	130	133	115	161	186	185	183	152	106	3.68
BOVINE CATTLE 1/	350	366	360	354	305	304	294	321	324	326	324	-1.26
PIGS 1/	4555	3199	3418	3359	3252	3270	3520	3581	3686	3571	3647	-.22
TOTAL MEAT	244	288	379	388	361	364	369	420	505	636	750	9.34
MILK,DRY	189	193	179	200	204	216	246	282	273	292	271	5.24
TOTAL EGGS,IN SHELL	76	75	80	79	89	88	94	104	115	111	123	5.33
FISHERY PRODUCTS												
FISH,FRESH FROZEN	212	260	283	298	415	447	668	835	1063	1221	1221	21.53
FISH,CURED	30	24	28	26	56	40	39	50	51	38	38	5.34
SHELLFISH,	143	118	137	145	147	172	200	219	289	288	288	9.97
FISH,CANNED AND PREPARED	98	81	111	53	62	52	57	59	55	55	55	-5.72
SHELLFISH,CANNED+PREPARED	18	17	22	23	24	19	21	27	26	25	25	3.57
FISH,BODY AND LIVER OIL	3	3	4	5	8	25	23	39	26	29	29	32.45
FISH-MEAL	303	319	563	434	553	698	741	884	1078	1118	1118	14.82
FOREST PRODUCTS 2/												
SAWLOGS,CONIFEROUS	2166	2366	4662	7507	8849	9793	8408	8369	10796	8495	8495	14.23
SAWLOGS,NON-CONIFEROUS	13035	11271	10177	11220	9620	8967	10463	10250	11067	11083	11083	-.66
PULPWOOD+PARTICLE	846	1958	1193	2008	1680	2031	2836	2749	2018	1646	1646	5.00
FUELWOOD	560	588	741	749	727	773	721	698	628	758	758	1.73
SAWNWOOD,CONIFEROUS	118	82	51	57	64	46	45	56	96	155	155	5.07
SAWNWOOD,NON-CONIFEROUS	1989	2025	2203	2262	2297	1890	2292	3344	3870	5348	5348	10.82
WOOD-BASED PANELS	775	1081	968	1108	1362	1134	1275	2383	2161	2715	2715	13.40
PULP FOR PAPER	1155	1340	1231	1773	1727	1844	2127	2383	2594	2378	2557	8.83
PAPER AND PAPERBOARD	2723	2935	2881	3000	3175	3486	4006	4762	4645	4819	4829	7.00

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

7. INDEXES OF VALUE OF EXPORTS OF AGRICULTURAL AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	....................................1979-81=100											PERCENT
WORLD												
AGRICULTURAL PRODUCTS	105	104	95	93	98	92	99	108	122	128	136	2.96
FOOD	104	107	96	92	97	90	96	105	119	126	137	2.65
FEED	101	114	108	114	100	83	104	117	144	141	127	2.71
RAW MATERIALS	103	100	93	93	100	94	96	114	137	146	149	4.55
BEVERAGES	110	85	89	89	103	105	132	113	118	117	117	2.92
FOREST PRODUCTS	107	98	89	91	97	96	111	140	167	182	182	7.50
DEVELOPED COUNTRIES												
AGRICULTURAL PRODUCTS	105	106	96	92	95	88	96	110	125	133	143	3.35
FOOD	105	107	96	91	93	85	93	106	120	128	139	2.80
FEED	102	110	108	116	96	84	98	110	120	115	105	.53
RAW MATERIALS	102	100	98	94	102	98	100	122	146	157	163	5.47
BEVERAGES	104	96	95	93	98	107	134	148	161	164	192	7.62
FOREST PRODUCTS	107	100	91	92	99	98	115	144	171	186	186	7.72
WESTERN EUROPE												
AGRICULTURAL PRODUCTS	105	103	97	94	96	97	119	140	150	158	180	6.30
FOOD	106	104	96	92	94	95	117	137	148	157	179	6.15
FEED	96	118	128	133	118	107	105	131	125	133	120	1.28
RAW MATERIALS	100	96	96	97	104	106	124	151	158	161	189	7.38
BEVERAGES	103	96	95	93	98	109	139	156	169	174	207	8.51
FOREST PRODUCTS	109	98	89	88	96	97	120	156	183	199	199	8.91
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS	103	99	93	86	81	81	87	93	101	100	95	.08
FOOD	103	99	88	81	80	78	81	85	93	93	94	-.38
FEED	96	91	116	106	71	95	105	199	161	256	192	9.76
RAW MATERIALS	103	104	104	96	83	86	98	111	122	122	96	1.12
BEVERAGES	103	94	97	102	96	95	103	107	109	92	90	-.20
FOREST PRODUCTS	104	99	97	100	100	99	108	112	134	132	132	3.37
NORTH AMERICA,DEVELOPED												
AGRICULTURAL PRODUCTS	104	110	95	94	99	76	69	76	98	104	106	-.73
FOOD	104	112	95	94	98	73	63	68	91	96	94	-2.10
FEED	107	105	93	107	83	69	95	96	119	102	95	-.07
RAW MATERIALS	104	101	96	92	109	96	83	108	130	143	172	4.52
BEVERAGES	110	95	91	79	91	88	123	105	127	125	135	3.69
FOREST PRODUCTS	105	102	91	96	104	100	111	140	170	184	183	7.36
OCEANIA,DEVELOPED												
AGRICULTURAL PRODUCTS	107	111	103	88	91	95	94	98	123	142	133	2.65
FOOD	109	114	104	88	90	94	89	87	96	113	123	.26
FEED	74	100	103	95	73	60	74	103	144	145	115	4.59
RAW MATERIALS	103	102	99	90	93	99	105	124	184	208	156	7.09
BEVERAGES	94	132	139	157	177	158	182	283	527	607	599	20.56
FOREST PRODUCTS	106	111	94	83	89	85	87	114	122	163	163	4.75

7. (Cont.) INDEXES OF VALUE OF EXPORTS OF AGRICULTURAL AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	......................................1979-81=100										....	PERCENT
DEVELOPING COUNTRIES												
AGRICULTURAL PRODUCTS	104	102	92	94	106	100	106	103	117	119	122	2.10
FOOD	102	108	95	95	108	103	102	105	117	120	131	2.24
FEED	100	117	109	112	104	82	109	123	166	167	148	4.52
RAW MATERIALS	104	99	85	92	97	87	88	101	123	127	127	2.94
BEVERAGES	113	80	85	87	106	105	131	94	95	92	78	-.55
FOREST PRODUCTS	110	89	82	88	83	84	91	121	145	159	161	6.24
AFRICA,DEVELOPING												
AGRICULTURAL PRODUCTS	105	90	83	79	90	87	105	94	93	91	91	.12
FOOD	106	92	81	73	84	81	96	99	92	84	92	.04
FEED	92	75	78	81	51	47	50	58	70	89	81	-.94
RAW MATERIALS	100	108	91	93	106	92	96	111	129	144	158	4.40
BEVERAGES	106	80	84	82	94	96	125	79	78	79	60	-2.59
FOREST PRODUCTS	124	85	71	68	69	66	73	81	94	88	88	-.25
LATIN AMERICA												
AGRICULTURAL PRODUCTS	104	102	91	97	105	101	102	91	104	103	113	.62
FOOD	101	109	92	99	108	105	95	89	103	103	126	.82
FEED	95	125	104	122	109	85	103	115	172	172	141	4.22
RAW MATERIALS	100	104	93	82	85	81	62	68	87	93	104	-1.04
BEVERAGES	116	77	86	87	102	104	133	95	94	85	71	-1.22
FOREST PRODUCTS	111	109	90	96	115	98	107	130	185	186	190	7.07
NEAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS	100	112	110	104	110	96	105	117	125	132	135	2.50
FOOD	100	120	124	115	119	105	122	144	156	158	165	4.47
FEED	121	85	60	49	68	21	40	54	81	69	65	-3.00
RAW MATERIALS	100	100	91	89	98	85	78	77	76	90	84	-2.05
BEVERAGES	84	112	72	73	81	62	87	64	79	149	168	4.30
FOREST PROOUCTS	86	136	153	164	205	156	134	140	155	173	173	3.49
FAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS	105	104	92	94	110	95	99	106	129	137	131	3.08
FOOD	100	112	100	94	118	103	95	106	129	142	132	2.88
FEED	105	108	114	99	98	78	104	115	132	142	140	3.06
RAW MATERIALS	109	95	75	91	91	79	89	104	136	135	133	4.11
BEVERAGES	115	90	81	95	137	121	132	105	110	112	111	1.60
FOREST PRODUCTS	107	84	81	88	76	83	89	125	143	164	166	7.03

8. INDEXES OF VOLUME OF EXPORTS OF AGRICULTURAL AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	....	....	....	....	....	1979-81=100	....	....	....	....	....	PERCENT
WORLD												
AGRICULTURAL PRODUCTS	101	106	105	105	109	108	107	114	117	120	118	1.58
FOOD	102	106	104	104	108	106	104	111	114	116	115	1.24
FEED	99	113	121	119	116	124	126	134	148	157	147	3.95
RAW MATERIALS	101	99	97	99	102	102	108	116	111	118	113	1.88
BEVERAGES	98	102	104	103	110	115	106	110	110	118	120	1.75
FOREST PRODUCTS	102	97	93	103	107	109	114	124	134	138	137	4.10
DEVELOPED COUNTRIES												
AGRICULTURAL PRODUCTS	103	106	103	102	106	101	99	111	112	114	111	.92
FOOD	104	106	102	101	106	100	98	109	111	113	111	.86
FEED	99	109	119	125	109	114	116	131	125	122	118	1.44
RAW MATERIALS	102	99	99	98	101	101	102	111	108	115	110	1.38
BEVERAGES	96	104	105	103	110	115	104	105	109	114	114	1.22
FOREST PRODUCTS	102	98	95	104	110	112	117	126	136	140	138	4.15
WESTERN EUROPE												
AGRICULTURAL PRODUCTS	99	110	109	116	125	132	136	143	142	151	152	4.39
FOOD	100	109	106	114	124	131	139	145	146	154	158	4.84
FEED	90	119	151	151	141	160	126	149	126	140	124	1.41
RAW MATERIALS	98	104	100	109	121	124	126	137	127	136	137	3.69
BEVERAGES	94	105	106	102	111	117	106	107	110	116	118	1.54
FOREST PRODUCTS	100	99	97	107	116	119	121	132	144	151	151	5.05
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS	99	97	97	95	95	100	96	103	107	102	96	.45
FOOD	100	98	96	96	98	106	101	107	113	109	105	1.30
FEED	96	92	105	104	71	131	133	238	167	169	129	7.12
RAW MATERIALS	101	102	106	101	88	96	101	106	111	112	81	-.40
BEVERAGES	101	100	103	113	112	108	94	97	94	82	67	-3.25
FOREST PRODUCTS	100	97	98	102	104	103	111	111	111	103	103	.86
NORTH AMERICA,DEVELOPED												
AGRICULTURAL PRODUCTS	103	104	100	98	99	80	75	91	97	96	92	-1.33
FOOD	103	105	100	98	99	79	72	89	95	94	90	-1.61
FEED	106	104	99	111	92	88	113	123	128	112	116	1.78
RAW MATERIALS	105	97	96	91	95	90	86	93	95	102	100	-.11
BEVERAGES	111	102	98	95	96	104	113	116	134	147	161	4.51
FOREST PRODUCTS	104	98	92	102	105	106	114	126	137	137	133	4.01
OCEANIA,DEVELOPED												
AGRICULTURAL PRODUCTS	123	99	105	94	107	140	139	135	119	112	110	1.18
FOOD	125	100	106	93	108	142	141	135	118	110	109	.98
FEED	67	83	102	98	67	74	96	124	128	115	111	4.98
RAW MATERIALS	98	93	100	106	100	110	122	134	127	129	128	3.75
BEVERAGES	100	115	113	160	165	157	191	274	382	338	313	14.53
FOREST PRODUCTS	105	101	87	88	89	88	89	93	94	111	111	.91

8. (Cont.) INDEXES OF VOLUME OF EXPORTS OF AGRICULTURAL AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	1979-81=100											PERCENT
DEVELOPING COUNTRIES												
AGRICULTURAL PRODUCTS	97	108	110	114	116	125	125	121	131	136	137	3.14
FOOD	96	107	109	115	116	126	124	117	124	124	130	2.41
FEED	98	115	123	115	120	131	134	136	165	182	169	5.49
RAW MATERIALS	101	99	94	101	103	103	115	122	115	123	116	2.47
BEVERAGES	100	101	103	102	109	115	107	117	112	125	129	2.46
FOREST PRODUCTS	102	91	87	94	94	93	98	113	124	130	132	3.87
AFRICA,DEVELOPING												
AGRICULTURAL PRODUCTS	101	99	101	96	86	94	99	100	96	97	99	-.11
FOOD	103	99	102	98	86	94	99	101	95	92	96	-.59
FEED	95	76	89	96	56	76	78	83	86	96	100	1.03
RAW MATERIALS	98	102	95	96	105	104	116	120	125	145	142	4.30
BEVERAGES	94	102	104	88	88	100	98	86	86	100	97	-.41
FOREST PRODUCTS	106	86	85	84	93	86	78	78	82	78	78	-2.11
LATIN AMERICA												
AGRICULTURAL PRODUCTS	92	111	104	121	116	127	109	106	114	114	129	1.63
FOOD	89	111	103	120	114	126	105	98	105	101	121	.66
FEED	98	117	113	132	129	142	134	139	158	174	171	5.15
RAW MATERIALS	102	95	85	83	80	89	70	73	80	86	88	-1.54
BEVERAGES	102	98	103	110	117	122	104	135	118	129	137	3.00
FOREST PRODUCTS	105	103	94	113	128	117	123	120	157	154	159	4.95
NEAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS	97	115	136	136	135	113	129	148	195	173	150	4.64
FOOD	96	119	143	143	141	118	134	159	212	187	161	5.34
FEED	122	77	53	54	67	20	45	53	89	64	56	-3.20
RAW MATERIALS	99	94	99	100	105	88	101	82	78	78	70	-3.21
BEVERAGES	85	112	91	89	100	82	75	50	58	116	166	.58
FOREST PRODUCTS	85	124	138	163	219	173	166	188	193	220	220	7.57
FAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS	100	106	113	108	119	119	131	128	138	160	156	4.56
FOOD	101	106	118	110	128	123	140	130	134	155	153	4.05
FEED	99	113	132	101	115	122	119	117	146	178	156	4.40
RAW MATERIALS	101	101	97	105	106	107	124	134	128	143	132	3.87
BEVERAGES	105	106	100	100	117	120	121	118	125	137	144	3.40
FOREST PRODUCTS	101	88	84	90	84	87	94	117	122	132	134	4.46

9. INDEXES OF VALUE OF IMPORTS OF AGRICULTURAL AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	1979-81=100											PERCENT
WORLD												
AGRICULTURAL PRODUCTS	104	104	96	92	97	93	99	107	120	126	134	2.13
FOOD	104	107	97	92	96	92	96	105	118	125	137	1.95
FEED	100	113	109	113	100	88	102	120	148	138	136	3.37
RAW MATERIALS	104	98	91	90	100	95	96	115	133	135	134	2.98
BEVERAGES	109	87	88	87	97	99	125	108	110	110	109	1.64
FOREST PRODUCTS	108	97	94	91	97	96	111	139	160	174	175	5.67
DEVELOPED COUNTRIES												
AGRICULTURAL PRODUCTS	104	101	94	90	95	93	103	113	124	126	137	2.48
FOOD	104	103	95	89	94	93	101	115	126	130	147	2.71
FEED	100	112	107	110	93	83	96	116	138	126	126	2.48
RAW MATERIALS	103	96	90	90	99	95	93	109	124	124	118	2.10
BEVERAGES	110	86	87	86	95	98	126	108	110	110	108	1.64
FOREST PRODUCTS	108	94	91	88	94	94	111	141	163	178	179	5.89
WESTERN EUROPE												
AGRICULTURAL PRODUCTS	106	96	93	88	90	91	109	124	134	132	152	3.25
FOOD	106	96	93	87	87	89	108	128	137	138	163	3.62
FEED	101	110	110	105	95	85	100	113	127	111	123	1.55
RAW MATERIALS	104	91	89	88	99	102	101	116	128	129	131	2.78
BEVERAGES	110	86	86	86	92	95	130	117	122	119	124	2.70
FOREST PRODUCTS	110	96	89	84	88	87	112	144	170	181	185	6.30
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS	102	114	99	94	97	90	82	85	94	100	94	-.68
FOOD	101	119	101	90	97	90	79	78	87	94	95	-1.40
FEED	94	124	100	133	78	65	71	128	174	182	116	4.79
RAW MATERIALS	105	98	92	101	98	94	89	96	105	101	80	
BEVERAGES	112	92	90	94	102	102	109	98	98	111	103	.79
FOREST PRODUCTS	106	107	99	90	90	93	88	91	104	108	108	.34
NORTH AMERICA,DEVELOPED												
AGRICULTURAL PRODUCTS	102	100	92	86	104	103	110	108	112	117	125	1.86
FOOD	100	106	94	90	109	110	111	118	124	131	151	3.13
FEED	93	103	91	114	142	118	128	143	206	200	166	7.66
RAW MATERIALS	95	105	90	79	99	79	81	92	103	112	96	.24
BEVERAGES	109	85	89	80	95	97	119	92	87	86	78	-.85
FOREST PRODUCTS	97	100	102	115	134	137	143	167	189	201	197	7.96
OCEANIA,DEVELOPED												
AGRICULTURAL PRODUCTS	106	104	111	99	118	117	115	113	132	161	157	3.94
FOOD	103	106	128	111	136	134	129	128	154	198	205	5.86
FEED	87	165	75	338	107	192	171	309	164	372	153	15.39
RAW MATERIALS	107	105	90	78	90	82	78	85	103	111	92	.12
BEVERAGES	114	96	92	87	103	111	116	101	105	116	106	1.63
FOREST PRODUCTS	104	110	122	83	103	117	115	130	177	167	167	5.80

9. (Cont.) INDEXES OF VALUE OF IMPORTS OF AGRICULTURAL AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	....					1979-81=100					....	PERCENT
DEVELOPING COUNTRIES												
AGRICULTURAL PRODUCTS	105	114	102	98	103	92	88	92	110	124	126	1.18
FOOD	105	117	104	98	102	90	83	83	99	115	116	.11
FEED	100	119	123	140	163	132	155	159	249	252	234	10.12
RAW MATERIALS	105	106	93	91	102	97	102	131	159	166	177	5.26
BEVERAGES	99	97	89	96	111	108	115	114	115	107	118	1.71
FOREST PRODUCTS	104	112	108	105	106	103	112	133	148	154	156	4.68
AFRICA,DEVELOPING												
AGRICULTURAL PRODUCTS	105	114	99	93	92	92	84	80	89	104	100	-.75
FOOD	105	115	101	93	92	92	82	74	86	101	98	-1.26
FEED	98	124	116	91	123	114	155	184	226	266	209	10.98
RAW MATERIALS	100	105	102	101	105	109	103	111	122	127	128	2.30
BEVERAGES	105	102	71	85	76	82	85	117	86	98	90	.19
FOREST PRODUCTS	94	124	108	111	98	94	93	88	97	100	100	-.30
LATIN AMERICA												
AGRICULTURAL PRODUCTS	110	112	87	84	86	77	76	71	85	99	102	-1.41
FOOD	111	114	87	85	85	76	73	66	78	95	99	-2.10
FEED	103	116	119	122	124	94	108	124	224	147	142	5.42
RAW MATERIALS	106	99	82	73	101	90	97	113	136	140	135	3.59
BEVERAGES	89	80	75	52	52	52	77	64	67	67	80	-4.55
FOREST PRODUCTS	111	115	114	89	83	79	86	92	96	89	89	-.93
NEAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS	102	123	117	113	127	109	97	96	106	120	124	1.23
FOOD	102	124	118	111	124	106	92	90	100	117	120	.69
FEED	85	130	137	200	240	256	236	204	356	341	304	14.98
RAW MATERIALS	95	116	105	124	132	122	120	140	126	135	151	3.71
BEVERAGES	102	99	105	115	151	131	122	112	138	105	121	2.15
FOREST PRODUCTS	103	119	116	107	111	108	106	112	109	107	107	1.32
FAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS	103	112	100	104	113	104	99	112	143	157	171	4.00
FOOD	103	113	100	103	107	99	89	96	122	133	136	2.07
FEED	105	111	124	141	166	102	162	170	233	280	268	10.22
RAW MATERIALS	101	107	98	100	121	113	116	157	209	230	286	8.65
BEVERAGES	97	108	112	136	182	195	213	175	167	172	210	7.80
FOREST PRODUCTS	103	104	101	111	118	115	133	174	207	224	227	8.85

10. INDEXES OF VOLUME OF IMPORTS OF AGRICULTURAL AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	1979-81=100											PERCENT
WORLD												
AGRICULTURAL PRODUCTS	100	105	106	105	109	110	107	114	117	119	120	1.67
FOOD	101	105	105	103	108	107	104	111	113	116	116	1.30
FEED	96	111	125	121	116	132	130	141	155	149	160	4.47
RAW MATERIALS	102	99	96	98	103	104	108	116	112	117	111	1.74
BEVERAGES	98	102	103	103	108	112	107	110	110	117	119	1.67
FOREST PRODUCTS	101	97	95	101	106	108	115	125	132	138	139	4.20
DEVELOPED COUNTRIES												
AGRICULTURAL PRODUCTS	99	104	105	100	104	109	104	109	112	113	114	1.26
FOOD	100	103	102	97	103	105	100	104	107	109	109	.87
FEED	95	111	125	119	111	128	123	135	144	134	144	3.35
RAW MATERIALS	100	98	96	98	104	106	105	108	103	105	98	.58
BEVERAGES	98	102	103	102	107	112	107	110	109	117	118	1.61
FOREST PRODUCTS	101	95	92	99	105	107	115	125	132	139	140	4.45
WESTERN EUROPE												
AGRICULTURAL PRODUCTS	100	101	108	101	100	107	108	113	114	111	121	1.65
FOOD	101	98	102	97	96	101	103	108	109	108	116	1.42
FEED	95	111	128	115	113	128	124	132	133	118	139	2.41
RAW MATERIALS	100	96	95	97	103	108	111	112	104	106	102	1.05
BEVERAGES	97	102	103	101	102	109	106	111	113	120	125	2.24
FOREST PRODUCTS	101	96	95	102	106	106	117	126	136	143	145	4.68
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS	97	114	105	94	103	107	83	91	100	106	87	-1.18
FOOD	97	116	107	91	106	110	83	88	95	101	84	-1.72
FEED	99	115	114	156	86	102	102	160	211	240	171	7.30
RAW MATERIALS	102	101	96	108	106	103	94	94	91	89	71	-2.56
BEVERAGES	103	102	99	98	105	108	85	85	85	93	76	-2.57
FOREST PRODUCTS	105	103	95	90	90	95	86	84	88	88	88	-1.72
NORTH AMERICA,DEVELOPED												
AGRICULTURAL PRODUCTS	96	104	99	101	117	121	123	121	124	134	142	3.74
FOOD	96	105	98	99	115	119	122	118	122	134	144	3.75
FEED	94	100	100	126	164	173	167	188	231	206	196	9.40
RAW MATERIALS	90	106	93	97	111	113	106	112	112	126	119	2.64
BEVERAGES	100	101	106	108	120	126	125	127	115	123	122	2.21
FOREST PRODUCTS	97	96	88	107	122	130	136	144	144	148	146	5.53
OCEANIA,DEVELOPED												
AGRICULTURAL PRODUCTS	107	99	114	120	128	128	118	132	148	175	187	5.57
FOOD	109	97	119	122	139	133	121	136	161	191	211	6.57
FEED	94	150	85	393	82	298	259	461	205	375	194	10.92
RAW MATERIALS	103	98	91	84	87	95	86	87	90	93	91	-.73
BEVERAGES	104	102	111	102	105	112	111	102	118	125	127	1.89
FOREST PRODUCTS	100	104	113	83	100	125	117	115	142	129	129	3.36

10. (Cont.) INDEXES OF VOLUME OF IMPORTS OF AGRICULTURAL AND FOREST PRODUCTS

	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	ANNUAL RATE OF CHANGE 1980-90
	....					1979-81=100					....	PERCENT
DEVELOPING COUNTRIES												
AGRICULTURAL PRODUCTS	103	108	109	114	118	112	112	124	126	133	132	2.40
FOOD	103	108	109	114	117	110	110	121	123	128	126	1.93
FEED	100	114	132	150	180	189	219	221	297	339	360	13.76
RAW MATERIALS	106	102	98	97	100	98	116	134	131	144	139	4.06
BEVERAGES	96	104	103	107	114	111	108	115	117	118	126	2.13
FOREST PRODUCTS	101	106	104	111	112	111	116	129	131	133	134	3.08
AFRICA,DEVELOPING												
AGRICULTURAL PRODUCTS	102	108	110	109	117	123	114	109	116	122	111	.95
FOOD	103	107	110	109	117	123	113	108	115	120	109	.74
FEED	96	124	129	115	148	153	250	245	252	286	273	12.14
RAW MATERIALS	102	101	101	104	110	116	116	125	123	134	131	3.13
BEVERAGES	96	114	100	110	109	118	104	115	97	115	103	.32
FOREST PRODUCTS	93	117	105	116	106	101	95	84	92	94	94	-1.79
LATIN AMERICA												
AGRICULTURAL PRODUCTS	111	108	92	106	102	93	90	93	94	95	105	-1.02
FOOD	111	108	91	106	101	91	87	90	88	92	101	-1.53
FEED	109	110	127	127	133	137	142	168	230	159	180	6.01
RAW MATERIALS	106	98	91	87	109	108	143	144	147	153	153	5.91
BEVERAGES	93	92	88	69	66	65	71	74	72	78	93	-.94
FOREST PRODUCTS	110	106	99	88	83	78	84	89	86	83	83	-2.52
NEAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS	99	114	122	128	151	138	135	147	135	149	149	3.33
FOOD	99	114	122	127	150	136	134	146	133	147	146	3.12
FEED	89	118	150	188	264	279	271	259	343	367	419	15.09
RAW MATERIALS	96	117	113	129	129	124	117	144	123	141	129	2.38
BEVERAGES	95	104	117	119	137	119	115	115	147	116	121	1.86
FOREST PRODUCTS	101	113	121	122	134	129	108	113	111	108	108	-.42
FAR EAST,DEVELOPING												
AGRICULTURAL PRODUCTS	104	104	107	120	120	119	127	134	152	153	154	4.50
FOOD	105	103	107	120	118	118	121	125	143	140	139	3.34
FEED	101	111	138	159	184	163	240	256	335	377	402	15.31
RAW MATERIALS	100	104	101	106	118	113	132	159	158	176	185	7.01
BEVERAGES	96	109	117	136	163	159	167	166	169	198	241	8.03
FOREST PRODUCTS	98	101	99	116	119	121	142	169	175	180	182	7.59

11. THE IMPORTANCE OF AGRICULTURE IN THE ECONOMY

	AGRIC.POPULATION AS % OF TOTAL POPULATION 1989	AGRIC.EXPORTS AS % OF TOTAL EXPORTS 1989	AGRIC.IMPORTS AS % OF TOTAL IMPORTS 1989	SHARE OF TOTAL IMPORTS FINANCED BY AGRIC. EXPORTS % 1989
ALGERIA	24		29	
ANGOLA	70	1	24	1
BENIN	62	31	18	18
BOTSWANA	64	4	13	5
BURKINA FASO	85	56	20	17
BURUNDI	91	94	8	38
CAMEROON	62	52	16	34
CAPE VERDE	44	38	26	1
CENTRAL AFRICAN REP.	64	29	11	18
CHAD	76	61	4	21
COMOROS	79	74	37	24
CONGO	60	1	15	1
COTE D`IVOIRE	57	64	29	92
DJIBOUTI	78	19	29	2
EGYPT	41	12	25	4
EQUATORIAL GUINEA	57	19	15	12
ETHIOPIA	75	77	20	29
GABON	69		12	1
GAMBIA	81	65	37	6
GHANA	51	60	13	44
GUINEA	75	5	16	5
GUINEA-BISSAU	79	44	46	14
KENYA	77	67	8	37
LESOTHO	80	16	21	2
LIBERIA	70	33	28	42
LIBYAN ARAB JAM.	14		19	
MADAGASCAR	77	52	11	40
MALAWI	76	91	6	48
MALI	81	82	19	45
MAURITANIA	65	7	60	13
MAURITIUS	23	35	13	26
MOROCCO	37	16	15	10
MOZAMBIQUE	82	42	19	7
NAMIBIA	36	22	3	24
NIGER	88	14	19	13
NIGERIA	65	3	9	5
REUNION	12	73	19	6
RWANDA	91	97	11	24
SAO TOME AND PRINCIPE	64	55	31	19
SENEGAL	79	21	27	14
SEYCHELLES	78	2	15	
SIERRA LEONE	63	15	55	12
SOMALIA	72	88	26	17
SOUTH AFRICA	16	9	5	11
SUDAN	61	92	29	54
SWAZILAND	67	42	9	32
TANZANIA	80	72	5	22
TOGO	70	38	23	20
TUNISIA	25	7	16	5
UGANDA	81	99	5	42
ZAIRE	66	15	29	22
ZAMBIA	69	2	5	3
ZIMBABWE	69	39	4	49
BARBADOS	7	24	18	7
BELIZE	33	78	21	39
BERMUDA	3		15	
CANADA	3	7	6	7
COSTA RICA	25	62	9	48
CUBA	20	80	13	51
DOMINICA	29	62	16	26
DOMINICAN REP.	37	43	15	20
EL SALVADOR	38	45	13	22
GRENADA	29	75	23	21
GUADELOUPE	10	74	18	8
GUATEMALA	52	75	9	49
HAITI	61	33	53	17
HONDURAS	58	64	11	63
JAMAICA	30	19	15	10
MARTINIQUE	8	63	17	9
MEXICO	31	11	16	10
NICARAGUA	39	75	15	31
PANAMA	25	49	15	14
TRINIDAD AND TOBAGO	8	6	20	8
UNITED STATES	3	12	5	9

11. (Cont.) THE IMPORTANCE OF AGRICULTURE IN THE ECONOMY

	AGRIC.POPULATION AS % OF TOTAL POPULATION 1989	AGRIC.EXPORTS AS % OF TOTAL EXPORTS 1989	AGRIC.IMPORTS AS % OF TOTAL IMPORTS 1989	SHARE OF TOTAL IMPORTS FINANCED BY AGRIC. EXPORTS % 1989
ARGENTINA	11	52	6	118
BOLIVIA	42	10	9	12
BRAZIL	25	28	10	47
CHILE	13	12	4	15
COLOMBIA	28	41	7	47
ECUADOR	31	27	9	34
FRENCH GUIANA	26	8	13	1
GUYANA	23	43	18	34
PARAGUAY	48	82	9	139
PERU	37	10	16	14
SURINAME	17	11	16	16
URUGUAY	14	46	9	61
VENEZUELA	11	1	11	2
AFGHANISTAN	55	50	28	27
BANGLADESH	69	13	26	6
BHUTAN	91	8	8	4
BRUNEI DARUSSALAM	53	1	19	1
CAMBODIA	70	64	12	15
CHINA (MAINLAND)	68	16	11	14
CYPRUS	21	28	10	10
HONG KONG	1	4	9	5
INDIA	63	16	7	12
INDONESIA	45	14	10	19
IRAN, ISLAMIC REP.	28	3	21	4
IRAQ	21	1	22	1
ISRAEL	4	10	9	9
JAPAN	6		14	1
JORDAN	6	9	20	5
KOREA, DEM. PEOPLE`S REP.	34	2	7	1
KOREA, REP.	23	2	10	2
KUWAIT	1	1	19	1
LAOS	72	12	7	4
LEBANON	9	31	29	7
MALAYSIA	31	18	9	21
MALDIVES	65		9	
MONGOLIA	31	20	5	14
MYANMAR	47	16	4	13
NEPAL	92	40	19	11
OMAN	41	1	17	2
PAKISTAN	53	32	19	21
PHILIPPINES	47	16	10	11
QATAR	2		18	
SAUDI ARABIA, KINGDOM	40	2	19	2
SINGAPORE	1	5	6	5
SRI LANKA	52	41	24	29
SYRIAN ARAB REP.	25	13	25	20
THAILAND	61	30	5	24
TURKEY	45	24	10	18
UNITED ARAB EMIRATES	3	2	14	3
VIET NAM	61	40	7	20
YEMEN	57	8	40	3

11. (Cont.) THE IMPORTANCE OF AGRICULTURE IN THE ECONOMY

	AGRIC.POPULATION AS % OF TOTAL POPULATION 1989	AGRIC.EXPORTS AS % OF TOTAL EXPORTS 1989	AGRIC.IMPORTS AS % OF TOTAL IMPORTS 1989	SHARE OF TOTAL IMPORTS FINANCED BY AGRIC. EXPORTS % 1989
AUSTRIA	5	4	6	3
BELGIUM-LUXEMBOURG	2	10	11	10
BULGARIA	12	11	8	12
CZECH SLOVAK FED. REP.	10	5	13	5
DENMARK	5	24	11	26
FINLAND	9	3	5	3
FRANCE	5	15	10	14
GERMANY, NEW LANDER	8	2	7	2
GERMANY, FEDERAL REP.	3	5	11	6
GREECE	22	29	18	14
HUNGARY	13	23	8	25
ICELAND	6	3	9	3
IRELAND	14	24	11	29
ITALY	6	7	14	6
MALTA	4	3	12	2
NETHERLANDS	4	23	14	24
NORWAY	6	1	6	2
POLAND	19	12	21	15
PORTUGAL	18	6	12	4
ROMANIA	19	4	4	4
SPAIN	11	15	10	9
SWEDEN	4	2	6	2
SWITZERLAND	4	3	7	3
UNITED KINGDOM	2	7	10	6
USSR	14	3	18	3
YUGOSLAVIA	20	9	10	8
AUSTRALIA	5	34	5	32
FIJI	40	39	12	26
FRENCH POLYNESIA	14	5	19	1
KIRIBATI	14	66	34	16
NEW CALEDONIA	46		14	
NEW ZEALAND	9	57	8	67
PAPUA NEW GUINEA	68	25	16	25
SOLOMON ISLANDS	46	25	12	17
TOKELAU	14			
TONGA	14	57	29	10
VANUATU	46	47	16	15

12a. RESOURCES AND THEIR USE IN AGRICULTURE

	ARABLE LAND AS % OF TOTAL LAND 1988	IRRIGATED LAND AS % OF ARABLE LAND 1988	FOREST LAND AS % OF TOTAL LAND 1988	AGRIC.POPULATION PER HA OF ARABLE LAND 1988	AGRIC.LABOUR FORCE AS % OF AGRIC.POPULATION 1988
ALGERIA	3	5	2	.8	23
ANGOLA	3		43	1.9	41
BENIN	17		32	1.5	48
BOTSWANA	2		2	.6	34
BURKINA FASO	13		25	2.0	53
BURUNDI	52	5	3	3.5	53
CAMEROON	15		53	1.0	38
CAPE VERDE	10	5		3.9	35
CENTRAL AFRICAN REP.	3		57	.9	47
CHAD	3		10	1.3	35
COMOROS	44		16	4.1	44
CONGO		2	62	7.6	38
COTE D`IVOIRE	12	2	18	1.8	39
DJIBOUTI					46
EGYPT	3	100		8.0	28
EQUATORIAL GUINEA	8		46	.9	42
ETHIOPIA	13	1	25	2.5	43
GABON	2		78	1.7	45
GAMBIA	17	7	17	3.8	46
GHANA	12		36	2.5	37
GUINEA	3	3	40	5.6	44
GUINEA-BISSAU	12		38	2.2	47
KENYA	4	2	6	7.2	41
LESOTHO	11			4.2	47
LIBERIA	4	1	22	4.6	38
LIBYAN ARAB JAM.	1	11		.3	25
MADAGASCAR	5	29	25	2.8	44
MALAWI	25	1	45	2.6	42
MALI	2	10	7	3.4	32
MAURITANIA		6	15	6.3	32
MAURITIUS	57	16	31	2.4	38
MOROCCO	20	14	12	1.0	31
MOZAMBIQUE	4	4	19	3.9	53
NAMIBIA	1	1	22	.9	30
NIGER	3	1	2	1.8	51
NIGERIA	34	3	15	2.1	38
REUNION	22	9	35	1.3	37
RWANDA	47		23	5.4	49
SAO TOME AND PRINCIPE	39			2.0	39
SENEGAL	27	3	31	1.0	43
SEYCHELLES	22		19	8.7	44
SIERRA LEONE	25	2	29	1.4	35
SOMALIA	2	11	14	4.9	40
SOUTH AFRICA	11	9	4	.4	32
SUDAN	5	15	20	1.2	32
SWAZILAND	10	38	6	3.0	40
TANZANIA	6	3	48	3.9	48
TOGO	26		24	1.6	41
TUNISIA	31	6	4	.4	33
UGANDA	34		28	2.1	44
ZAIRE	3		77	2.8	38
ZAMBIA	7	1	39	1.0	32
ZIMBABWE	7	8	52	2.2	40
BARBADOS	77			.6	51
BELIZE	2	4	44	1.1	34
BERMUDA			20		49
CANADA	5	2	39		50
COSTA RICA	10	22	32	1.4	34
CUBA	30	26	25	.6	41
DOMINICA	23		41	1.4	47
DOMINICAN REP.	30	15	13	1.8	31
EL SALVADOR	35	16	5	2.6	31
GRENADA	38		9	1.9	47
GUADELOUPE	19	9	42	1.1	45
GUATEMALA	17	4	36	2.4	28
HAITI	33	8	2	4.2	47
HONDURAS	16	5	31	1.6	30
JAMAICA	25	13	17	2.7	44
MARTINIQUE	19	30	36	1.5	46
MEXICO	13	21	23	1.1	35
NICARAGUA	11	7	30	1.1	31
PANAMA	8	5	52	1.0	36
TRINIDAD AND TOBAGO	23	18	43	.8	38
UNITED STATES	21	10	29		44

12a. (Cont.) RESOURCES AND THEIR USE IN AGRICULTURE

	ARABLE LAND AS % OF TOTAL LAND 1988	IRRIGATED LAND AS % OF ARABLE LAND 1988	FOREST LAND AS % OF TOTAL LAND 1988	AGRIC.POPULATION PER HA OF ARABLE LAND 1988	AGRIC.LABOUR FORCE AS % OF AGRIC.POPULATION 1988
ARGENTINA	13	5	22	.1	36
BOLIVIA	3	5	51	.8	31
BRAZIL	9	3	66	.5	37
CHILE	6	29	12	.4	34
COLOMBIA	5	10	49	1.7	31
ECUADOR	10	20	42	1.2	31
FRENCH GUIANA			83	4.1	35
GUYANA	3	26	83	.4	36
PARAGUAY	6	3	38	.9	33
PERU	3	33	54	2.1	31
SURINAME		84	95	1.0	34
URUGUAY	8	8	4	.3	38
VENEZUELA	4	7	35	.5	36
AFGHANISTAN	12	33	3	1.1	30
BANGLADESH	71	24	15	8.3	29
BHUTAN	3	26	55	10.2	44
BRUNEI DARUSSALAM	1	14	46	19.1	42
CAMBODIA	17	3	76	1.8	47
CHINA (MAINLAND)	10	46	13	7.8	59
CYPRUS	17	21	13	.9	46
HONG KONG	7	29	12	10.9	52
INDIA	57	25	22	3.1	40
INDONESIA	12	35	63	3.9	42
IRAN, ISLAMIC REP.	9	39	11	1.0	29
IRAQ	12	47	4	.7	27
ISRAEL	21	50	5	.5	38
JAPAN	12	62	67	1.8	53
JORDAN	4	15	1	.5	24
KOREA, DEM. PEOPLE`S REP.	20	50	74	3.1	50
KOREA, REP.	22	64	66	4.8	47
KUWAIT		50		7.1	39
LAOS	4	13	56	3.1	48
LEBANON	29	29	8	.9	30
MALAYSIA	15	7	59	1.1	41
MALDIVES	10		3	43.7	36
MONGOLIA	1	3	9	.5	47
MYANMAR	15	10	49	1.9	44
NEPAL	17	28	17	7.1	42
OMAN		85		12.2	28
PAKISTAN	27	75	4	3.0	27
PHILIPPINES	27	19	36	3.5	36
QATAR				1.3	46
SAUDI ARABIA, KINGDOM	1	36	1	4.5	29
SINGAPORE	3		5	14.4	48
SRI LANKA	29	29	27	4.6	37
SYRIAN ARAB REP.	30	12	3	.5	25
THAILAND	39	20	28	1.7	56
TURKEY	36	8	26	.9	47
UNITED ARAB EMIRATES		13		1.1	52
VIET NAM	20	28	28	6.0	47

12a. (Cont.) RESOURCES AND THEIR USE IN AGRICULTURE

	ARABLE LAND AS % OF TOTAL LAND 1988	IRRIGATED LAND AS % OF ARABLE LAND 1988	FOREST LAND AS % OF TOTAL LAND 1988	AGRIC.POPULATION PER HA OF ARABLE LAND 1988	AGRIC.LABOUR FORCE AS % OF AGRIC.POPULATION 1988
AUSTRIA	18		39	.3	55
BELGIUM-LUXEMBOURG	25		21	.2	42
BULGARIA	37	30	35	.3	51
CZECH SLOVAK FED. REP.	41	6	37	.3	53
DENMARK	61	17	12	.1	55
FINLAND	8	3	76	.2	50
FRANCE	35	7	27	.2	48
GERMANY, NEW LANDER	47	3	28	.3	57
GERMANY, FEDERAL REP.	31	4	30	.3	57
GREECE	30	30	20	.6	44
HUNGARY	57	3	18	.3	48
ICELAND			1	2.0	62
IRELAND	14		5	.5	39
ITALY	41	25	23	.3	47
MALTA	41	8		1.1	37
NETHERLANDS	27	59	9	.6	41
NORWAY	3	11	27	.3	48
POLAND	49	1	29	.5	58
PORTUGAL	41	17	32	.5	43
ROMANIA	46	32	28	.4	57
SPAIN	41	16	31	.2	38
SWEDEN	7	4	70	.1	45
SWITZERLAND	10	6	26	.6	59
UNITED KINGDOM	29	2	10	.2	49
USSR	10	9	42	.2	50
YUGOSLAVIA	30	2	37	.6	50
AUSTRALIA	6	4	14		47
FIJI	13		65	1.2	34
FRENCH POLYNESIA	20		31	.4	32
KIRIBATI	52		3	.3	36
NEW CALEDONIA	1		39	3.8	31
NEW ZEALAND	2	54	27	.6	44
PAPUA NEW GUINEA	1		84	6.6	48
SOLOMON ISLANDS	2		91	2.5	33
TOKELAU					33
TONGA	67		11	.3	32
VANUATU	12		1	.5	31

12b. RESOURCES AND THEIR USE IN AGRICULTURE

	AGRIC. GFCF $ PER HA OF ARABLE LAND 1988	AGRIC. GFCF $ PER CAPUT OF AGRIC.LABOUR FORCE 1988	FERTILIZER USE KG/HA OF ARABLE LANO 1988	NO. OF TRACTORS PER `OOO HA OF ARABLE LANO 1988	OFFICIAL COMMITMENTS TO AGRIC. $ PER CAPUT 1989
ALGERIA			23	12	21.7
ANGOLA			4	3	2.3
BENIN			4		9.1
BOTSWANA	3.1	17.1	1	3	2.8
BURKINA FASO	.3	.3	4		20.6
BURUNOI			2		11.3
CAMEROON			6		12.6
CAPE VEROE					16.0
CENTRAL AFRICAN REP.					1.7
CHAO			2		11.3
COMOROS					16.6
CONGO			4	4	8.5
COTE O`IVOIRE			11	1	20.9
DJIBOUTI					29.0
EGYPT	494.5	227.5	400	20	3.2
EQUATORIAL GUINEA					5.7
ETHIOPIA			6		4.4
GABON			2	3	4.9
GAMBIA			20		2.6
GHANA			4	1	10.1
GUINEA			1		11.8
GUINEA-BISSAU					24.2
KENYA	51.1	17.1	51	4	8.8
LESOTHO	51.2	24.3	14	5	16.4
LIBERIA			9	1	.6
LIBYAN ARAB JAM.	274.2	3932.9	41	15	
MADAGASCAR			3	1	8.4
MALAWI			21	1	6.2
MALI			6		18.6
MAURITANIA			16	2	11.1
MAURITIUS	156.6	172.9	266	3	6.1
MOROCCO			35	4	17.4
MOZAMBIQUE			1	2	7.0
NAMIBIA				4	
NIGER					5.5
NIGERIA			10		3.1
REUNION			243	40	
RWANOA					7.0
SAO TOME ANO PRINCIPE				3	21.7
SENEGAL			5		22.6
SEYCHELLES				7	
SIERRA LEONE					.9
SOMALIA			2	2	30.5
SOUTH AFRICA	45.7	338.8	63	14	
SUOAN	8.1	22.0	4	2	4.6
SWAZILANO	61.7	46.8	46	20	6.0
TANZANIA	3.4	1.8	8	4	4.7
TOGO			8		15.2
TUNISIA	66.8	473.5	21	5	39.5
UGANOA				1	.9
ZAIRE					1.4
ZAMBIA			16	1	10.7
ZIMBABWE	30.6	35.4	59	7	6.1
BARBADOS			94	18	
BELIZE			80	19	16.6
CANADA	68.7	6679.1	46	16	
COSTA RICA	175.1	366.9	191	12	8.9
CUBA			179	22	1.1
OOMINICA			176	5	.2
OOMINICAN REP.			41	2	3.0
EL SALVAOOR	12.7	15.1	133	5	8.2
GRENAOA				2	18.5
GUADELOUPE			355	50	
GUATEMALA	37.4	53.9	69	2	4.1
HAITI			2		8.0
HONOURAS	61.8	162.2	22	2	9.2
JAMAICA			109	11	1.9
MARTINIQUE			1018	48	
MEXICO			71	7	2.1
NICARAGUA			57	2	15.3
PANAMA			67	11	
TRINIOAO AND TOBAGO	75.4	228.2	18	22	
UNITEO STATES	67.8	4199.3	93	25	

12b. (Cont.) RESOURCES AND THEIR USE IN AGRICULTURE

	AGRIC. GFCF $ PER HA OF ARABLE LAND 1988	AGRIC. GFCF $ PER CAPUT OF AGRIC.LABOUR FORCE 1988	FERTILIZER USE KG/HA OF ARABLE LAND 1988	NO. OF TRACTORS PER '000 HA OF ARABLE LAND 1988	OFFICIAL COMMITMENTS TO AGRIC. $ PER CAPUT 1989
ARGENTINA			5	6	.5
BOLIVIA			1	1	4.3
BRAZIL			47	9	5.0
CHILE			74	9	1.7
COLOMBIA			87	6	.6
ECUADOR			32	3	5.4
FRENCH GUIANA			152	28	
GUYANA			29	7	38.7
PARAGUAY			4	5	2.3
PERU			58	4	3.2
SURINAME			29	18	
URUGUAY			52	27	18.9
VENEZUELA	118.7	573.1	178	12	
AFGHANISTAN			7		
BANGLADESH			83	1	5.0
BHUTAN			1		5.0
BRUNEI DARUSSALAM			100	10	
CHINA (MAINLAND)	12.9	2.8	260	9	.7
CYPRUS	472.6	1091.2	137	87	
HONG KONG				1	
INDIA	41.2	33.4	65	4	.8
INDONESIA			117	1	3.0
IRAN, ISLAMIC REP.	223.8	791.6	73	8	
IRAQ	204.1	1068.6	38	7	.8
ISRAEL	682.4	3837.7	233	66	1.1
JAPAN			415	424	
JORDAN	94.0	700.0	73	15	18.3
KOREA, DEM. PEOPLE'S REP.			338	30	.3
KOREA, REP.	1581.1	688.5	411	12	
KUWAIT			194	30	
LAOS				1	9.2
LEBANON			75	10	
MALAYSIA	193.1	418.5	151	2	5.9
MALDIVES					56.7
MONGOLIA			14	9	
MYANMAR			11	1	
NEPAL	21.8	8.1	24	1	6.3
OMAN			111	3	
PAKISTAN	30.4	38.4	83	8	5.6
PHILIPPINES			63	1	6.4
QATAR			120	18	
SAUDI ARABIA, KINGDOM			428	2	
SINGAPORE			2800	30	
SRI LANKA			110	15	13.1
SYRIAN ARAB REP.	63.7	486.5	50	10	1.7
THAILAND			39	7	1.6
TURKEY			58	24	13.2
UNITED ARAB EMIRATES	928.2	1645.5	138		
VIET NAM			90	5	.2
YEMEN	29.1	31.0	7	4	

12b. (Cont.) RESOURCES AND THEIR USE IN AGRICULTURE

	AGRIC. GFCF $ PER HA OF ARABLE LAND 1988	AGRIC. GFCF $ PER CAPUT OF AGRIC.LABOUR FORCE 1988	FERTILIZER USE KG/HA OF ARABLE LAND 1988	NO. OF TRACTORS PER `000 HA OF ARABLE LAND 1988	OFFICIAL COMMITMENTS TO AGRIC. $ PER CAPUT 1989
AUSTRIA	763.5	5155.3	214	226	
BELGIUM-LUXEMBOURG	630.6	6083.5	506	150	
BULGARIA			222	13	
CZECH SLOVAK FED. REP.			314	28	
DENMARK	335.6	6018.6	239	65	
FINLAND	624.5	6928.6	194	100	
FRANCE	294.9	4756.5	312	78	
GERMANY, NEW LANDER			367	34	
GERMANY, FEDERAL REP.	748.6	4961.1	411	194	
GREECE	97.3	366.2	165	48	
HUNGARY			268	10	
ICELAND	2270.0	1816.0	2724	1638	
IRELAND	494.3	2417.4	717	170	
ITALY	865.1		172	112	
MALTA	390.0	1014.0	44	34	
NETHERLANDS	2712.8	10436.4	666	208	
NORWAY	1172.9	8471.9	253	178	
POLAND			245	75	
PORTUGAL	80.6	350.9	78	20	8.7
ROMANIA			133	15	
SPAIN			103	34	
SWEDEN	443.2	7111.7	133	64	
SWITZERLAND			431	265	
UNITED KINGDOM	189.7	2185.5	346	74	
USSR			117	12	
YUGOSLAVIA			131	137	
AUSTRALIA			30	7	
FIJI	40.0	97.0	105	18	3.6
FRENCH POLYNESIA			12	2	15.6
KIRIBATI					2.8
NEW CALEDONIA			60	65	27.5
NEW ZEALAND	664.0	2409.3	621	154	
PAPUA NEW GUINEA			36	3	27.3
SOLOMON ISLANDS					39.6
TONGA	87.2	820.0		2	

13. MEASURES OF OUTPUT AND PRODUCTIVITY IN AGRICULTURE

	INDEX OF FOOD PROD. PER CAPUT 1979-81=100 1988-90	INDEX OF TOT.AGRIC. PROD. PER CAPUT 1979-81=100 1988-90	PER CAPUT DIETARY ENERGY SUPPLIES 1987-89	INDEX OF VALUE OF AGRIC.EXPORTS 1979-81=100 1988-90
ALGERIA	94	95	1867	82
ANGOLA	80	78	1165	64
BENIN	118	123	1427	64
BOTSWANA	79	79	1528	94
BURKINA FASO	114	116	1372	84
BURUNDI	95	93	1548	42
CAMEROON	90	90	1444	100
CAPE VERDE	124	124	1761	76
CENTRAL AFRICAN REP.	95	96	1364	77
CHAD	97	100	1216	143
COMOROS	90	90	1354	101
CONGO	92	92	1656	103
COTE D`IVOIRE	98	93	1600	70
DJIBOUTI				82
EGYPT	123	114	2225	123
EQUATORIAL GUINEA				118
ETHIOPIA	85	84	1109	254
GABON	81	81	1636	74
GAMBIA	91	90	1553	121
GHANA	109	108	1441	87
GUINEA	87	89	1359	99
GUINEA-BISSAU	102	102	1795	112
KENYA	107	105	1389	65
LESOTHO	81	82	1542	72
LIBERIA	86	84	1581	64
LIBYAN ARAB JAM.	103	103	2312	65
MADAGASCAR	91	90	1468	28
MALAWI	83	86	1359	58
MALI	98	100	1418	108
MAURITANIA	89	89	1763	104
MAURITIUS	103	103	1821	73
MOROCCO	135	135	1902	53
MOZAMBIQUE	86	84	1081	118
NAMIBIA	95	93	1239	84
NIGER	80	80	1589	64
NIGERIA	113	113	1374	14
REUNION	73	73	1944	100
RWANDA	76	79	1203	75
SAO TOME AND PRINCIPE	72	72	1545	89
SENEGAL	104	103	1395	75
SEYCHELLES			1503	91
SIERRA LEONE	88	87	1208	71
SOMALIA	99	99	1325	45
SOUTH AFRICA	88	88	2063	96
SUDAN	75	76	1376	56
SWAZILAND	93	92	1725	83
TANZANIA	88	88	1464	46
TOGO	98	101	1400	104
TUNISIA	94	94	1986	89
UGANDA	92	93	1376	49
ZAIRE	97	97	1382	76
ZAMBIA	98	100	1356	25
ZIMBABWE	96	102	1528	73
BARBADOS	77	77	2098	82
BELIZE	92	92	1770	66
BERMUDA			1993	86
CANADA	106	105	2273	88
COSTA RICA	91	96	1846	80
CUBA	101	101	2047	58
DOMINICA	139	139	1898	97
DOMINICAN REP.	94	91	1569	97
EL SALVADOR	94	72	1599	59
GRENADA	93	93	1932	95
GUADELOUPE	103	103	1762	99
GUATEMALA	95	90	1562	65
HAITI	93	91	1300	94
HONDURAS	91	92	1429	39
JAMAICA	91	91	1705	77
MARTINIQUE	102	102	1835	100
MEXICO	96	95	2073	90
NICARAGUA	61	55	1579	67
PANAMA	88	90	1626	62
TRINIDAD AND TOBAGO	74	72	1968	50
UNITED STATES	92	92	2424	73

13. (Cont.) MEASURES OF OUTPUT AND PRODUCTIVITY IN AGRICULTURE

	INDEX OF FOOD PROD. PER CAPUT 1979-81=100 1988-90	INDEX OF TOT.AGRIC. PROD. PER CAPUT 1979-81=100 1988-90	PER CAPUT DIETARY ENERGY SUPPLIES 1987-89	INDEX OF VALUE OF AGRIC.EXPORTS 1979-81=100 1988-90
ARGENTINA	95	95	2095	25
BOLIVIA	107	105	1385	33
BRAZIL	111	108	1793	41
CHILE	112	112	1710	25
COLOMBIA	109	104	1693	55
ECUADOR	108	108	1522	61
FRENCH GUIANA			1827	116
GUYANA	71	70	1562	51
PARAGUAY	119	126	1856	34
PERU	100	98	1515	60
SURINAME	87	86	1852	77
URUGUAY	113	114	1836	40
VENEZUELA	94	95	1679	51
AFGHANISTAN	85	85	1413	75
BANGLADESH	97	95	1257	113
BHUTAN	84	84		135
BRUNEI DARUSSALAM	115	115	1851	126
CAMBODIA	163	166	1424	20
CHINA (MAINLAND)	132	134	1752	77
CYPRUS	102	102		80
HONG KONG	62	62	1872	119
INDIA	119	118	1400	90
INDONESIA	128	126	1744	64
IRAN, ISLAMIC REP.	99	99	2085	63
IRAQ	90	90	1967	86
ISRAEL	100	92	2080	77
JAPAN	95	93	1768	98
JORDAN	113	112	1928	60
KOREA, DEM. PEOPLE`S REP	107	108	2081	72
KOREA, REP.	97	95	1841	108
KUWAIT			2076	83
LAOS	121	120	1744	21
LEBANON	145	141	2198	62
MALAYSIA	155	133	1746	95
MALDIVES	97	97	1381	82
MONGOLIA	89	86	1650	66
MYANMAR	101	99	1682	31
NEPAL	113	111	1375	174
OMAN				107
PAKISTAN	104	107	1438	101
PHILIPPINES	86	87	1436	109
QATAR				81
SAUDI ARABIA, KINGDOM	277	274	1871	63
SINGAPORE	87	87	1873	101
SRI LANKA	88	87	1493	82
SYRIAN ARAB REP.	83	85	2088	51
THAILAND	105	108	1500	125
TURKEY	97	97	2060	314
UNITED ARAB EMIRATES			2314	86
VIET NAM	119	122	1462	40
YEMEN	80	80	2110	184

13. (Cont.) MEASURES OF OUTPUT AND PRODUCTIVITY IN AGRICULTURE

	INDEX OF FOOD PROD. PER CAPUT 1979-81=100 1988-90	INDEX OF TOT.AGRIC. PROD. PER CAPUT 1979-81=100 1988-90	PER CAPUT DIETARY ENERGY SUPPLIES 1987-89	INDEX OF VALUE OF AGRIC.EXPORTS 1979-81=100 1988-90
AUSTRIA	108	108	2306	91
BELGIUM-LUXEMBOURG	117	117	2572	88
BULGARIA	99	94	2414	119
CZECH SLOVAK FED. REP.	123	123	2346	66
DENMARK	129	129	2369	85
FINLAND	108	108	2031	77
FRANCE	100	100	2161	88
GERMANY, NEW LANDER	116	117	2563	59
GERMANY, FEDERAL REP.	112	112	2331	85
GREECE	100	104	2442	135
HUNGARY	112	111	2437	46
ICELAND	82	82	2077	87
IRELAND	108	108	2441	83
ITALY	97	98	2361	99
MALTA	115	115	2174	64
NETHERLANDS	115	115	2204	98
NORWAY	101	101	2131	71
POLAND	109	107	2273	44
PORTUGAL	107	107	2173	96
ROMANIA	96	96	2204	28
SPAIN	112	112	2322	99
SWEDEN	97	97	1969	82
SWITZERLAND	104	104	2367	83
UNITED KINGDOM	107	107	2131	80
USSR	112	110	2214	71
YUGOSLAVIA	94	94	2339	62
AUSTRALIA	95	102	2207	96
FIJI	87	86	1782	61
FRENCH POLYNESIA	73	72	1869	96
KIRIBATI			1852	73
NEW CALEDONIA	89	86	1917	85
NEW ZEALAND	104	99	2275	103
PAPUA NEW GUINEA	105	104	1467	71
SOLOMON ISLANDS	89	89	1343	90
TONGA	106	106	1958	96
VANUATU	81	80	1659	57

14. CARRYOVER STOCKS OF SELECTED AGRICULTURAL PRODUCTS

	CROP YEAR ENDING IN:				
	1987	1988	1989	1990	1991
CEREALS	....	......	MILLION TONNES	....	....
DEVELOPED COUNTRIES	320.0	276.8	184.4	163.5	188.7
CANADA	18.5	13.5	9.7	10.7	15.8
UNITED STATES	203.8	169.4	86.1	61.1	72.2
AUSTRALIA	4.1	3.0	3.2	3.3	2.6
EEC	31.6	28.7	28.7	28.7	27.9
JAPAN	5.9	5.6	5.4	4.9	4.9
USSR	38.0	39.1	36.2	39.1	49.1
DEVELOPING COUNTRIES	137.2	124.4	125.3	140.3	150.0
FAR EAST	91.6	82.5	82.9	98.2	112.0
BANGLADESH	0.7	1.5	1.2	1.1	1.0
CHINA	46.0	48.0	43.0	44.0	57.0
INDIA	15.0	5.4	4.4	11.3	12.1
PAKISTAN	3.1	1.7	2.0	2.6	2.6
NEAR EAST	20.3	17.3	18.1	17.2	18.0
TURKEY	0.9	1.1	0.9	1.0	0.9
AFRICA	11.9	9.5	11.4	12.3	9.3
LATIN AMERICA	13.1	14.8	12.6	12.3	10.4
ARGENTINA	0.7	1.3	1.1	0.6	1.5
BRAZIL	4.6	5.7	4.8	5.2	2.2
WORLD TOTAL	457.2	401.2	309.7	303.8	338.7
WHEAT	167.2	142.6	114.9	118.7	142.3
RICE, MILLED	55.9	46.1	47.8	57.5	61.7
COARSE GRAINS	234 1	212.5	146.9	127.6	134.6
SUGAR (RAW VALUE)					
WORLD TOTAL AS OF 1 SEPT.	36.5	33.6	30.3	30.1	33.2

15. ANNUAL CHANGES IN CONSUMER PRICES: ALL ITEMS AND FOOD

	ALL ITEMS				FOOD			
	1975 TO 1980	1980 TO 1985	1985 TO 1990	1989 TO 1990	1975 TO 1980	1980 TO 1985	1985 TO 1990	1989 TO 1990
	PERCENT/YEAR							
DEVELOPED COUNTRIES								
WESTERN EUROPE								
AUSTRIA	3.8	4.8	2.2	3.3	4.4	4.1	1.6	2.9
BELGIUM	6.4	7.1	2.0	3.4	4.6	7.5	1.7	3.7
DENMARK	10.4	7.9	3.9	2.6	...	8.1	2.2	0.6
FINLAND	10.6	8.5	5.0	6.1	10.8	9.3	3.1	5.7
FRANCE	10.4	9.6	3.1	3.4	10.0	9.7	3.0	4.1
GERMANY, FEDERAL REP.	4.0	3.8	1.3	2.8	3.3	3.2	1.1	2.9
GREECE	16.3	20.5	17.4	20.4	17.6	20.6	16.6	21.3
ICELAND	42.0	50.5	20.0	14.4	41.0	53.1	21.0	12.7
IRELAND	12.9	12.1	3.3	3.3	13.7	10.0	24.0	149.7
ITALY	3.0	13.8	5.6	6.4	15.6	12.5	5.2	6.2
NETHERLANDS	6.1	4.0	0.8	2.6	...	3.3	0.2	2.2
NORWAY	8.4	8.9	6.3	4.1	7.4	6.6	5.8	3.3
PORTUGAL	...	23.9	11.3	13.4	21.0	24.2	11.1	13.6
SPAIN	18.6	12.3	6.5	6.6	16.0	12.3	6.7	6.4
SWEDEN	10.5	8.9	6.2	10.4	10.7	11.7	5.8	7.2
SWITZERLAND	2.4	4.1	2.5	5.4	2.9	4.9	2.4	5.5
UNITED KINGDOM	14.4	6.8	5.9	9.5	13.9	5.5	4.7	8.0
YUGOSLAVIA	18.2	45.7	65.0	580.6	19.4	47.1	60.0	531.9
NORTH AMERICA								
CANADA	8.4	7.3	4.4	4.8	9.9	5.9	4.0	4.1
UNITED STATES	8.9	5.2	4.0	5.4	7.6	3.8	4.6	5.7
OCEANIA								
AUSTRALIA	10.6	8.4	7.9	7.2	12.0	7.8	7.1	4.3
NEW ZEALAND	14.8	11.3	9.3	6.2	16.8	9.6	9.4	7.2
OTHER DEV.ED COUNTRIES								
ISRAEL	60.0	193.7	24.0	17.2	65.0	192.9	23.0	8.6
JAPAN	6.5	2.6	1.4	3.1	5.5	2.6	1.2	4.0
SOUTH AFRICA	12.0	13.7	15.3	14.4	13.0	12.9	17.1	16.1
DEVELOPING COUNTRIES								
LATIN AMERICA								
ARGENTINA	100.0	207.9	1432.	2313.7	...	327.0	1280.0	1870.8
BAHAMAS	6.9	5.5	5.1	4.7	7.7	5.1	7.4	7.7
BARBADOS	10.0	6.1	3.8	3.0	9.1	6.1	5.3	4.0
BOLIVIA	17.0	46.0	67.9	17.1	16.4	...	44.0	17.2
BRAZIL	46.0	133.7	1075.0	2947.5	49.0	142.8	991.0	2620.2
CHILE	70.0	41.0	19.4	26.0	70.0	18.0	21.0	25.9
COLOMBIA	23.0	21.9	24.0	29.6	25.0	22.5	...	27.2
COSTA RICA	8.1	36.3	17.1	19.0	9.6	38.5	16.6	18.2
DOMINICAN REP.	8.3	26.0	28.0	41.8[1]	3.4	8.6	32.0	37.6[1]
ECUADOR	11.7	27.2	46.0	48.5	11.2	35.6	48.0	47.5
EL SALVADOR	...	14.0	24.0	24.0	...	14.3	28.0	25.8
GUATEMALA	10.7	...	20.0	35.8[2]	9.4	...	23.0	43.8[2]
GUYANA	12.8	19.6	3.2	3.7	14.1	26.5	3.1	4.0
HAITI	8.0	8.8	4.3	20.8	9.3	6.6	3.3	22.8
HONDURAS	9.2	7.1	4.3	...	9.6	4.2	9.8	26.5
JAMAICA	22.0	26.0	13.2	21.3	24.0	15.7	15.3	22.2
MEXICO	21.0	18.9	75.8	26.6	19.5	63.7	65.0	25.4
PANAMA	6.9	3.3	0.3	0.6	6.6	3.6	0.5	0.5
PARAGUAY	14.7	15.8	28.0	38.3	14.9	...	31.0	46.4
PERU	37.0	100.2	2761.0	7482.0	50.0	87.8	829.0	...
PUERTO RICO	5.6	2.9	2.9	3.8	5.5	2.8	4.1	8.4
SURINAME	11.5	6.4	18.4	...	12.2	4.8	24.0	...
TRINIDAD AND TOBAGO	12.9	13.1	9.7	11.0	11.1	14.8	16.4	17.1
URUGUAY	55.0	43.7	80.0	116.6	55.0	43.1	80.0	120.6
VENEZUELA	11.4	10.5	36.0	212.8[1]	15.7	13.6	50.0	...

15. (Cont.) ANNUAL CHANGES IN CONSUMER PRICES: ALL ITEMS AND FOOD

	ALL ITEMS				FOOD			
	1975 TO 1980	1980 TO 1985	1985 TO 1990	1989 TO 1990	1975 TO 1980	1980 TO 1985	1985 TO 1990	1989 TO 1990
	PERCENT/YEAR							
FAR EAST								
BANGLADESH	7.6	10.3	10.4	7.6[3]	5.0	10.9	18.6	8.0[3]
INDIA	1.3	6.9	7.5	3.9	0.8	6.7	7.5	2.6
INDONESIA	...	10.1	7.4	...	...	8.4	10.1	...
KOREA, REP.	17.2	6.3	5.4	8.6	17.2	5.4	6.4	10.0
MALAYSIA	4.6	4.5	2.0	3.1	3.7	2.5	2.3	4.2
MYANMAR	3.8	4.5	18.8	17.5	2.6	4.2	20.0	19.2
NEPAL	6.7	11.6	11.3	...	6.1	4.1	12.0	7.2
PAKISTAN	9.0	7.6	6.7	9.1	8.0	7.5	7.3	8.6
PHILIPPINES	12.0	20.6	7.2	12.7	11.0	20.2	7.3	10.4
SRI LANKA	9.9	12.6	12.4	21.5	10.7	12.6	12.8	23.3
THAILAND	10.4	4.6	4.2	6.6	10.6	3.0	5.2	9.6
AFRICA								
ALGERIA	12.4	9.9	14.7	8.4[3]	15.7	11.4	9.8	17.2[3]
BOTSWANA	12.4	8.5	10.2	11.3	13.8	...	9.9	11.7
BURKINA FASO	...	5.5	-0.5	0.7	...	6.5	-2.9	-1.4
BURUNDI	18.3	8.9	6.4	7.0	16.2	9.4	4.8	7.4
CAMEROON	10.7	11.6	...	...	11.8	...	...	...
CENTRAL AFRICAN REP.	...	10.1	-1.7	-0.2	...	10.1	-2.3	1.2
COTE D'IVOIRE	16.7	11.7	6.2	...	19.3	4.2	9.7	...
ETHIOPIA	15.7	6.6	1.3	5.1	19.2	6.8	-0.8	5.2
GABON	12.9	10.1	...	...	...	...	...	...
GAMBIA	10.2	12.0	21.0	15.7[2]	9.7	13.4	22.0	15.3[2]
GHANA	70.0	118.5	30.0	36.1[1]	45.0	51.3	31.0	38.9[1]
KENYA	9.8	15.3	9.7	...	10.2	12.9	6.4	...
LESOTHO	15.1	13.7	...	9.7	18.6	13.1	...	10.6
LIBERIA	8.8	3.4	6.0	...	8.1	2.1	6.6	...
MADAGASCAR	9.2	20.0	15.3	11.8	9.0	19.8	13.8	13.8
MALAWI	9.2	...	19.2	11.8	9.5	...	20.0	12.7
MALI	...	...	...	0.5	16.1	9.0	...	1.2
MAURITIUS	16.9	...	...	13.4	16.3	...	...	10.8
MOROCCO	9.7	9.7	4.7	6.7	9.3	10.3	3.9	7.2
NIGER	14.6	6.8	-3.6	...	14.8	8.4	-6.5	...
NIGERIA	14.4	19.9	23.0	...	20.0	21.3	19.6	...
SENEGAL	6.8	12.3	0.1	0.3	6.4	11.5	-0.2	0.5
SIERRA LEONE	13.8	45.0	...	...	12.9	43.1	...	...
SOMALIA	...	40.0	...	...	...	33.0	...	...
SWAZILAND	13.2	13.9	11.9	...	14.0	13.7	12.5	...
TANZANIA	14.5	30.2	30.0	...	13.4	30.5	31.0	...
TOGO	8.1	6.3	0.7	...	9.9	5.3	-0.6	...
TUNISIA	...	10.2	6.7	6.8	...	10.8	7.2	6.9
UGANDA	...	...	...	35.3	...	...	...	20.8
ZAMBIA	15.2	19.4	50.0	...	13.7	19.9	65.0	...
ZIMBABWE	9.8	15.9	12.7	16.6	8.4	17.8	13.7	17.7
NEAR EAST								
AFGHANISTAN	...	3.1	...	47.3	...	4.8	...	78.3
CYPRUS	...	6.4	3.1	4.4	...	7.2	3.9	4.7
EGYPT	12.9	14.9	19.6	16.8	14.4	15.9	22.0	15.8
IRAN, ISLAMIC REP.	16.1	16.1	...	...	18.9	15.4	...	...
IRAQ	...	14.5	...	...	...	...	...	...
JORDAN	11.6	...	9.2	16.1	9.8	...	8.9	20.4
KUWAIT	7.1	4.6	1.5	...	6.1	2.6	0.5	...
SAUDI ARABIA, KINGDOM	11.3	-0.1	-0.7	2.0	9.5	0.9	-0.7	1.6
SUDAN	16.8	27.2	...	...	14.2	26.6	...	...
SYRIAN ARAB REP.	10.9	12.0	31.0	19.4	...	11.2	34.0	25.7
TURKEY	50.0	30.0	37.0	63.6	47.0	18.7	55.0	64.0

[1] JANUARY-JULY
[2] JANUARY-SEPTEMBER
[3] JANUARY-JUNE

SOURCE: ILO, *BULLETIN OF LABOUR STATISTICS*

16. PER CAPUT DIETARY ENERGY SUPPLIES IN SELECTED DEVELOPED AND DEVOLOPING COUNTRIES

	1975-77	1978-80	1981-83	1984-86	1987-89
	CALORIES PER CAPUT PER DAY				
ALGERIA	2242	2531	2617	2682	2834
ANGOLA	2009	2162	2045	1899	1789
BENIN	2089	2195	2134	2268	2274
BOTSWANA	2158	2147	2181	2302	2310
BURKINA FASO	1785	1801	1795	1925	2286
BURUNOI	2158	2054	2063	1985	1998
CAMEROON	2422	2395	2249	2270	2417
CAPE VEROE	2282	2565	2605	2741	2718
CENTRAL AFRICAN REP.	2196	2091	2036	1932	2008
CHAO	1792	1746	1566	1696	1791
COMOROS	1789	1820	1828	1837	1895
CONGO	2149	2209	2268	2332	2306
EGYPT	2756	3012	3248	3328	3327
ETHIOPIA	1552	1746	1751	1634	1640
GABON	2345	2378	2413	2510	2473
GAMBIA	2012	2015	2140	2312	2391
GHANA	2112	1984	1848	2122	2245
GUINEA	2250	2255	2244	2273	2204
GUINEA-BISSAU	1900	1924	2154	2291	2660
COTE O'IVOIRE	2320	2549	2668	2654	2597
KENYA	2233	2175	2093	2072	2017
LESOTHO	2173	2378	2289	2375	2327
LIBERIA	2312	2397	2373	2384	2404
LIBYAN ARAB JAM.	3361	3469	3528	3435	3354
MAOAGASCAR	2497	2452	2441	2373	2181
MALAWI	2374	2280	2229	2142	2025
MALI	1843	1767	1842	2036	2196
MAURITANIA	2003	2052	2178	2359	2638
MAURITIUS	2606	2701	2740	2747	2826
MOROCCO	2601	2698	2745	2876	3009
MOZAMBIQUE	1760	1788	1749	1659	1665
NAMIBIA	1958	1955	1951	1924	1968
NIGER	2057	2220	2264	2296	2300
NIGERIA	2171	2287	2252	2235	2318
REUNION	2689	2816	2954	3006	3074
RWANOA	2112	2065	2116	2014	1962
SAO TOME AHO PRINCIP	2028	2287	2261	2373	2387
SENEGAL	2292	2379	2379	2427	2388
SEYCHELLES	2137	2292	2294	2325	2329
SIERRA LEONE	2010	2080	2012	1864	1841
SOMALIA	1739	1841	2035	1989	1932
SOUTH AFRICA	2936	2962	3018	3069	3105
SUOAN	2249	2264	2175	2143	2122
SWAZILANO	2483	2480	2509	2555	2613
TANZANIA	2188	2261	2225	2233	2209
TOGO	2037	2185	2145	2127	2134
TUNISIA	2596	2722	2792	2949	3083
UGANOA	2229	2120	2181	2009	2032
ZAIRE	2240	2118	2124	2146	2084
ZAMBIA	2340	2221	2148	2127	2060
ZIMBABWE	2145	2186	2217	2195	2284
ANTIGUA AHO BARBUOA	2038	2005	2125	2245	2295
BAHAMAS	2375	2389	2681	2737	2794
BARBADOS	2967	3084	3153	3191	3244
BELIZE	2638	2717	2574	2537	2660
BERMUDA	2892	3010	3030	3051	3010
CANAOA	3259	3250	3278	3403	3465
COSTA RICA	2585	2558	2608	2729	2780
CUBA	2768	2918	3085	3157	3153
OOMINICA	2248	2452	2619	2747	2830
OOMINICAN REP.	2191	2246	2274	2334	2348
EL SALVAOOR	2135	2240	2325	2365	2330
GRENADA	2262	2395	2578	2552	2658
GUAOELOUPE	2371	2418	2553	2638	2722
GUATEMALA	2121	2116	2175	2228	2175
HAITI	2017	2042	2078	2108	2042
HONOURAS	2161	2173	2142	2130	2173
JAMAICA	2713	2660	2588	2601	2622
MARTINIQUE	2533	2606	2699	2717	2747
MEXICO	2780	2948	3106	3144	3158
NETHERLANOS ANTILLES	3799	3977	4207	3284	2830
NICARAGUA	2341	2242	2230	2234	2273
PANAMA	2336	2183	2415	2489	2542
ST. KITTS AHO NEVIS	2276	2240	2310	2460	2615
SAINT LUCIA	2118	2221	2330	2452	2583

16. (Cont.) PER CAPUT DIETARY ENERGY SUPPLIES IN SELECTED DEVELOPED AND DEVOLOPING COUNTRIES

	1975-77	1978-80	1981-83	1984-86	1987-89
	CALORIES PER CAPUT PER DAY				
SAINT VINCENT/GRENADINES	2200	2352	2432	2528	2620
TRINIDAD AND TOBAGO	2659	2875	2982	3001	2913
UNITED STATES	3422	3479	3490	3600	3683
ARGENTINA	3192	3198	3115	3121	3111
BOLIVIA	2044	2082	2073	2096	1971
BRAZIL	2590	2708	2658	2656	2725
CHILE	2527	2604	2602	2518	2523
COLOMBIA	2301	2358	2443	2445	2481
ECUADOR	2254	2283	2319	2370	2418
FRENCH GUIANA	2348	2474	2621	2693	2822
GUYANA	2426	2451	2490	2545	2740
PARAGUAY	2722	2798	2791	2786	2761
PERU	2198	2113	2108	2083	2184
SURINAME	2348	2481	2620	2781	2909
URUGUAY	2845	2753	2730	2712	2698
VENEZUELA	2440	2632	2565	2530	2594
AFGHANISTAN	2294	2269	2175	2127	2025
BANGLADESH	1958	1964	1966	1961	1998
BRUNEI DARUSSALAM	2571	2674	2709	2773	2823
CAMBODIA	1747	1689	1797	2123	2155
CHINA	2083	2271	2465	2612	2636
HONG KONG	2639	2669	2699	2739	2823
INDIA	2028	2091	2131	2174	2222
INDONESIA	2143	2315	2463	2511	2592
IRAN, ISLAMIC REP.	2922	2864	3020	3132	3148
IRAQ	2406	2664	2864	3046	3171
ISRAEL	3100	3020	3084	3111	3158
JAPAN	2756	2801	2836	2871	2937
JORDAN	2389	2546	2667	2656	2712
KOREA, DEM. PEOPLE`S REP.	2467	2662	2663	2746	2797
KOREA, REP.	2746	2789	2788	2852	2868
KUWAIT	2758	2987	2987	3060	3149
LAOS	1991	2296	2381	2444	2581
LEBANON	2480	2738	2897	3016	3160
MACAU	2314	2308	2324	2280	2200
MALAYSIA	2613	2692	2710	2688	2644
MALDIVES	1832	2026	2149	2316	2369
MONGOLIA	2399	2476	2476	2472	2451
MYANMAR	2132	2253	2399	2500	2486
NEPAL	1964	1937	1978	1988	2076
PAKISTAN	2118	2189	2150	2156	2184
PHILIPPINES	1884	2077	2075	2076	2123
SAUDI ARABIA, KINGDOM	2057	2684	2847	2841	2847
SINGAPORE	2792	2691	2767	3007	3037
SRI LANKA	2210	2268	2258	2441	2299
SYRIAN ARAB REP.	2525	2810	3151	3142	3076
THAILAND	2284	2294	2287	2293	2312
TURKEY	3050	3047	2996	3020	3171
UNITED ARAB EMIRATES	3264	3191	3283	3278	3307
VIET NAM	1942	2044	2116	2178	2214
YEMEN	1957	2043	2058	2077	2110

16. (Cont.) PER CAPUT DIETARY ENERGY SUPPLIES IN SELECTED DEVELOPED AND DEVOLOPING COUNTRIES

	1975-77	1978-80	1981-83	1984-86	1987-89
	CALORIES PER CAPUT PER DAY				
ALBANIA	2608	2748	2823	2785	2742
AUSTRIA	3283	3365	3440	3467	3508
BELGIUM-LUXEMBOURG	3475	3644	3846	3961	3961
BULGARIA	3550	3599	3664	3637	3684
CZECH SLOVAK FED. REP.	3397	3404	3487	3503	3612
DENMARK	3336	3465	3480	3533	3648
FINLAND	3127	3088	3079	3077	3159
FRANCE	3336	3452	3367	3397	3461
GERMANY, NEW LANDER	3452	3576	3682	3788	3834
GERMANY, FEDERAL REP.	3195	3336	3317	3422	3476
GREECE	3473	3514	3611	3690	3798
HUNGARY	3409	3463	3500	3521	3643
ICELAND	2968	3112	3372	3507	3535
IRELAND	3679	3709	3787	3778	3785
ITALY	3354	3556	3433	3447	3507
MALTA	3045	2956	2973	3117	3245
NETHERLANDS	3024	3113	3115	3111	3171
NORWAY	3153	3316	3244	3266	3327
POLAND	3559	3576	3338	3369	3462
PORTUGAL	3045	3046	3130	3157	3412
ROMANIA	3382	3412	3335	3411	3250
SPAIN	3180	3284	3311	3344	3501
SWEDEN	3016	3007	3022	3070	2961
SWITZERLAND	3447	3550	3559	3502	3574
UNITED KINGDOM	3199	3182	3136	3143	3186
USSR	3369	3377	3354	3365	3383
YUGOSLAVIA	3504	3531	3595	3560	3623
AUSTRALIA	3210	3155	3167	3205	3246
FIJI	2721	2648	2633	2702	2740
FRENCH POLYNESIA	2713	2741	2753	2772	2787
KIRIBATI	2708	2803	2860	2976	3025
NEW CALEDONIA	2836	2857	2835	2875	2854
NEW ZEALAND	3457	3355	3339	3312	3395
PAPUA NEW GUINEA	2223	2301	2327	2355	2428
SAMOA	2402	2460	2417	2418	2463
SOLOMON ISLANDS	2186	2193	2172	2160	2209
TONGA	2832	2869	2912	2963	2976
VANUATU	2556	2531	2529	2526	2556

17. ANNUAL AGRICULTURAL (BROAD DEFINITION) SHARES OF TOTAL OFFICIAL COMMITMENTS TO ALL SECTORS, BY MULTILATERAL AND BILATERAL SOURCES, 1981-1989

	1981	1982	1983	1984	1985	1986	1987	1988	1989 1)
	........................PERCENT								
TOTAL COMMITMENTS									
MULTILATERAL AGENCIES 2)	34	35	35	29	31	33	29	29	23
WORLD BANK 3)	32	32	38	27	28	32	22	24	23
REGIONAL DEVELOPMENT BANKS 3)	38	36	25	26	32	34	40	32	23
OPEC MULTILATERAL 3)	11	17	21	25	28	35	23	19	28
BILATERAL									
DAC/EEC	10	10	11	11	12	12	12	11	12
OPEC BILATERAL	..	..	..	..	..	..	..	..	..
ALL SOURCES	..	..	..	..	..	..	..	..	..
CONCESSIONAL COMMITMENTS ONLY									
MULTILATERAL AGENCIES 2)	54	49	48	47	55	42	55	52	..
WORLD BANK 3)	56	45	52	49	54	29	35	37	..
REGIONAL DEVELOPMENT BANKS 3)	61	56	38	33	51	51	63	65	..
OPEC MULTILATERAL 3)	16	30	26	47	65	45	73	21	..
BILATERAL	14	16	14	15	15	15	(15)	(16)	..
DAC/EEC	18	17	17	17	16	16	16	(16)	..
OPEC BILATERAL	4	12	4	6	5	6	4	6	..
ALL SOURCES	21	22	20	21	22	19	(20)	(21)	..

1) PRELIMINARY
2) INCLUDING UNDP, CGIAR, FAO(TF/TCP), IFAD
3) EXCLUDING COMMITMENTS TO CGIAR

SOURCE: FAO

18. PERCENTAGE DISTRIBUTION OF OFFICIAL COMMITMENTS TO AGRICULTURE (BROAD DEFINITION), BY MULTILATERAL AND BILATERAL SOURCES, 1981-1989

	1981	1982	1983	1984	1985	1986	1987	1988	1989 1)
	PERCENT								
TOTAL COMMITMENTS									
MULTILATERAL AGENCIES	60	59	63	55	59	61	53	46	49
WORLD BANK 2)	35	35	44	29	36	38	28	25	27
REGIONAL DEVELOPMENT BANKS 2)	17	15	11	17	15	15	18	15	14
OPEC MULTILATERAL 2)	1	2	2	3	2	3	2	1	2
OTHER 3)	6	7	6	6	6	5	5	5	6
BILATERAL	40	41	37	45	41	39	47	54	51
DAC/EEC	37	35	35	43	39	37	46	53	49
OPEC BILATERAL	3	6	2	2	2	2	1	1	2
ALL SOURCES (MULTILATERAL + BILATERAL)	100	100	100	100	100	100	100	100	100
CONCESSIONAL COMMITMENTS ONLY (ODA)									
MULTILATERAL AGENCIES	42	40	41	37	42	31	37	33	33
WORLD BANK 2)	21	20	18	19	24	11	14	14	13
REGIONAL DEVELOPMENT BANKS 2)	9	7	11	7	8	9	14	11	11
OPEC MULTILATERAL 2)	1	2	2	2	2	3	2	2	2
OTHER 3)	11	11	10	8	8	8	7	6	7
BILATERAL	58	60	59	63	58	69	63	67	67
DAC/EEC	54	51	56	60	56	66	62	66	64
OPEC BILATERAL	4	9	3	3	2	3	1	1	3
ALL SOURCES (MULTILATERAL + BILATERAL)	100	100	100	100	100	100	100	100	100

1) PRELIMINARY
2) EXCLUDING COMMITMENTS TO CGIAR
3) INCLUDING UNDP, CGIAR, FAO(TF/TCP), IFAD

SOURCE: FAO DATA BANK ON EXTERNAL ASSISTANCE TO AGRICULTURE

19. DAC COUNTRIES: BILATERAL ODA COMMITMENTS FROM INDIVIDUAL COUNTRIES AND PROPORTION TO AGRICULTURE (BROAD DEFINITION), 1984-1989

	BILATERAL ODA TO ALL SECTORS						PROPORTION TO AGRICULTURE					
	1984	1985	1986	1987	1988	1989 1)	1984	1985	1986	1987	1988	1989 1)
	US$ MILLIONS						PERCENT					
AUSTRALIA	694	532	532	527	927	478	10	9	13	13	6	8
AUSTRIA	79	60	126	147	341	408	1	3	5	3	5	1
BELGIUM	180	132	318	404	448	366	1	23	14	18	10	(10)
CANADA	1575	1172	1179	1644	1911	1875	22	24	24	19	20	13
DENMARK	288	340	480	416	642	492	38	33	29	38	31	32
FINLAND	171	233	276	222	413	616	13	11	19	41	37	21
FRANCE	4403	3756	4822	5493	6366	7172	10	10	12	10	10	7
GERMANY	2800	2427	3337	4303	4841	4560	14	15	18	13	18	9
IRELAND	13	17	25	27	22	19	..	..	8	7	14	14
ITALY	903	1178	2327	3135	3040	2309	20	17	16	21	21	20
JAPAN	3968	4076	4342	7343	12326	7870	19	25	18	13	19	21
NETHERLANDS	902	731	1299	1709	1809	1765	27	18	29	34	25	19
NEW ZELAND	41	47	34	51	78	89	15	26	15	10	8	8
NORWAY	350	346	548	514	313	427	35	23	20	20	16	26
SWEDEN	576	566	779	900	1078	1275	26	25	19	21	20	13
SWITZERLAND	218	307	329	462	519	509	22	32	27	26	29	23
UNITED KINGDOM	1009	731	1081	1441	1691	1738	14	14	17	9	9	3
UNITED STATES	8144	9157	8746	7412	7928	7368	14	11	11	13	11	10
TOTAL/DAC COUNTRIES	26314	25808	30580	36150	44693	39336	16	17	18	15	16	12

1) PRELIMINARY

SOURCE: FAO DATA BANK ON EXTERNAL ASSISTANCE TO AGRICULTURE

20. PERCENTAGE DISTRIBUTION OF OFFICIAL COMMITMENTS TO AGRICULTURE, BY PURPOSE, 1982-1989

	1982	1983	1984	1985	1986	1987	1988	1989 1)
	..........PERCENT..........							
LAND AND WATER DEVELOPMENT 2)	23	20	22	23	19	15	18	17
AGRICULTURAL SERVICES	12	15	16	11	19	16	14	19
SUPPLY OF INPUTS	6	6	7	4	3	7	5	2
CROP PRODUCTION	8	7	7	6	6	4	6	7
LIVESTOCK	1	2	2	3	2	2	5	4
FISHERY 3)	2	2	2	2	2	2	3	3
RESEARCH,EXTENSION,TRAINING 4)	5	6	9	7	7	8	3	2
FORESTRY	3	2	3	5	2	3	6	5
AGRIC. ADJUSTMENT AND UNALLOCATED	1	2	4	7	9	5	10	10
TOTAL NARROW DEFINITION	61	62	72	69	69	62	70	69
RURAL INFRASTRUCTURE	15	12	7	8	8	11	10	7
MANUFACTURE OF INPUTS 5)	4	1	5	2	5	2	7	6
AGRO INDUSTRIES	3	6	3	4	3	3	3	2
INTEGRATED RURAL AND REGIONAL DEV.	17	19	13	17	15	22	10	15
TOTAL BROAD DEFINITION	100	100	100	100	100	100	100	100

NOTE: THIS TABLE NOW INCLUDES FORESTRY IN THE NARROW DEFINITION

1) PRELIMINARY
2) INCLUDING RIVER DEVELOPMENT
3) INCLUDING INPUTS SUCH AS FISHING TRAWLERS,FISHING GEAR
4) INCLUDING COMMITMENTS TO CGIAR
5) MOSTLY FERTILIZERS

SOURCE:FAO DATA BANK ON EXTERNAL ASSISTANCE TO AGRICULTURE

21. DISTRIBUTION OF OFFICIAL COMMITMENTS TO AGRICULTURE (BROAD DEFINITION) FROM ALL SOURCES, BY REGION AND ECONOMIC GROUPS, 1982-1989

	1982	1983	1984	1985	1986	1987	1988	1989 1)
TOTAL COMMITMENTS				PERCENT				
FAR EAST AND PACIFIC	48	42	46	46	40	40	45	50
AFRICA	29	26	28	26	27	34	27	31
LATIN AMERICA	18	24	18	19	24	22	20	11
NEAR EAST	5	9	7	10	9	4	8	8
TOTAL FOUR DEVELOPING REGIONS	100	100	100	100	100	100	100	100
OF WHICH								
LOW-INCOME FOOD-DEFICIT COUNTRIES 2)	62	58	64	62	53	63	62	57
CONCESSIONAL COMMITMENTS								
FAR EAST AND PACIFIC	46	48	51	49	48	46	49	60
AFRICA	40	31	34	30	37	40	31	27
LATIN AMERICA	9	12	8	12	7	8	10	6
NEAR EAST	6	9	8	8	8	6	10	7
TOTAL FOUR DEVELOPING REGIONS	100	100	100	100	100	100	100	100
OF WHICH								
LOW-INCOME FOOD DEFICIT COUNTRIES 2)	69	68	68	67	58	68	68	64
NON-CONCESSIONAL COMMITMENTS								
FAR EAST AND PACIFIC	52	33	39	40	32	29	36	23
AFRICA	11	19	18	18	18	22	14	41
LATIN AMERICA	34	40	36	30	41	49	46	24
NEAR EAST	3	8	7	12	9	-	4	12
TOTAL FOUR DEVELOPING REGIONS	100	100	100	100	100	100	100	100
OF WHICH								
LOW-INCOME FOOD-DEFICIT COUNTRIES 2)	48	42	56	52	45	52	44	38

1) PRELIMINARY
2) 74 COUNTRIES DEFINED ACCORDING TO THEIR GNP PER HEAD IN 1988

SOURCE:FAO DATA BANK ON EXTERNAL ASSISTANCE TO AGRICULTURE

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