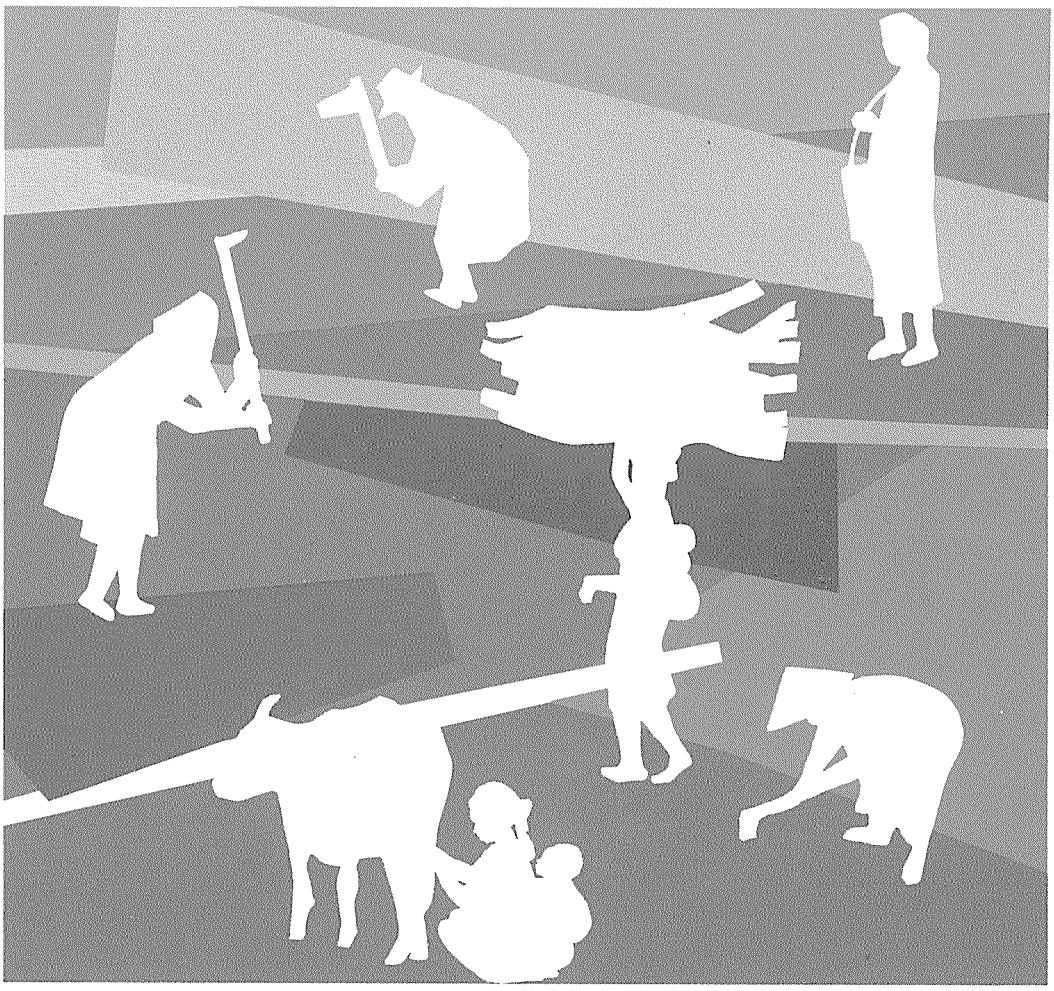
THE STATE OF FOOD AND AGRICULTURE



World review: the situation in Sub-Saharan Africa

Women in developing agriculture

1983

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
Some general problems of agricultural development in less developed countries in the light of postwar experience

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1972 Education and training for development
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1973 Agricultural employment in developing countries

1974 Population, food supply and agricultural development

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1976 Energy and agriculture

1977 The state of natural resources and the human environment for food and agriculture

1978 Problems and strategies in developing regions

1979 Forestry and rural development

1980 Marine fisheries in the new era of national jurisdiction

1981 Rural poverty in developing countries and means of poverty alleviation

1982 Livestock production: a world perspective

THE STATE OF FOOD AND AGRICULTURE 1983

the state of food and agriculture 1983

World review: the situation in Sub-Saharan Africa
Women in developing agriculture

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME 1984

The statistical material in this publication has been prepared from the information available to FAO up to May 1984.

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.

Chapter 2, Women in Developing Agriculture, was prepared by the Human Resources, Institutions and Agrarian Reform Division and the Policy Analysis Division of FAO.

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FOREWORD

The year 1983 witnessed some signs of economic revival after several years of deepening recession that has profoundly affected the daily lives of the many millions of people involved in food, agriculture and the rural economy.

More recently, the recovery appears to have gained momentum, but its extent, durability and effects on the economic wellbeing of developing countries remain uncertain. International interest rates continue to be at high levels, aggravating the debt burdens facing many developing countries--the total of their debt now exceeds $800 thousand million.

At the same time, protectionist measures have hindered these countries' efforts to expand their exports to service their debts. Recession has also led to a weakening of agricultural commodity prices in international markets, increased competition in trade in the few agricultural markets that are expanding, and a slackening in the flows of development assistance given under concessional terms.

Such problems have borne most heavily on the economically weaker nations. They have had to implement policies curtailing imports and introduce other austerity measures, notwithstanding their already low levels of current income, consumption and employment. The social effects have been all the greater.

The economic crisis has not spared the agricultural sector. In much of the world the effects of the recession have stalled rural economic development and forced even efficient farmers to reduce operations. They have made obtaining food an even greater daily struggle for millions of people, especially the landless and unemployed.

Moreover, in many parts of the world human conflicts and natural disasters, such as flooding, drought and pests, have underlined the vulnerability of disadvantaged inhabitants of rural areas to prolonged suffering and starvation.

In 1983, the paradox of an abundance of food prevailing concurrently with hunger was more evident than ever. Developed countries devoted much money and effort to reducing their surpluses of grain, dairy products and other farm products. Low-income, food-deficit countries were hard pressed to obtain the supplies needed to prevent hunger and malnutrition.

The situation in Africa has been of special concern to FAO. By early 1983, alerts from the FAO Global Information and Early Warning System and issued by FAO made it clear that the food situation in 24 Sub-Saharan countries had deteriorated to such an extent that extraordinary and immediate emergency assistance was required for both the supply of additional food aid and the provision of agricultural inputs for the rehabilitation of food production.

At the same time, FAO was not content with merely seeking palliatives. Member Countries increasingly expressed the need to address longer-run policy and adjustment requirements. Leaders in food-deficit countries became increasingly aware that, even without droughts and floods, hunger would still exist unless national policies provided production incentives and economic means to increase food supplies. In

food-surplus countries, consumers and taxpayers pressed for more effective, less costly ways to help farmers stabilize incomes and adjust to changing conditions.

The year 1983, however, was one in which continued international efforts and measures to liberalize trade and expand development assistance made little or no progress, although the issues of interdependence came increasingly to the fore at international discussions.

During 1983 several new initiatives were taken on medium and long-term issues. In particular, the new concept of world food security based upon production, stable supplies, and access to supplies received the support of the FAO Conference and the General Assembly as well as other intergovernmental bodies.

Another important initiative was the launching of a comprehensive FAO study of agricultural price policies, undertaken in response to the growing interest in the role of price incentives in agricultural development and food self-reliance. By the end of 1983, much information had been obtained which could provide a better understanding of agricultural price policies in developing countries and their impact on growth, consumption and equity, and act as a basis for recommendations in the eventual report to the FAO Conference.

Another initiative on long-term policies was undertaken as part of FAO's follow-up to the World Conference on Agrarian Reform and Rural Development. This was the production of the first of several planned reports on the progress and problems of disadvantaged rural persons, presented to the FAO Conference in November 1983. The document has specific country examples, identifying and analysing changing trends in various aspects of agrarian reform and rural development, such as access to land, people's participation, international economic relations and the alleviation of poverty, which has been emphasized in the WCARRD Programme of Action.

As regards the special topics in The State of Food and Agriculture, the extended section on Sub-Saharan Africa in the World Review chapter suggests that a useful departure point for examining food issues in this region is the identification of the types of foods that local people have been traditionally producing and consuming. These patterns are, however, rapidly changing because of urbanization and growing tastes for imported, more convenient foods. Attention is called to the wide variations in the potential of land resources to provide national populations with food, and the importance of reinforcing extension, credit and other programmes that reach the people, with appropriate policies related to prices, trade, finance, technology, land and area development, is emphasized.

The World Review chapter also highlights some questions emerging in other regions: signs of possible slower gains in agricultural productivity in parts of Asia ... the high public costs of some efforts in the Near East to become less dependent on food imports ... the growth of agricultural imports relative to exports in Latin America and the doubtful ability of intraregional trade to improve substantially the situation ... the price-cost pressures that confront many small farmers in Europe and North America and the rising social costs of providing them with income protection.

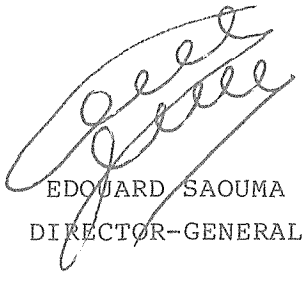
This year the section on the flows of financial resources to agriculture includes new information about the actual disbursements of development assistance and how they lag several years behind official commitments. It also presents results of an FAO survey of 1978-82 domestic public expenditure patterns in 57 developing countries. The

overall picture--one that is a cause for anxiety--is that neither international nor domestic flows of funds for agricultural development are keeping pace with needs. Monitoring what is happening, helping to mobilize agricultural development funds and encouraging effective utilization of those funds will be high on the agenda of FAO concerns in coming years.

The special chapter on 'Women in Developing Agriculture' is a manifestation of FAO's wider endeavours to call attention to the particular problems of women on farms and in rural areas, as well as their important contributions to food production and marketing, and to rural entrepreneurship.

The chapter, however, can provide only a glimpse of the involvement of women in agriculture, the difficulties and inequities they often encounter, the effects of agricultural modernization on the condition of women and the need for development projects which reach them. But it is hoped that the chapter will be a useful step towards creating wider awareness of, and giving more attention to, the vital contribution of women to the future of the world's food and agriculture.

In conclusion, one of the enduring and important roles of FAO is to provide information about the natural events, economic and technological changes and human actions that have bearing on world agricultural productivity, food security and rural welfare. The State of Food and Agriculture is a major instrument for this purpose and thus for contributing to FAO's overall endeavours to promote economic and social progress through agricultural and rural development.



EDOUARD SAOUMA
DIRECTOR-GENERAL

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Glossary of abbreviations and terms

ABEDA - Arab Bank for Economic Development In Africa
ACPE - Asian Centrally Planned Economies
ADF - African Development Fund
AFDB - African Development Bank
AFESD - Arab Fund for Economic and Social Development
AFRACA - African Regional Credit Association
ASDB - Asian Development Bank
CAP - Common Agricultural Policy (of EEC)
CCG - Cooperation Council of the Arab Gulf States
CECAF - Committee for the East Central Atlantic Fisheries
CFA - Committee on Food Aid Policies and Programmes
CFS - Committee on World Food Security
CGIAR - Consultative Group on International Agricultural Research
cif - cost, insurance and freight
CPI - consumer price index
DAC - Development Assistance Committee (OECD)
DES - dietary energy supplies
ECA - Economic Commission for Africa
ECE - Economic Commission for Europe
EEC - European Economic Community
EEZ - exclusive economic zone
FAC - Food Aid Convention
fob - free on board
GATT - General Agreement on Tariffs and Trade
GDP - Gross Domestic Product
GNP - Gross National Product
HYV - high yielding variety
IBAR - Inter-African Bureau for Animal Resources
ICARA - International Conference on Assistance to Refugees in Africa
IBRD - International Bank for Reconstruction and Development
IDA - International Development Association
IDB - Inter-American Development Bank
IEFR - International Emergency Food Reserve
IFAD - International Fund for Agricultural Development
IIASA - International Institute for Applied Systems Analysis
IITA - International Institute for Tropical Agriculture
ILO - International Labour Organization
IMF - International Monetary Fund

INFOFISH - Marketing Information and Advisory Service for Fish Products in the Asian Pacific Region
INFOPESCA - Marketing Information Service for Fish Products in Latin America
INSTRAW - International Research and Training Institute for the Advancement of Women
IPC - Integrated Programme for Commodities
ISDB - Islamic Development Bank
JP15 - Joint Project 15 (rinderpest control)
LDC - Least Development Countries
MCS - monitoring, control and surveillance
NGO - non-governmental organization
OAU - Organization of African Unity
OCA - Official Commitments of External Assistance to Agriculture
ODA - Official Development Assistance
OECD - Organization for Economic Cooperation and Development
OPEC - Organization of Petroleum Exporting Countries
OFID - OPEC Fund for International Development
PIK - Payment-in-Kind Programme (of USA)
PPSC - potential population supporting capacity of land
RLAT - Regional Office for Latin America (FAO)
SIDA - Swedish International Development Authority
SAM - Sistema Alimentario Mexicano
SNPA - Substantial New Programme of Action (for LDC)
SOFA - State of Food and Agriculture
TCP - Technical Cooperation Programme (FAO)
UN - United Nations
UNCTAD - UN Conference on Trade and Development
UNDP - UN Development Programme
UNFPA - UN Fund for Population Activities
UNRISD - UN Research Institute for Social Development
WB - World Bank
WCARRD - World Conference on Agrarian Reform and Rural Development
WFP - World Food Programme

Explanatory note

The following symbols are used in statistical tables:

\- none, or negligible
... not available

"1980/81" signifies a crop, marketing or fiscal year running from one calendar year to the next; "1979-81" signifies the average for three calendar years.

Figures in statistical tables may not add up because of rounding. Annual changes and rates of change and, where applicable, exponential trends have been calculated from unrounded figures. Unless otherwise indicated, the metric system is used throughout. The dollar sign ($) refers to United States dollars.

PRODUCTION INDEX NUMBERS 1/

In 1983, the FAO index numbers were updated to a new base period (1974-76). The production data refer to primary commodities (for example, sugar cane and sugar beet instead of sugar) and national average producer prices are used as weights. The indices 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.

TRADE INDEX NUMBERS 2/

In 1983, also the indices of trade in agricultural products were updated to a new base period (1974-76). They include all the commodities and countries shown in the 1982 issue of the FAO Trade Yearbook. Indices of total food products include those edible products generally classified as "food".

All indices represent the changes in the current values of export (f.o.b.) and imports (c.i.f.), all expressed in US dollars. If some countries report imports valued at f.o.b., these are adjusted to approximate c.i.f. 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 indices 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 1974-76, which is the new 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.

1/ For full details, see FAO production Yearbook 1982, Rome, 1983.
2/ For full details, see FAO Trade Yearbook 1982, Rome, 1983.

REGIONAL COVERAGE

The regional grouping used in this publication follows the "FAO country classification for statistical purposes". The coverage of the groupings is in most cases self-explanatory. The term "developed countries" is used to cover both the developed market economies and the centrally planned economies of Eastern Europe and the USSR, and "developing countries" to cover both the developing market economies and the Asian centrally planned economies. Israel, Japan and South Africa are included in the totals for "developed market economies". Western Europe includes Yugoslavia, and the Near East is defined as extending from Cyprus and Turkey in the northwest to Afghanistan in the east, and including from the African continent Egypt, Libya and the Sudan. Totals for developed and developing market economies include countries not elsewhere specified by region.

CHAPTER 1 WORLD REVIEW

INTRODUCTION

Two contrasting features characterize the current world food and agricultural situation. On the one hand, overall agricultural supplies have remained ample and unmarketable production is burdening the budgets of several industrial countries. On the other hand, food shortages and emergency situations have proliferated in the developing world. These problems reflect the inability of many countries to overcome structural constraints to food production; the difficulties in securing access to supplies in international markets; and the occurrence of severe droughts, floods and other natural disasters in areas already suffering from long-term declines in food availability. All these latter problems have been apparent, to a particularly severe degree, in many African countries.

The World Review chapter reminds us that, even in these days, weather remains a major determinant in the state of food and agriculture. But the events of 1983 underline the equally profound effects of past and recent policy measures at national and international levels. In a number of cases policy action has been at the base of some remarkable achievements in redressing problems of extreme hunger and malnutrition. However, the broad picture remains that of a profound mismatching of needs and resources between high and low income countries; a failure by the international community to take advantage of the current period of large supplies to consolidate world food security; the disappointing results of policy efforts to strengthen the production capacity of developing countries and to improve trade regulations and external aid.

The world food and agricultural situation is influenced also by the world economic environment through the linkages of world demand for and supply of agricultural products as well as inputs needed for agricultural activities. This influence was perceived in 1983 by many developing countries in the form of depressed export earnings, growing indebtedness and other setbacks related to the recession. Hence, special attention is given here to the economic and policy settings in the current period of transition from global recession to renewed economic growth.

The Economic Setting

The world economy in 1983 showed signs of recovery from the prolonged economic recession. Economic growth in the OECD countries was about 3½% over the year, better than had been forecast and in contrast to the decline of 0.3% in 1982. There were also signs of some improvement in the economic activity of developing countries. Their growth may have increased by 2-3% in 1983 compared with the 1-2% increase in 1982. However, there was still little, if any, increase in per caput terms. For the oil-producing developing countries, weak demand for petroleum continued to depress incomes and investments throughout 1983, though not to the extent endured in 1982. Prospects for these oil-producers seem somewhat brighter in 1984 and the outlook for subsequent years is that of renewed strength in the international demand for petroleum products.

Other economic indicators also underline the climate of recovery although, in some cases, they remain at unsatisfactory levels and cast doubts on the strength and durability of the recovery. Unemployment in

the OECD countries seems to be stabilizing but, at about 9% of the labour force, this represents more than 30 million people out of work. Although estimates for developing countries are much less firm, available information indicates that unemployment is more serious than in developed countries.

One welcome change in the developed market economies has been the slower pace of inflation. At 5%, the average annual inflation rate of OECD countries in 1983 was less than half that of the three previous years. However, in many developing countries, inflation appears to have worsened, undermining efforts to improve economic performance.

Nominal interest rates have not fallen in line with inflation. Real rates (the difference between actual interest and inflation rates) have continued to be high at about 6% (the range is 3-7%) compared with 'normal' real rates of about 2%. Indeed occasionally during the 1970s and 1960s, real interest rates were negative. One result of high interest rates has been the increasing debt burden for countries that made larger borrowings during the 1970s at floating rates of interest. The accumulated debt of developing and Eastern European countries approached $750 000 million in 1983. International lending by western banks grew by 25% per annum between 1973 and 1981. Many countries could not service their debt (for some it was absorbing 50% of their export earnings by the early 1980s) and twenty-five countries had to renegotiate their borrowing terms for at least part of their debt. Close to $100 000 million had to be rescheduled.

These events had an adverse effect on many people in agriculture. Aggregate domestic demand in the industrialized countries, including that for food and agricultural products, fell by ½% in 1982, having fallen by nearly 2.5% in 1981. Not only did the world prices of agricultural commodities fall in 1982 (the UN index of export prices of agricultural products shows a decline of over 15% between the average for 1981 and the last quarter of 1982), but the volume of agricultural exports also declined, by about 1%. The decline in their value was over 8% compared with average annual increases during the 1970s of about 14%.

The forestry sector, which is more highly dependent on trade, has continued to reflect the recessionary conditions of the world economy. The production of some processed wood products has declined to its lowest level for several years. However, the revival in economic activity from late 1982 and through 1983, particularly the construction industry in the USA, may restore more buoyancy to the sector.

It appears that though world trade is now picking up, fuelled by the estimated 2% increase in demand of the industrialized countries in 1983, the effect on the agricultural exports of developing counries cannot yet be accurately assessed. The economic squeeze appears to have led to a more efficient use of industrial inputs such as agricultural raw materials, as well as petroleum, resulting in both reduced levels of demand and prices. Although there was a significant recovery in the world prices of some agricultural commodities in 1983, it does not seem likely that agricultural commodity prices will continue to advance through 1984.

The economic conditions of the early 1980s have been inimical to the financing of economic and agricultural development. Financial market uncertainties, as well as interest rate patterns, have made it difficult for low income countries to attract funds from commercial sources. At the same time, official assistance through bilateral and multilateral channels has tended to stagnate and be offered on stiffer terms. Multilateral programmes have encountered obstacles in securing replenishment funds. For instance, at the end of 1983 it appeared that only about 65% of the amount proposed to replenish the International Development Association (IDA) for

the 1984-86 period would be forthcoming. Such reductions in the pace of development funding have not shown up immediately at project levels because of the inertia of previous assistance flows.1/ But for the same reason, the recent cutbacks in new commitments can be expected to begin having serious repercussions on project funding in the near future.

These difficulties were also reflected in other areas of international negotiations during 1983. As the climate was not propitious for launching the global negotiations, additional emphasis was placed on the negotiating positions taken up at UNCTAD VI that took place in June. The Non-Aligned Countries and the Group of 77 held pre-UNCTAD discussions centred mainly on the areas of restoring economic growth, and trade and financial problems. Little progress was achieved. Neither were sufficient signatories gathered for the Common Fund for Commodities to enter into force on 30 September 1983, the deadline set.

More progress was seen within the forum of GATT where the Committee on Trade in Agriculture, established by the GATT Ministerial Meeting in late 1982, began substantive work examining tariff and non-tariff barriers against agricultural imports and forms of export assistance.

The combined effect of the decline in export earnings of developing countries and the difficulties they are experiencing in borrowing from international capital markets slowed down their investments in the infrastructure and production sectors. This has not only had a negative effect on their present output, but could also reduce their capacity to respond to the possible future increase in world demand for their agricultural products induced by recovery in developed countries.

The Effects of Policies

Policy actions had an important influence on these developments in agricultural production and trade. Government decisions to conserve foreign exchange by curtailing imports underlay the sharp reduction in agricultural imports in 1982. For example, the imports of agricultural products (crops and livestock) by Latin American countries decreased in 1982 by nearly 20%. This compares with an average annual increase of 16% during the 1970s and early 1980s. The decline in Eastern Europe and the USSR was also considerable at nearly 30%.

Agricultural policies also influenced the supply side of agriculture. The most significant of these was the Payment-in-Kind (PIK) programme adopted by the USA administration in 1983 to reinforce its acreage reduction measures begun the previous year. The overall objective was to reduce the production of commodities in the USA considered to be in excess supply, particularly coarse grains. These measures, combined with a prolonged drought, led to coarse grain production in the USA plunging by nearly 50% in 1983.

The effects on agricultural supplies of some policy measures in the EEC are less easy to quantify. As discussed later in this chapter, the members of the EEC, through their Common Agricultural Policy (CAP), attempted to correct the downward trend in farm incomes apparent during the late 1970s and early 1980s. Quite sharp increases in producer prices were announced in 1981 and 1982, resulting in increases in production levels, especially those of livestock products. These additional supplies, confronting rather weak demand, caused stocks to rise to high levels, especially in the case of dairy products. Pressure mounted for agricultural

1/ FAO analysis indicates that about four years elapse after a typical loan commitment is made before one-half of it is disbursed, and seven or eight years before disbursal approaches 90%.

export markets to become increasingly competitive while additional protectionist measures involving the greater use of export subsidies were adopted to preserve domestic markets.

The world catch of fish continued to increase in 1982 from its 1977 low, when the combined effects of resource limitations on some major fishery stocks and the general introduction of the new Law of the Sea engendered major shifts in policies that affected access to fishery stocks. However, most of the increase in the catch of fish in 1982 was in species for reduction to processed meal. There was only a modest increase in the catch of food fish.

Weather Conditions in 1983

The weather in 1983 played an especially capricious role in determining the global state of food and agriculture. It brought drought to the corn belt of the USA and to southern Africa. It also brought erratic rains to North and West Africa while, at the same time, bringing excessive rains to areas in Latin America under the influence of the El Niño current of the western Pacific, particularly strong and long-lasting in 1983. At the same time the monsoon was favourable over much of Asia, and in Australia the drought of the previous two years was relieved. Conditions were reasonably favourable for crop production in the USSR.

The net effect of weak markets, government policies and the weather was to reduce food and agricultural production in 1983 by nearly 1%, the first decline since 1972. Cereal stocks were still large at the end of 1983, but it is expected that they will be reduced in 1984. Food emergencies, particularly in Africa, continue to excite concern. The number of countries experiencing abnormal food shortages increased significantly in 1983. In view of the particularly disturbing food situation in Africa, a special FAO/WFP task force was formed in April 1983 to monitor food production and supplies in what has become a group of 24 African countries. Appeals for emergency aid have been mounting and as of early 1984 pledges had been made covering about two-thirds of the estimated 1983-84 food aid requirements for these countries.

DEVELOPMENTS IN FOOD SECURITY

Dietary Energy Supplies

The battle against hunger and malnutrition is a protracted and difficult one, particularly in low-income, food-deficit countries. However, some welcome progress in increasing the dietary energy supply (DES) was achieved in the late 1970s and early 1980s even though it was regionally uneven. By the beginning of the 1980s something of a milestone was achieved when developing countries as a group attained an average per caput dietary energy supply that exceeded their theoretical requirement (Table 1-1).

Particularly important for improving food security at both world and household levels have been the increased supplies of food in the two most populous regions, the Far East and the Asian centrally planned economies (ACPE) 2/, though the Far East still remains below the dietary requirement

2/ See Explanatory Notes for a definition of the regional groups and the names of countries they contain. The Annex Tables also contain the regional groups by country.

on average. On the other hand, the situation in Africa remains precarious despite some recent improvement and that of the least developed countries (LDCs) which contain 26 of the low-income African countries, has actually deteriorated. Of the 32 LDCs for which data are available (of a total of 36), between 1969-71 and 1979-81 the dietary energy supply as a percentage of the requirement actually fell in 15 and remained unchanged in four of them (and increased in the remaining 13 LDCs covered), while the overall average worsened by 3%.

TABLE 1-1. PER CAPUT DIETARY ENERGY SUPPLY AS PERCENT OF REQUIREMENTS 1969-71, 1974-76 AND 1979-81

Country Group	1969-71	1974-76	1979-81
	..... %		
Developing market economies	94.7	95.4	101.4
Africa	93.1	92.9	95.6
Far East	91.5	90.7	97.7
Latin America	105.3	106.8	110.8
Near East	98.4	107.8	116.3
Other developing market economies	96.2	97.1	101.5
Asian centrally planned economies	88.9	92.9	102.6
Total developing countries	92.7	94.6	101.8
Least developed countries	88.7	84.6	85.9
Total developed countries	128.1	130.0	132.1
World	103.8	105.0	110.1

Source: FAO, Statistics Division.

While it is not yet possible to assess accurately the dietary energy supply situation in 1982 on a regional basis, some broad conclusions may be drawn from estimates of changes in per caput food production and of the effects of food imports and exports (Table 1-2).

In Africa per caput food production increased a little in 1982 while per caput food imports grew rather slowly mainly because of increasing balance of payments difficulties. In recent years a small improvement in the overall dietary energy supply may have taken place in Africa as a whole, but this does not appear to be the case in the countries of southern Africa affected by drought.

The developing market economies of the Far East suffered a setback in 1982 in terms of per caput food production after the large increase achieved in 1981. Food imports increased but these do not normally play a major role in overall supplies in the region which in recent years, has been a net exporter of rice. It seems that at best dietary energy supplies stabilized in 1982 through the use of reserve food stocks.

In the Near East region per caput food production and food imports declined in 1982 although the average nutritional level probably remained adequate.

Continued progress appears to have been made in Latin America and in the Asian centrally planned economies, particularly China, which achieved significant increases in food production. These, combined with larger food imports, have meant a satisfactory food supply for China.

The dimensions of hunger and undernutrition, as well as their main determinants, are being analysed in greater depth through work on the Fifth World Food Survey, which will be published by FAO in 1985.

TABLE 1-2. PER CAPUT DIETARY ENERGY SUPPLY AS PERCENT OF REQUIREMENTS IN 1981 AND ANNUAL CHANGES IN PER CAPUT FOOD PRODUCTION AND VOLUME OF FOOD IMPORTS AND EXPORTS, DEVELOPING COUNTRY GROUPS, 1980 TO 1981 AND 1981 TO 1982

Country Group	1981 per caput dietary energy supply as % of requirement	Change in per caput: Food production 1980 to 1981	Food production 1981 to 1982	Volume of food imports 1980 to 1981	Volume of food imports 1981 to 1982	Volume of food exports 1980 to 1981	Volume of food exports 1981 to 1982
		%					
Africa	96.1	-2.0	0.6	4.3	1.7	-3.3	-2.7
Far East	98.9	4.1	-2.8	-14.0	38.1	-5.1	0.4
Latin America	111.8	1.7	1.0	-7.6	17.0	10.3	-5.7
Near East	119.4	-	-0.9	11.4	-0.4	27.1	9.8
Asian centrally planned economies	103.6	1.6	5.5	4.6	8.7	-15.6	-5.2
Total developing countries	103.0	1.8	1.0	3.3	-3.5	6.0	-0.2

Source: FAO, Statistics Division.

Food Emergency Situations

At the close of 1983, 35 countries were reported to be suffering from abnormal food shortages, 24 of them in Africa. This was a significant increase compared with the same time in 1982 for which the corresponding figures were 16 and 10, respectively. As unfavourable crop conditions also affected a similar number of countries, it seems likely that with the prospects of diminished food crops in these countries, the number of food emergency situations will remain relatively large into 1984.

The wide incidence of food shortages in Sub-Saharan Africa was a major preoccupation during 1983. Drought persisted for the second consecutive year in southern Africa and the June harvest of coarse grains was extremely low except in Malawi. Some governments issued appeals for international assistance and took relief measures for the population and livestock. Heavy rains fell on parts of southern Africa in early 1984, resulting in devastating floods. The total rainfall is again below normal, however, portending a third year of poor crops in the sub-region.

In 1983, critical food supply situations also developed in parts of West Africa, particularly in Chad and Ghana. This was aggravated by a capricious start to the seasonal rains, especially in countries bordering the Gulf of Guinea, bush fires in some countries (see the section on Forestry) and widespread outbreaks of rinderpest. Adverse weather also affected crop production in parts of North Africa and the seasonal rains in West Africa and the Sahel were late and erratic. The flows of some major rivers in the region of vital importance to local communities, particularly the Senegal and Niger rivers, were at very low levels. These features worsened food crop prospects in several countries including Ghana, Mali, Mauritania and Senegal.

In view of the deteriorating food supply situation over much of Africa, the Director-General of FAO established a task force in April 1983 to review and monitor the food production and supply situation in African countries affected by natural and man-made disasters in 1982-83. A continuing review of the situation by this task force showed that food supplies had further deteriorated since April 1983 in 24 countries because of

production shortfalls in main food crops and livestock. 3/ Another poor crop threatened five Sahelian countries already suffering from food shortages because of the poor harvest of 1982. Even if the adverse conditions of 1982/83 do not continue and agricultural production recovers--an uncertain prospect--substantial amounts of international support are still required to cover the exceptionally large food aid needs of affected countries and to help them restore their agricultural sectors. This support includes efforts to improve critical livestock husbandry and animal health situations. Assistance is required also to implement post-emergency and preparedness measures, including the building of food stocks, to reduce the risks of similar emergencies in the future. The task force estimated the need for immediate and exceptional assistance, other than food aid, at $76 million. Total food aid needs were estimated to be 3.2 million tons.

In view of the gravity of the situation and the additional assistance required, FAO organized a special meeting of representatives of bilateral and multilateral donors and the governments of affected countries in the third week of October 1983 to assess the position and consider remedial action. A further appeal was made during the biennial Conference of FAO Member Countries in November. The Conference adopted a resolution on the critical situation of food and agriculture in Africa. It noted with grave concern the deteriorating situation, particularly in those countries currently facing food emergencies, and stressed the need to intensify efforts to speed up the physical delivery of food aid. It also drew attention to the need to rehabilitate the agricultural sector in affected countries through the provision of inputs such as seeds, fertilizers and veterinary vaccines.

Current Food Production

Food production in 1983

Global food production suffered a setback in 1983 (Table 1-3). Having grown at rates of about 3% in each of the two preceding years, world food production appears to have declined by 0.5-1.0%.

This setback can be attributed mostly to a massive decline (of over 18%) in North America, especially in the USA, but also to a smaller decline (of nearly 2%) in Western Europe. On the other hand, food production recovered from the effects of drought in Australia and progress was maintained in the USSR.

The decline in production in the USA was particularly striking: crop production was estimated to be down by 30% and cereal production by nearly 40%. Maize production was the lowest since 1970 and the maize area harvested was the lowest in more than 100 years. The harvested area of sorghum was also the lowest since the mid-1950s. Area-reduction programmes, which include the PIK programme, accounted for an important part of these major declines in production. The effects of the drought in corn-growing states were also significant.

3/ Angola, Benin, Botswana, Cape Verde, the Central African Republic, Chad, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Lesotho, Mali, Mauritania, Mozambique, Sao Tomē and Principe, Senegal, Somalia, Swaziland, Tanzania, Togo, Upper Volta, Zambia and Zimbabwe.

EMERGENCY FOOD AID AND IEFR

The increasing role of the International Emergency Food Reserve (IEFR), established in 1975 to meet the rising costs of food emergencies, is clear from the table below. In 1979 contributions to IEFR amounted to only 237 thousand tons of cereals, well below its annual target of 500 thousand tons. As a consequence, more than $64 million had to be taken from WFP's regular resources of food aid (which amounted to about $460 million in that year) to cover WFP emergency operations.

This allocation greatly exceeded the planned annual figure of $45 million. Since then, rising contributions to IEFR have enabled it to cover a larger share of the costs of emergency operations. Contributions to the IEFR for 1983 amounted to over 501 thousand tons of cereals (459 thousand tons in 1982) and nearly 35 thousand tons of other food products (more than 51 thousand tons in 1982).

WFP EMERGENCY OPERATIONS APPROVED ANNUALLY, 1979 TO 1983 a/

Year	No. of operations	No. of countries	WFP regular resources	ICARA b/	IEFR	Total
			.....million $.....			
1979	67	40	64.4	-	58.1	122.5
1980	62	26	42.8	-	148.7	191.5
1981	53	30	44.4	1.0	132.9	178.3
1982	68	37	19.7	1.3	172.2	193.2
1983 c/	68	36	45.0	-	155.3	200.3

a/ Commitments as approved at the end of each year, including insurance funds.
b/ International Conference on Assistance to Refugees in Africa.
c/ As of mid-January 1984.

Source: Annual Reports of the Executive Director on the Developmment of the Emergency Programme, 1981 (WFP/CFA: 13/4, March 1982) and 1982 (WFP/CFA: 15/4, April 1983); and WFP, Resource Management Division.

Fortunately food production in developing countries increased overall in 1983, although the gain of 2.6% was below the 16-year average and only marginally exceeded population growth. The main setback was in Latin America, where food production declined. In Africa the moderate production gains of 1982 did not continue in 1983 mainly because of a severe drought in southern Africa and in some countries in North and West Africa, discussed above. The increase in food production in 1983 also slowed in the Near East and China although China had a very successful year in 1982.

A point of concern is that per caput food production declined in three developing country regions in 1983: Africa, Latin America and the Near East. However, food production in the Far East recovered well in 1983 from the decline of the previous year; an increase of 6-7% exceeded the increase achieved in 1981, a record year. Particularly favourable crops of rice and wheat were obtained or expected in India and also in Bangladesh.

Despite increased cereal production in developing countries, the significant output declines of some major exporting countries caused world cereal production to fall by over 4% (or by 75 million tons, including rice as paddy) in 1983. All of this decline was in coarse grains, world production of which was 13% lower than in 1982.

Other food crops were affected by the supply-control and weather factors of 1983. For example, the world production of oil-bearing crops declined by almost 8% in terms of oil equivalent. On the other hand, livestock production, especially cow milk, increased at a faster rate in 1983 than in the previous year, particularly in North America and the USSR.

TABLE 1-3. FAO INDEX NUMBERS OF FOOD (CROPS AND LIVESTOCK) AND PER CAPUT FOOD PRODUCTION, COUNTRY GROUPS AND WORLD, 1981, 1982 AND 1983

Country Group	1981	1982	1983	Change 1981 to 1982	Change 1982 to 1983	Annual rate of change 1968 to 1983	Annual rate of change 1979 to 1983
	..1974-76=100..			..... %			
FOOD PRODUCTION							
Developing market economies	120	122	126	1.5	2.8	3.0	2.9
Africa	111	115	115	3.7	0.2	1.8	2.1
Far East	125	124	132	-0.7	6.6	3.2	3.7
Latin America	123	127	126	3.4	-0.5	3.4	2.7
Near East	117	120	121	1.9	1.4	3.2	2.0
Asian centrally planned economies	121	130	132	6.9	2.1	3.5	3.5
Total developing countries	121	124	128	3.1	2.6	3.1	3.1
Developed market economies	114	116	107	1.8	-7.5	1.8	0.6
North America	125	125	102	0.5	-18.5	2.4	-1.4
Oceania	114	102	120	-10.8	17.7	2.2	0.4
Western Europe	110	114	112	4.1	-1.7	1.7	1.1
Eastern Europe and the USSR	101	105	110	4.2	4.7	1.4	1.5
Total developed countries	109	112	108	2.6	-3.3	1.7	0.6
World	111	117	116	2.8	-0.7	2.3	1.7
PER CAPUT FOOD PRODUCTION							
Developing market economies	104	103	104	-0.9	0.4	0.5	0.5
Africa	93	93	90	0.6	-2.9	-1.1	-0.9
Far East	110	107	111	-2.8	4.4	1.0	1.5
Latin America	106	107	104	1.0	-2.9	0.9	0.3
Near East	99	98	97	-0.9	-1.4	0.3	-0.8
Asian centrally planned economies	111	117	118	5.5	0.7	1.7	2.1
Total developing countries	107	108	108	1.0	0.5	0.9	1.0
Total developed countries	104	106	102	1.9	-4.0	0.8	-0.1
World	103	104	102	1.1	-2.3	0.5	-
Low-income countries with per caput GNP up to $410/1982	107	109	111	1.4	2.4	0.9	1.6
Developing countries other than low income	104	104	102	0.3	-1.9	0.7	0.1
Least developed countries	99	97	97	-1.7	0.2	-0.6	-0.4
Developing oil exporters	104	102	102	-2.3	0.8	0.3	0.3
Developing non-oil exporters	107	108	109	1.4	0.5	1.0	1.1

Source: FAO, Statistics Division.

A longer-term perspective

The small (less than 1%) decline in global food production in 1983 nevertheless was the first decline since 1972. Although data for earlier years are not strictly comparable, it appears that it was only the second absolute decline since the second world war. However, 1983 followed two years of better-than-average growth in food production and so food stocks, particularly cereal carryovers, remained at historically high levels during this year.

Per caput food production performances since the mid-1970s have shown wide variations according to regions and income groups. Although food production in Africa increased by 15% during this period, in per caput terms it actually declined by 10%. A similar situation is found in the Near East, where food production rose by 21% but declined by 3% in per caput terms during the same period. On the other hand, notable increases of 11% to 18%, depending on regional groupings, were achieved in Asia. A moderate improvement in per caput food output was also recorded in Latin America.

Low-income countries achieved a higher growth in per caput food production than both higher income developing countries and LDCs (Table 1-3). The apparent discrepancy between the performances of low income countries and LDCs is explained at least partly by the heavy weight of a populous country like India which is a low income country but not an LDC.

Since the mid-1970s, food production has increased by less than 10% in developed countries and this has resulted in a per caput increase of only 2%.

Outlook for Food Supplies in 1984

As total world cereal production fell sharply in 1983, world cereal stocks are expected also to be smaller by the end of countries' 1983/84 seasons. The anticipated reduction of nearly 68 million tons would bring total stocks down to 255 million tons. These stocks would be equivalent to only 16% of forecast utilization in 1984/85, in comparison with the 21% figure estimated for 1982/83 (Table 1-4).

However, virtually all of the decline in world cereal stocks would be in coarse grains and mainly in the USA. Carryovers in some other countries, such as the USSR and India, are expected to rise. The commodity composition of stocks at the close of 1983/84 is expected to be as follows:

- wheat, 130 million tons, 8% more than the year's beginning stocks
- coarse grains, 83 million tons, a decrease of 48%
- rice, 42 million tons, a decrease of 3%

Although total cereal stocks will be sharply reduced, it is not an immediate cause for alarm because they are sufficient to cover forecast domestic and import needs in 1983/84 and are more evenly distributed among commodities and countries. Exporters and importers will hold 47% and 53%, respectively, compared with 62% and 34% in 1982/83. However, the situation for 1984/85 regarding cereal supplies will depend much more than anticipated on the size of cereal crops to be harvested in 1984.

World imports of cereals in 1983/84 (July/June, but calendar 1984 for rice) are now forecast to be 197 million tons, 3 million tons above the 1982/83 level of imports but 16 million tons less than in 1981/82. The decline of the last two years has been much sharper than the previous one of 1976/77.

TABLE 1-4. STOCKS OF CEREALS, ESTIMATED TOTAL CARRYOVERS, a/ 1981 TO 1984

	Crop year ending in: 1981	1982	1983 b/	1984 c/
	..... million metric tons			
BY REGION				
Developed countries	135.3	176.1	216.6	147.3
of which:				
USA	62.2	101.8	142.4	64.1
Canada	14.0	16.3	18.4	15.5
EEC d/	15.9	13.8	18.2	15.4
USSR e/	14.0	14.0	14.0	24.0
Japan	8.8	7.4	5.7	5.4
Australia	2.7	3.1	1.0	7.1
Developing countries	101.9	102.7	105.0	112.7
of which:				
Africa	3.4	4.5	4.4	3.4
Far East	76.1	76.3	79.5	92.0
China	48.1	45.9	49.8	53.8
India	7.4	7.5	8.5	14.5
Korea, Republic of	2.4	2.3	2.3	2.3
Latin America	12.0	10.5	11.0	8.2
Argentina	1.0	1.6	2.3	1.3
Brazil	3.8	2.6	3.6	1.6
Near East	10.4	11.5	10.2	9.0
Turkey	0.6	0.6	0.6	0.6
BY CEREAL				
World total cereals	237.3	278.8	321.6	260.0
of which:				
Wheat	97.9	102.8	119.3	134.0
Coarse grains	95.7	132.2	159.6	84.5
Rice (milled basis)	43.7	43.9	42.7	41.5
	..... %			
World stocks as % of consumption	16	18	21	16

a/ Stock data are based on an aggregate of national carryover levels at the end of national crop years and should not be construed as representing world stock levels at a fixed point of time.

b/ Estimate. c/ Forecast. d/ Ten member countries. e/ FAO estimates.

Source: FAO, Commodities and Trade Division.

Cereal imports for 1983/84 are expected to be as follows (Fig. 1-1 for wheat and coarse grains):

- wheat, 97 million tons, about the same as in 1982/83;
- coarse grains, 88 million tons, about 2 million tons less than 1982/83 but 14 million tons less than in 1981/82 because of reduced requirements for feeding livestock in developed countries;
- rice, 12 million tons, no change from 1983 and 1 million tons less than in 1982.

Imports of wheat by developing countries in 1983/84 are expected to increase by 2 million to 62 million tons, with smaller shipments to India and China being more than offset by larger imports by southern and northern Africa and by Central America. Wheat imports by developed countries are expected to be slightly lower in 1983/84 owing to expected smaller purchases by the USSR.

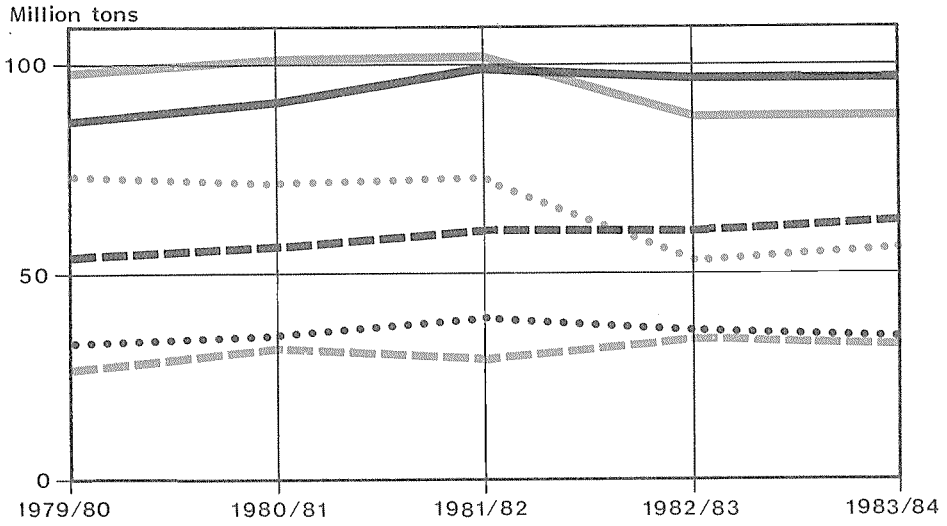


Figure 1-1
IMPORTS OF WHEAT AND COARSE GRAINS, TOTAL DEVELOPING AND TOTAL DEVELOPED COUNTRIES AND WORLD, 1981/82 TO 1983/84

Source: FAO, Commodities and Trade Division

The import trade situation for coarse grains is the reverse of that for wheat: only the developed countries are expected to increase their imports significantly. This is mainly because shipments to Eastern Europe will be greater following a significant reduction in 1982/83. South Africa will be in the unaccustomed role of being a maize importer following the failure of its coarse grain crop in 1983 because of drought.

Food Prices and Food Security

Export prices of cereals were already showing some signs of rising in the first quarter of 1983 as a result of the area-reduction programmes introduced in the USA. But whereas coarse grain prices continued to rise, wheat prices tended to weaken (Fig. 1-2). The likely effect of drought on the size of the US maize crop contributed to drive up export maize prices to over $150/ton in August 1983, an increase of 50% in one year. With wheat prices remaining at $150-160/ton in August and early September, maize became almost as expensive as wheat. As a result of these price changes and the higher prices for soybeans (see below) it became economical for livestock feeders to substitute wheat for maize in livestock rations. The export price of rice also had moved nearly 10% above the level of September 1982 by early September 1983. Toward the end of 1983, the export prices of cereals became less volatile and showed signs of weakening.

Prices of some other food/feed commodities increased more significantly during the second half of 1983, notably soybeans (an increase of over 50% during the year) and vegetable oils (soybean oil and palm oil increased by 62% and 87%, respectively, between January and December 1983).

These higher prices are likely to lead to increased production and reduced demand, in this sense enhancing world food security by increasing stocks. But higher prices also impose greater costs on importing countries, many of which face serious international payment problems. In turn

this may lead to reduced domestic purchasing power and greater hardship for those in need of better access to food. Higher prices could also trigger a more general price inflation.

The burden of higher prices of cereals on the economies of importing countries was also exacerbated by the appreciation of the US dollar against most other currencies. The dollar rose by nearly 7% on a trade-weighted basis between May and September 1983 and strengthened further towards the close of the year.

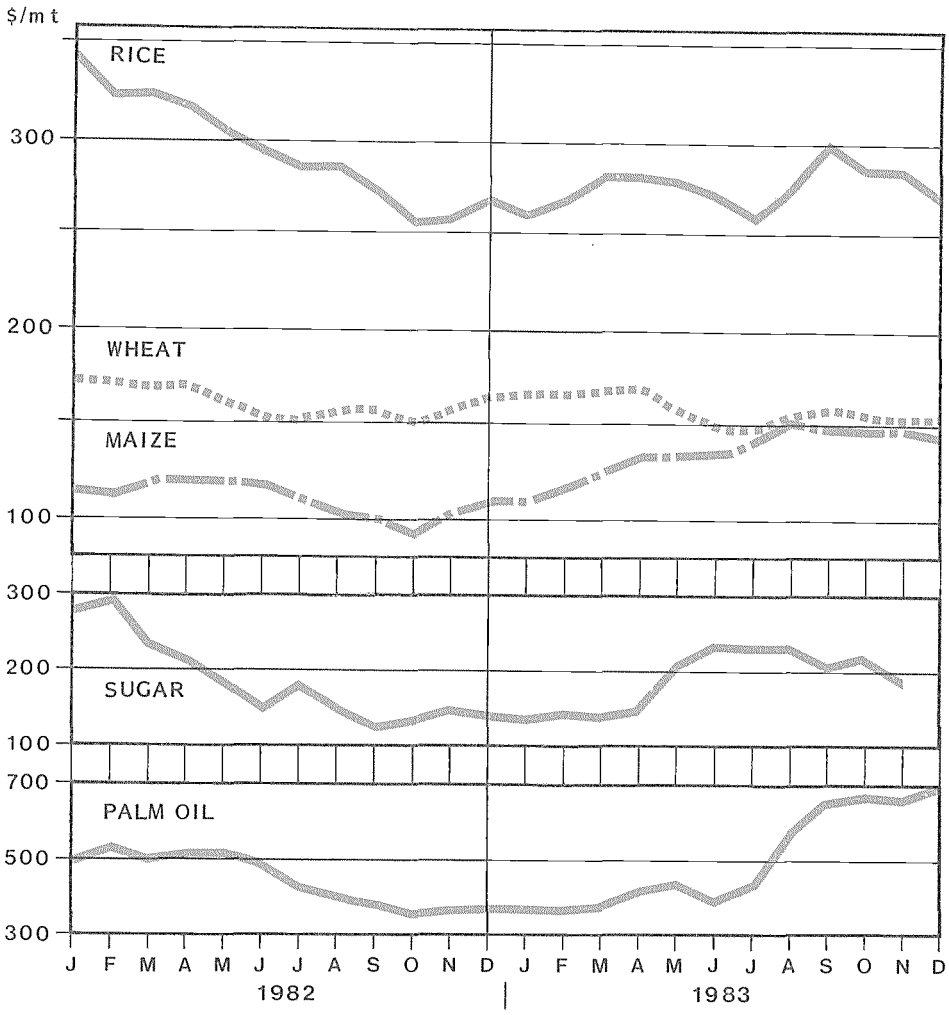


Figure 1-2
INTERNATIONAL PRICES OF SELECTED FOOD COMMODITIES BY MONTH, 1982 AND 1983

Source: FAO, Statistics Division

Consumers in developed market economy countries have benefited in recent years from generally smaller increases in food prices resulting from lower inflationary pressures, the declining international market prices of major food commodities and smaller increases in agricultural price supports, particularly in the EEC. In OECD countries, consumer prices of all items rose by 5.3% in the year ending November 1983, compared with 7.9% in 1982 and an average of nearly 9% during the 1970s. A slowing down in price increases was noted in 1983 in all but three of the 24 developed market economies. Food price increases were broadly in line with the overall price index in early 1983, but tended to accelerate in the second half of the year at the same rate as the strengthening in prices of internationally traded foodstuffs. In the short run, prospects are for continuing moderate increases in consumer food prices in industrial countries. According to the EEC estimates, the increase in producer prices in the EEC announced for 1983/84 would add only 3% to food prices in the Community during 1984.

A deceleration of increases in consumer food prices in developing countries also became apparent by 1982 (Table 1-5) and, for countries for which data were available, in the first half of 1983 as well. This was particularly the case in the Far East and Near East regions. However, although a slowing in increases of food prices has undoubtedly helped to slow overall inflation rates, inflation remains an intractable problem in many developing countries. Latin America's experience continues to be particularly difficult in this regard.

TABLE 1-5. CHANGES IN RATES OF INFLATION AND CONSUMER PRICES OF FOOD IN 62 DEVELOPING COUNTRIES a/ AND DEVELOPED MARKET ECONOMY COUNTRIES, 1980, 1981 AND 1982

	1980	1981	1982
Average rate of inflation in developing market economies, % b/	26.2	28.9	24.3
Average rate of change in consumer prices of food in developing market economies, % b/	28.2	29.8	23.2
No. of developing countries with inflation rates			
a) below 10%	13	15	18
b) between 10% and 20%	27	27	29
c) above 20%	22	20	15
Total	62	62	62
Average rate of inflation in developed market economies, % b/	13.4	10.9	7.9
Average rate of change in consumer prices of food in developed market economies, % b/	10.2	10.6	6.6

a/ These are the countries consistently included in the quoted sources.

b/ Weights are proportional to GDP or GNP of the preceding year in US$.

Source: International Labour Organization, Bulletin of Labour Statistics and FAO, Policy Analysis Division.

Some Institutional Developments in World Food Security

The Eighth Session of the Committee on World Food Security (CFS), held at FAO Headquarters in April 1983, reappraised the concept of world food security and set out new approaches for the 1980s. Under the broadened concept, the ultimate objective of world food security is to ensure that all people at all times have both physical and economic access to the basic food they need. CFS also spelled out three specific aims of food security: ensuring adequate production of food, maximizing the stability of food supplies, and ensuring access to them, particularly on the part of those in greatest need. 4/

4/ See FAO, Director-General's Report on World Food Security: A Reappraisal of the Concept and Approaches, CFS 83/4, December 1982. CFS was established following the World Food Conference to monitor world food security.

Ten years previously, the world food crisis of 1972-74 marked a transition from an era of abundant export supplies of low-priced food to one of highly unstable supplies and prices. It also marked the end of the era of low energy prices, a change with considerable implications for agriculture. The crisis highlighted the shortcomings and deficiencies of agricultural policies in many developing and developed countries. It raised the spectre of a world losing its capacity to feed a rapidly growing population. Seemingly the world was also without the political will to stabilize year-to-year supplies of food commodities, particularly cereals, and to ensure their ease of access to low-income, food-deficit countries and their populations.

As a response to this crisis, the United Nations World Food Conference was convened in Rome in November 1974. The Conference recognized that world food security must be achieved by a combination of measures, including the provision of at least 10 million tons of grains in food aid a year and the liberalization of world trade, with special reference to the food products of developing countries. Eighty-two countries and the EEC subscribed to the International Undertaking on World Food Security, embodying these measures and endorsed by the conference. The undertaking was designed to secure adequate world supplies of basic foodstuffs, particularly cereals, and to avoid acute food shortages through a coordinated system of nationally held food reserves, special assistance to developing countries and the establishment of a food information and early warning system. Over the longer term, the food and agricultural production of developing countries was to be expanded at an annual rate of at least 4%.

The balance of achievements made during the 9 years since the World Food Conference is mixed:

- The Food Aid Convention (FAC) now provides a 'bottom line' to food aid considerably higher than that which existed pre-1973. Under the enlarged FAC which entered into force in July 1980 and was again renewed for three years in July 1983, the minimum was raised from 4.47 to 7.6 million tons. However, this minimum still falls far short of the original target of 10 million tons.

- IEFR was established in 1975 and has succeeded in freeing WFP food aid resources for more development oriented projects over a time when food emergencies have been increasing in number and cost. Yet IEFR is not on as fully multilateral and predictable a basis as originally envisaged.

- FAO's Global Information and Early Warning system was also established in 1975 to monitor the world food supply/demand situation and to estimate cereal import requirements. It is also assisting in developing such systems at national levels.

- The International Monetary Fund (IMF) Food Financing Facility has been in operation since May 1981 in recognition of the fact that financial constraints can seriously impair food security at the country level. Its establishment was supported by the Plan of Action on World Food Security devised and endorsed by FAO.

- The International Fund for Agricultural Development (IFAD) has been established with the aim of increasing food production in developing countries, with special attention to low income countries and producers. However, it is constrained by a lack of funds and its replenishment is not assured (see section on External Assistance to Agriculture).

- A start has been made in assisting other schemes for building the infrastructural components of national food security under FAO's Food Security Assistance Scheme. However, external resources for this purpose are still modest.

- The original objective of establishing an international coordinated system of national food reserves remains elusive. Negotiations toward a new international wheat agreement, which could have included such a policy, have been abandoned. Furthermore, there are no mechanisms for reducing price fluctuations in the cereal market (apart from commercial stock policies) nor for guaranteeing the access of low income countries to cereal supplies.

Therefore, progress has been at best partial. World food security, as a subject, nevertheless has continued to be placed at the forefront of various summit conferences and other international deliberations. For example, it was discussed by the Brandt Report 5/ and by the North-South Summit in Cancún in 1981. It is now seen that food security can only come out of carefully meshed endeavours at international, national and local levels. It is hoped that the new FAO concept will be a stimulus in this direction.

AGRICULTURAL PRODUCTION AND INPUTS

Production in 1983 in Perspective

Some information on food production in 1983 has already been given in the previous section (Table 1-3). A broader view of agricultural production is taken here to include non-food commodities as well.

During the last 5 years (1979-83), the pace of agricultural production tended to decelerate at the global level. However, this overall slowdown in output was punctuated by reasonably successful performances during the two-year period 1981-82 when annual increases exceeded the 15-year average (Table 1-6). Relative to their past performances, developed countries as a whole did better than developing countries during 1981-82.

The overall situation was quite different in 1983. World agricultural production declined by nearly 1%, a little more than food production alone. This was the first decline in agricultural production since 1972. Most of the setback to agricultural production noted in 1983 can be attributed to developed countries.

Patterns of production in 1983 by region and country groups

Within this disparate picture of the overall performance of developing and developed countries, there were wide variations in regional performances. The most notable features were:

- Developed countries - A major setback in North America mainly because of area-reduction programmes in the USA, but also low market prices and drought conditions.

5/ North-South: A Programme for Survival, Pan Books, London, 1980.

- A moderate decline in Europe.

- A very strong recovery in Oceania following the setback of 1982 affected by drought.

- A continued good production performance in the USSR and also Eastern Europe.

● Developing countries - A major recovery in the Far East, particularly India, benefiting from a favourable monsoon season.

- A slowing down in Africa affected by drought.

- A continued, rather flat performance in Latin America, but a complete reversal as to its cause. In 1982 the production of non-food crops had been poor, especially for coffee, while in 1983 food crop production declined and that of non-food crops recovered.

TABLE 1-6. FAO INDEX NUMBERS OF AGRICULTURAL (CROPS AND LIVESTOCK) PRODUCTION, COUNTRY GROUPS AND WORLD, 1981, 1982 AND 1983

Country Group	1981	1982	1983	Change 1981 to 1982	Change 1982 to 1983	Annual rate of change 1968 to 1983	Annual rate of change 1979 to 1983
	.. 1974-76=100 ..			..... %			
Developing market economies	120	121	124	0.8	3.1	2.8	2.7
Africa	110	114	114	3.4	0.4	1.8	2.1
Far East	124	123	131	-0.5	6.2	3.1	3.5
Latin America	123	124	125	0.6	0.8	3.1	2.4
Near East	114	117	119	2.2	1.6	2.9	1.9
Asian centrally planned economies	122	131	134	7.5	1.6	3.5	3.9
Total developing countries	120	124	127	2.7	2.6	3.0	3.1
Developed market economies	114	115	106	1.3	-7.9	1.7	-0.1
North America	125	124	100	-0.5	-19.2	2.3	-1.7
Oceania	112	103	117	-8.4	13.4	1.5	0.6
Western Europe	110	114	112	4.0	-1.7	1.7	1.1
Eastern Europe and the USSR	101	105	110	4.0	4.5	1.4	1.6
Total developed countries	109	112	108	2.3	-3.6	1.6	0.5
World	114	117	116	2.4	-0.8	2.2	1.7
Low income countries with per caput GNP up to $410/1982	120	125	129	3.7	3.9	2.9	3.6
Developing countries others than low income	103	102	101	1.7	1.2	3.1	2.4
Least developed countries	114	116	119	1.7	3.4	1.8	2.4
Developing oil exporters	121	121	125	-	3.4	2.9	2.8
Developing non-oil exporters	120	124	127	3.1	2.5	3.0	3.1

Source: FAO, Statistics Division.

Production in 1983 increased more in the poorer countries (low income and LDCs) than in the higher income developing countries. This was because of the weight of the populous Asian countries in the first group (especially India and China in the low income group), which did well in 1983, and the greater presence of countries of Latin America and the Near East in the higher income groups, which did relatively less well.

It is encouraging to note that both the low income countries and LDCs have been able to accelerate the rate of increase of their agricultural production in the last five years, although, as seen in Table 1-3, the increases have not kept pace with population growth in the case of LDCs.

Major commodities 6/

Some information on major food commodities has been given in the section on world food security.

Most of the small reduction in agricultural production of 1983 can be accounted for by a 4-5% decrease in cereal production to a level of about 1 628 million tons, not much more than it was in 1978, but higher than in 1979 and 1980. This was entirely because of a reduced output of coarse grains. Declines were also recorded in oil crops (8% in oil-equivalent), sugar (6%) tobacco (14%) and cotton lint (5%). Most of these declines were due to reductions in planted areas in response to rather weak prices (Figure 1-4 in the trade section) and policy measures. In some instances, such as for soybeans in North America, the effects of area reductions were compounded by adverse weather. Increases in output were recorded for coffee (15%) tea (5%) and natural rubber (2%). Other major crop commodities such as cocoa, nuts and pulses approximately maintained their production levels of 1982, although most showed small declines.

The production of livestock products, however, increased quite noticeably, as noted earlier: milk by 3-4% and meat by 2%. The increase in milk production in the developed market economies has led to the massive accumulation of stocks.

Diseases and Pests: Current Highlights

The very serious rinderpest situation existing in Africa at the beginning of 1983 has gradually improved as the national emergency vaccination campaigns have expanded, using country-level resources and those provided by external assistance. However, the situation remained critical in many countries throughout the year and the need for a Pan-African rinderpest campaign, requiring external assistance of over $100 million, was reconfirmed. The preparatory actions necessary for a long term campaign have been taken by FAO and other international organizations.

Emergency assistance to strengthen national efforts to control rinderpest or to prevent its entry up to late 1983 has provided over $4 million through 28 projects in 25 countries under FAO Technical Cooperation Programme (TCP). For example, FAO will assist the strengthening of the Organization of African Unity and the Inter-African Bureau for Animal Resources (OAU/IBAR) by providing technical manpower and will undertake two international training courses on rinderpest. An increase in the production of rinderpest vaccine in Africa is also proposed.

6/ The data are presented on a calendar year basis. For a detailed survey of the production of agricultural commodities in 1983, see FAO, Commodity Review and Outlook 1983-84, Rome, 1984.

EFFECTS OF WEATHER ON AGRICULTURE

For every crop that can be grown in an area, there is an optimum agro-climatic potential yield dictated by prevailing weather conditions. Solar energy, temperature and soil moisture modify the effects of each other on any particular day during the life cycle of a crop and have a positive and negative effect on final yield.

It is estimated that adverse variations in seasonal rainfall, temperature and other climatic factors may reduce yield by 20% below potential in Europe and by as much as 80% below potential in the southern belt of Africa.

The annual fluctuations in crop production caused by the weather usually offset one another to some extent at the regional or global level. On the basis of records made over the last few decades, it is possible to understand the magnitude of these weather variations. However, as the variability of the climatic system encompasses timescales beyond recorded history, and even beyond human experience, unpredictable climatic changes occur that lead to floods, droughts, and cold and hot spells in widely scattered areas. The effects of these climatic changes may be the basis of enormous economic and social damage. The global weather pattern of 1982/83, possibly related to the El Niño event, provides a good example.

El Niño, a phenomenon which shows itself most clearly in a rise in the temperature of the ocean off Ecuador and Peru, occurs at intervals of several years, normally starting at about Christmas. However, in 1982 it started in October and continued through 1983, being at its most intense since 1957-58 and possibly even since 1925-26. Through ocean-atmosphere convective coupling, the 1982-83 El Niño was associated with the worst cyclones in living memory in Polynesia, mud slides that buried whole villages in Peru, and fifteen times the normal May rainfall in Ecuador. It may also have been linked with droughts in India and southern Africa, the heavy snowfall in the western states of the USA in the winter of 1982/83 and the severe drought in the USA 'corn belt' in the following summer.

Across the world El Niño has brought economic devastation and human suffering. Not only have crops been damaged but fisheries have been destroyed. For example, the fish stocks off Chile and Peru which around 1970 was producing 10 million tons annually (nearly 15% of the world total), is now at a very low level. This collapse is partly due to overfishing, but the El Niños of 1971-72, 1975-76 and 1982-83 have also played a significant part.

There may even be a link between Sahelian droughts and El Niño, though this has not been clearly established. However, in the past major El Niños have coincided with poor rains in the Sahel, as occurred in 1983.

Fortunately the reappearance of cold water off the Peruvian coast and west into the Pacific Ocean at the end of 1983 seems to indicate that oceanographic conditions have returned to normal.

The eradication of rinderpest in Africa is technically feasible but progress is hampered by a lack of funds to establish a Pan-African campaign. This will require the provision of equipment, transportation and other relevant supplies which call for considerable financial support.

If timely action is not taken as soon as possible, mortality may increase to uncontrollable levels, which will result in suffering for the

cattle-owning families of the region and will jeopardize supplies of meat and milk. The continued presence of rinderpest has also forced some countries to halt imports of cattle, meat and other animal products from infected countries in Africa.

THE RESURGENCE OF RINDERPEST*

Rinderpest (cattle plague) is a contagious and deadly viral disease of wild and domesticated cloven-hoofed animals, particularly of cattle and buffaloes. Transmission of the disease occurs mainly through direct contact with infected animals. In newly infected regions mortality rates are usually very high, up to 90%. Immunity is conferred on calves through the milk (colostrum) of their mothers, if the mothers are themselves immune, but lasts only for the first few months of life. Young stock therefore have to be vaccinated until the disease is eliminated. Vaccines are effective and, where strict animal health procedures have been followed, rinderpest has been eliminated from wide areas, including Europe and China.

Although many authorities believe there may have been earlier outbreaks in Africa, the first clear evidence of the disease was in Egypt in 1841-43, whence it spread westward. Subsequent outbreaks occurred but a devastating Pan-African epizootic took place during 1880-95, probable arising from the importation of cattle from India in 1879. The losses were tremendous, being estimated at 80-90% of the continents' cattle and wild ruminants. Apart from South Africa, where the disease was eliminated in 1905, the disease remained a constant threat to livestock industries until 1950 when the use of vaccines became more widespread.

The internationally coordinated vaccination campaign known as Joint-Project 15 (JP 15) was initiated in 1962 and terminated in 1976 having completed six phases and covered 22 countries. The disease was controlled in a number of countries as a result of the campaign. For example, in Nigeria, which was included in Phase I of JP 15, the number of outbreaks decreased from several hundred per year prior to 1962 to only two in 1963/64. It was claimed that the disease was eradicated in Nigeria by 1972. Between 1976 and 1979, rinderpest in West Africa was reported only in Mali, Mauritania and Senegal.

However, there was a resurgence of the disease after 1979, and in 1981 FAO joined forces with five other international organizations to mount an emergency vaccination campaign costing $2 million in 10 countries in West Africa. The campaign was successful as an emergency measure but the need for a Pan-African Campaign to eradicate the disease was recognized at meetings convened by FAO in 1981 and 1982. Unfortunately funding for the campaign, estimated to be at least $83 million, has not been forthcoming. Further outbreaks were notified in West, Central and East Africa in 1982. The situation has also deteriorated in the Near East and Asia and experts feel that a vaccination campaign also should be mounted in all countries lying between Egypt and Afghanistan.

* See FAO, World Animal Review, Special Supplementary Issue, Rome, 1983.

As discussed later (see box in Sub-Saharan Africa section) a new threat to African food supplies is causing concern, the Larger Grain Borer. Seasonal upsurges of locust and other migratory pests occurred in 1983. The most threatening was that of the Desert Locust in Pakistan and India, but there were other minor upsurges requiring control in the United Arab Emirates and the People's Democratic Republic of Yemen in May-June,

in Sudan in Janury-February and in Libya in May-September. Some 20 swarms of the African Migratory Locust were controlled in the Republic of South Africa in May-June, but the situation in the central Mali and Lake Chad outbreak areas remained calm until September. Four swarms of Red Locusts escaped from the Wembere outbreak area of central Tanzania in May. Two of them returned later, but another two escaped in July.

Heavy infestations of grasshoppers were controlled in Sudan, Benin and Mali. African armyworm infestations were on a small scale, however.

Agricultural Inputs: Fertilizers

In 1981/82 fertilizer production declined for the first time and consumption for the second time since the end of the second world war (Table 1-7). The small decline in consumption--about 1% overall but nearly 2% for phosphates--can be explained mainly by lower usage in North America under the initial impact of the 1982 acreage-reduction programmes.

Preliminary data indicate a further but smaller decline in world fertilizer consumption in 1982/83. Although world nitrogen consumption increased, the decline in the consumption of phosphate and potash resulted in the overall decline. The largest decreases in phosphate and potash consumption were in North America, which also registered a fall in the consumption of nitrogen.

TABLE 1-7. FERTILIZER CONSUMPTION, 1979/80 TO 1981/82

				Change		Annual rate of change	
	1979/80	1980/81	1981/82	1979/80 to 1980/81	1980/81 to 1981/82	1977/78 to 1981/82	1971/72 to 1981/82
	..million metric tons..			..... %			
Total developed countries							
Nitrogen	34.68	35.73	35.36	3.0	-1.0	2.9	4.1
Phosphate	22.94	22.05	21.69	-3.9	-1.6	0.1	2.0
Potash	20.36	20.24	20.10	-0.6	-0.7	-0.4	2.6
Total nutrients	77.98	78.02	77.15	0.1	-1.1	1.2	3.1
Total developing countries							
Nitrogen	22.57	24.87	25.08	10.2	0.8	8.8	11.7
Phosphate	8.22	9.40	9.22	14.4	-1.9	6.5	9.1
Potash	3.58	4.03	3.84	12.6	-4.7	7.6	10.0
Total nutrients	34.37	38.30	38.14	11.4	-0.4	8.5	10.8
Africa	1.15	1.43	1.47	24.3	2.8	9.4	5.8
Far East	9.47	10.09	10.84	6.5	7.4	9.3	9.9
L. America	6.70	7.52	6.36	12.2	-15.4	2.7	8.4
Near East	3.00	2.95	3.22	-1.7	9.2	5.7	9.8
ACPE a/	14.03	16.30	16.21	16.2	-0.6	11.4	13.8
World							
Nitrogen	57.26	60.60	60.44	5.8	-0.3	5.2	6.6
Phosphate	31.15	31.46	30.92	1.0	-1.7	2.1	3.5
Potash	23.95	24.27	23.93	1.3	-1.4	0.8	3.5
Total nutrients	112.36	116.33	115.29	3.5	-0.9	3.4	5.0

a/ Asian centrally planned economies.

Source: FAO, Fertilizer Yearbooks.

Weakening commodity prices reduced the profitability of using fertilizers throughout world agriculture, especially that oriented to export markets. More seriously, fertilizer usage has levelled off in developing regions, such as Africa, where food production increases are urgently needed, owing either to a lack of foreign exchange to pay for fertilizer imports or to budgetary constraints that have forced cutbacks in fertilizer subsidies. The latter has occurred widely in Asia.

This feature of the current fertilizer situation drew the concerned attention of the FAO Commission on Fertilizers, meeting for its Eighth Session in late January-early February 1983. The Commission suggested that the appropriate agencies should explore the possibilities of assisting countries with balance of payments problems in order to maintain their fertilizer imports and not jeopardize their agricultural production. The Director-General of FAO has approached the IMF and requested the inclusion of fertilizer within its cereal import facility.

The export prices of fertilizers have continued to fall in 1983 in terms of US dollars, especially the prices of nitrogenous fertilizers (Fig. 1-3). This has been helpful to farmers where lower world prices have been reflected in lower fertilizer prices in domestic markets. But another effect has been, particularly in North America, that some fertilizer manufacturing facilities have temporarily closed to reduce income losses. Some of these closings could become permanent and result in serious problems regarding the adequacy of fertilizer manufacturing capacity in the future. Indeed, toward the end of 1983 export prices tended to move up again (as shown in Fig. 1-3), apparently reflecting the effects of smaller supplies.

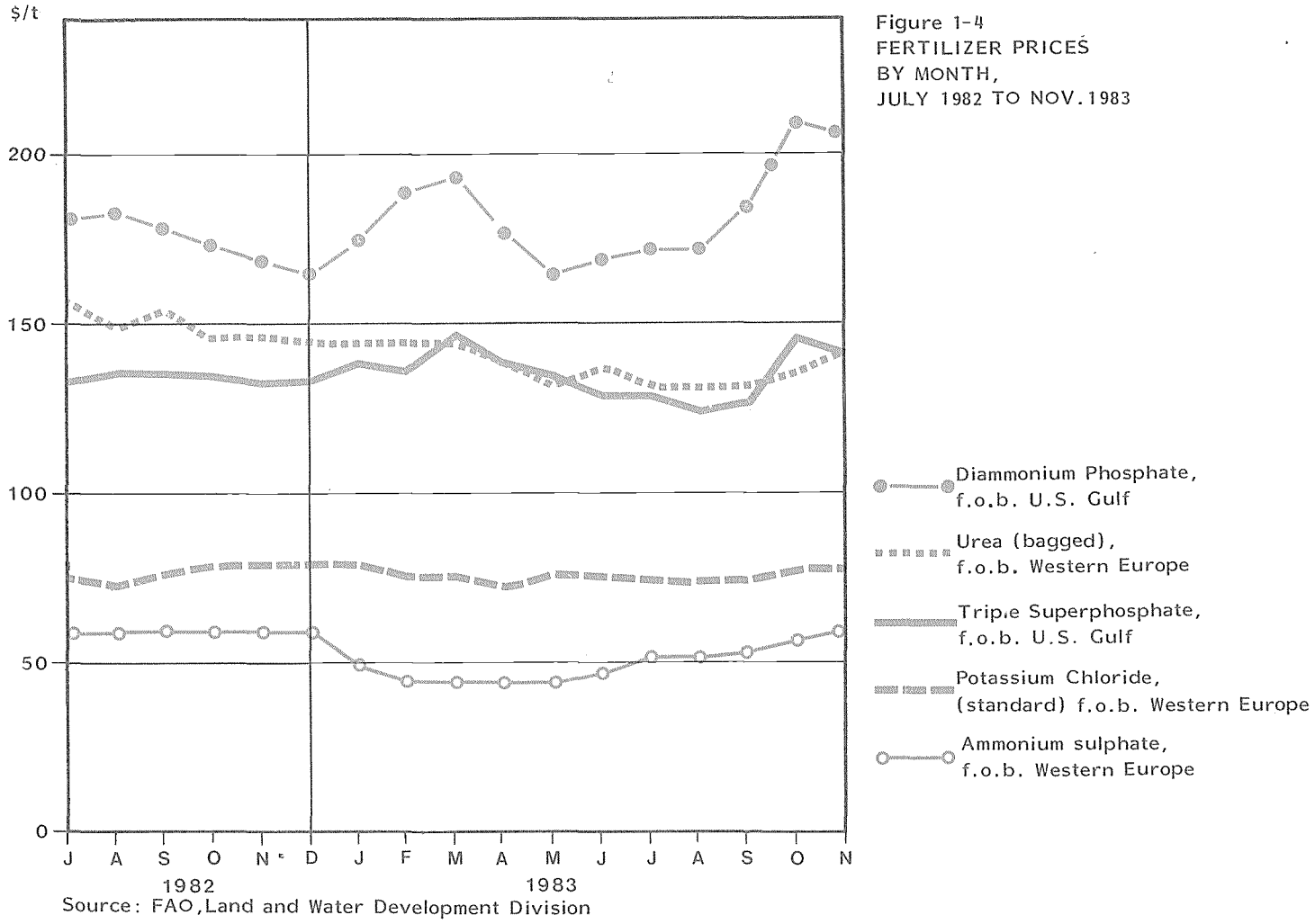


Figure 1-4
FERTILIZER PRICES
BY MONTH,
JULY 1982 TO NOV.1983

Source: FAO,Land and Water Development Division

The FAO Council meeting in June 1983 expressed concern over the stagnation in the establishment of fertilizer-manufacturing capacity and its possible effects on fertilizer prices. Earlier in the year, the Commission on Fertilizers suggested that developing countries should enter into joint ventures with other countries to take advantage of the availability of raw materials and markets for the fertilizers produced. A study on the possibilities of such ventures is being prepared for consideration by the Commission.

As mentioned above, part of the solution to these fluctuations in fertilizer prices and supplies may lie in financial or material assistance to countries affected by balance of payments problems. Concerted national and international efforts to increase the efficiency of fertilizer use and to mobilize alternative sources of plant nutrients within farming systems that would require less mineral fertilizer to achieve high production rates, are also important parts of long-run strategies to alleviate world food problems.

On the other hand, reduced costs of fertilizers to farmers can lead to increased use and greater output, as shown by the example of India in 1983. The Government lowered fertilizer prices by 7-8% at the end of June. This came too late to affect fertilizer use on the paddy crop greatly, but fertilizer offtake for the 1983/84 wheat crop was expected to be 20-30% more than last year. Also expected was greater fertilizer use on the foodgrain rabi crop and, as the result, a possible increase in output of more than 10%.

Outlook for fertilizer consumption in 1983/84

The world demand for fertilizers has strengthened since the middle of 1983 as the prospects for stabilized or higher prices, particularly for cereals, have become firmer. In late 1983, farmers were increasing the areas planted, especially in North America, and this presaged increased fertilizer use during the fertilizer year ending in mid-1984. Also, late-1983 crop growing conditions were favourable in some areas, notably in Asia, and this is likely to be reflected in increased use during 1983/84. Much, however, depends on the results of spring 1984 planting conditions in the northern hemisphere.

Longer Term Developments in Producer Prices

The importance of appropriate price policies to stimulate food and agricultural production without sacrificing the critical food and nutrition needs of the poorest people, appears to be receiving increased recognition. Increasingly the governments of developing countries are realizing the importance of agriculture in stimulating overall economic growth. Nevertheless, the performance of the food sectors in many countries is not satisfactory. A frequently occurring reason for this phenomenon is inadequate price incentives. To examine this issue in depth, FAO has undertaken a major study of agricultural price policies, launched by FAO's Director-General in early 1983. An interim report was examined by an expert consultation held at FAO from 29 November to 2 December 1983 and regional aspects are being discussed by the FAO Regional Conferences in 1984. The final report of the study will be presented to national agricultural leaders at the 1985 Conference of FAO Member Countries.

Meanwhile, available FAO data do not permit analysis of the evolution of producer prices except for trends during the 1970s for the major developing regions (Table 1-8). Two contrasting patterns are evident. Deflated producer prices in all regions rose substantially during the first

TABLE 1-8. ANNUAL RATES OF CHANGE a/ IN DEFLATED PRODUCER PRICES OF SELECTED FOOD COMMODITIES, DEVELOPING REGIONS, 1970-75 AND 1975-80

	Africa		Far East		L. America		Near East	
	1970 to 1975	1975 to 1980	1970 to 1975	1975 to 1980	1970 to 1975	1975 to 1980	1970 to 1975	1975 to 1980
	..... percent per year							
Wheat	3.2	1.9	-0.3	-3.6	10.9	-7.2	-0.4	-3.3
Maize	4.5	-1.4	4.6	-6.4	6.4	-1.7	2.3	-6.4
Millet	0.4	-0.4	8.5	-4.9	9.4	-8.3	6.0	-4.4
Sorghum	9.5	1.2	8.2	-4.8	3.2	-5.6	4.6	-8.1
Rice	6.0	-4.3	5.9	-3.3	11.9	-1.5	5.6	1.7
Sugar Cane	6.4	-4.9	2.5	-1.8	11.1	-4.2	9.8	-2.3

a/ Annual rates of change indicate the median of the yearly changes in producer prices of the listed commodities in individual countries, weighted by the volume of production of these commodities in individual countries in 1980 or in the latest year in which price data were available, from 1978. Producer prices in local currency of individual countries have been deflated by the respective consumer price indices. The number of countries included on the basis of the availability of comparable data were: 71 for wheat; 69 for maize; 64 for rice; 38 for millet; 49 for sorghum; and 54 for sugar cane.

Source: FAO, Policy Analysis and Statistics Divisions.

half of the decade for all the commodities covered with the exception of wheat in the Far East and the Near East. However, all developing regions showed negative trends in the producer prices of cereals and sugar after 1975. Even in the few cases where prices continued to rise throughout the decade--wheat and sorghum in Africa and rice in the Near East--increases were much lower after 1975.

This relative decline in prices paid to food producers can be explained by two factors. In the domestic context, many governments have tried to control increasing overall price inflation in the late 1970s by holding down retail food prices, which has in turn affected producer prices. On the international level, the world market prices of many food commodities declined in the last years of the decade. In food importing countries this decline in the price of imports has tended to reduce domestic retail food prices. In net food exporting countries, the decline in export prices has often been passed back to the producer. In both cases, many governments have been unable or unprepared to bear the increased costs of supporting producer prices at a stable or increasing level.

A downward trend in world market prices has also occurred for most export commodities since 1980. However, prices seem to have bottomed out in 1983 and toward the end of the year the prices of a wide range of agricultural commodities were significantly higher than a year previously. Nevertheless, in times of falling world market prices, normally little can be done but pass back to the producer the lower returns received--unless a price stabilization fund can be drawn upon or other sources of revenue are available. A chronic decline in the prices of major export commodities, as occurred during the 1981-83 period, may contribute to an overall weakening of a country's balance of payments situation and necessitate a devaluation. Such a move can restore the producer price of an export commodity in terms of domestic currency, but whether or not the producer makes an income gain will also depend on the import content of his production costs.

INTERNATIONAL TRADE AND AGRICULTURE

This section analyses the agricultural trade picture for 1982 (the latest year for which comprehensive trade data are available) and gives some indication of the changes that occurred in 1983.

Agricultural trade in 1982 was markedly affected by the world economic recession. In volume terms, world agricultural exports, which had increased at an annual rate of just over 4% during 1971-80, rose by less than 4% in 1981 and declined by 1% in 1982. Such a sharply reduced increase in the volume of trade, combined with major declines in dollar prices, reduced the value of world exports of agricultural, fishery and forestry products to an estimated $277 000 million in 1982 (Table 1-9). This represents a 7% decline below the level of 1981, which in turn was about 1% less than that of 1980. These depressed export performances contrast sharply with the 16% annual growth rate achieved during the 1970s. Since world trade in other sectors fared better in the aggregate, the share of agriculture, fishery and forestry in total merchandise trade fell slightly to approximately 15% in 1982. In the early 1970s the share had been more than 20%.

Among the major groups of agricultural exports, those of crop and livestock products showed a more pronounced (8.5%) decline than forestry and fishery products. But exports of all the major groups of commodities showed either stagnating or declining trends in both volume and value during 1982 (Table 1-10). The volume of crops and livestock exports declined by nearly 1% compared with an average growth rate of nearly 4% over 1978-82. Depressed demand, for feed grain in particular, resulted in a sharply reduced volume of cereal exports. Shipments of agricultural raw materials also declined in volume as the expected recovery in demand in 1982 did not take place. 7/

The main cause of the decline in value of agricultural exports in 1982 was the persisting downturn in world market prices. Export unit values of crops and livestock products dropped by over 12%. For cereals, the decline of nearly 13% in unit value combined with a lower export volume and resulted in a reduction in the value of exports of 18%.

The tropical beverages group was the main exception to the general contraction of 1982 as the value of coffee exports rose above the low level of the previous year. However, the increase in coffee trade was only moderate and followed heavy losses in recent years, particularly in 1981.

Trade in fishery and forest products also suffered setbacks in 1982 but in different ways. For fishery products, 1982 saw a sharp reversal of the continued progress that had been made in 1981. But the 1982 decline in the trade of forest products was less pronounced than in the previous year, particularly in developing countries. Nevertheless the value of exports of forest products declined by over 10% in these two years.

Agricultural exports, including fishery and forest products, fell more heavily in developing (8.4%) than in developed (6.8%) countries. As a result, the share of developing countries in total agricultural exports declined in 1982 to less than 28%, compared with 36% five years earlier.

All developing regions suffered reductions in their earnings from exports of agricultural, fishery and forest products. Losses were more pronounced in Latin America and the Caribbean (15.5%), particularly

7/ For a fuller discussion of agricultural commodity trade, see FAO, Commodity Review and Outlook 1983-84, Rome 1984.

TABLE 1-9. EXPORT VALUE AT CURRENT PRICES OF AGRICULTURAL (CROPS AND LIVESTOCK), FISHERY AND FOREST PRODUCTS BY COUNTRY GROUPS AND WORLD, 1971-73, 1980, 1981 AND 1982

Country Group	1971 to 1973	1980	1981	1982a/	Change 1980 to 1981	Change 1981 to 1982	Annual rate of change 1978 to 1982
	....thousand million $....				.....%		
AGRICULTURAL PRODUCTS	72.5	232.6	232.0	212.3	-0.3	-8.5	5.5
Developing market economies	22.0	67.7	65.7	59.1	-3.1	-10.0	2.1
Asian centrally planned economies	1.9	4.4	4.4	3.8	-0.3	-12.9	2.3
Total developing countries	23.9	72.1	70.0	62.9	-2.9	-10.2	2.1
Developed market economies	43.9	150.6	152.3	140.0	1.1	-8.1	7.4
Eastern Europe and USSR	4.7	9.9	9.7	9.4	-2.5	-2.6	2.3
Total developed countries	48.7	160.5	162.0	149.4	0.9	-7.8	7.0
FISHERY PRODUCTS	4.4	15.1	15.7	15.1	3.8	-3.7	6.4
Developing market economies	1.2	5.0	5.4	5.7	8.2	5.8	10.1
Asian centrally planned economies	0.2	0.9	1.0	0.7	9.4	-30.9	1.2
Total developing countries	1.4	5.9	6.4	6.4	8.4	0.3	9.0
Developed market economies	2.8	8.8	9.0	8.4	1.5	-6.7	5.0
Eastern Europe and USSR	0.2	0.4	0.3	0.3	-13.4	0.6	0.3
Total developed countries	3.0	9.2	9.3	8.7	0.9	-6.5	4.8
FOREST PRODUCTS	16.9	55.6	51.2	49.7	-7.8	-3.0	6.0
Developing market economies	2.4	8.5	7.1	7.1	-17.0	0.3	5.4
Asian centrally planned economies	0.2	0.6	0.6	0.6	4.7	-	3.7
Total developing countries	2.6	9.1	7.7	7.7	-15.7	0.2	5.2
Developed market economies	12.7	42.6	39.7	38.1	-6.6	-4.2	6.4
Eastern Europe and USSR	1.5	3.9	3.8	3.9	-2.9	2.7	3.4
Total developed countries	14.3	46.5	43.5	42.0	-6.3	-3.6	6.1
TOTAL	93.8	303.3	298.9	277.1	-1.4	-7.3	5.6
Developing market economies	25.6	81.2	78.1	71.9	-3.8	-7.9	2.9
Asian centrally planned economies	2.3	5.9	6.0	5.1	1.7	-15.0	2.3
Total developing countries	27.9	87.1	84.1	77.0	-3.4	-8.4	2.9
Developed market economies	59.4	202.0	201.0	186.5	-0.5	-7.2	7.1
Eastern Europe and USSR	6.4	14.2	13.8	13.6	-2.8	-1.4	2.5
Total developed countries	65.9	216.2	214.8	200.1	-0.3	-6.8	6.8
	.....%						
Share of developing countries	30	29	28	28			

a/ Preliminary

Source: FAO, Statistics Division and Fisheries and Forestry Departments.

Argentina, Brazil and, to a lesser extent, Mexico, reflecting sharp declines in the prices of several major export commodities. As a result, the share of Latin America in developing countries' total agricultural exports declined slightly, although the region still accounted for about 40% of the developing countries' total.

Agricultural exports fell by 8% in the Far East where there was a marked decline in the receipts of several of the largest and more dynamic agricultural exporters in the region, Southeast Asia in particular (Indonesia, Malaysia and Philippines), resulting from declines of 15-30% in the export prices of vegetable oils, natural rubber and sugar. Other countries in the region also suffered considerable reductions in their export earnings, in particular those from tea, coffee and sugar (India) and fishery products (Republic of Korea).

TABLE 1-10. FAO INDEX NUMBERS OF VOLUME, VALUE AND UNIT VALUE OF WORLD AGRICULTURAL (CROPS AND LIVESTOCK) EXPORTS BY MAJOR COMMODITY GROUPS, 1980 TO 1982

				Change		Annual rate
	1980	1981	1982a/	1980 to 1981	1981 to 1982	of change 1978 to 1982
	...1974-76 = 100...			.....%		
Volume						
Crop and livestock, total	131	136	135	3.7	-0.8	3.9
Food	136	142	141	4.7	-1.2	4.6
Cereals	142	149	141	4.9	-5.5	5.1
Feed	155	166	166	6.9	-	5.8
Raw materials	111	108	107	-2.9	-0.9	-0.3
Beverages b/	114	117	119	2.2	1.9	3.1
Value						
Crops and livestock, total	180	180	160	-0.4	-11.1	5.2
Food	178	183	160	2.7	-12.7	6.9
Cereals	165	179	146	8.5	-18.2	10.6
Feed	211	236	210	11.7	-11.2	8.5
Raw materials	161	155	139	-3.6	-10.4	2.1
Beverages b/	214	169	173	-21.2	2.7	-3.0
Unit Value						
Crops and livestock, total	141	134	120	-4.9	-10.3	1.0
Food	134	131	115	-2.2	-12.1	2.1
Cereals	119	121	106	1.6	-12.7	4.9
Feed	133	137	122	3.1	-11.1	1.7
Raw materials	144	140	126	-3.2	-9.4	1.7
Beverages b/	192	148	150	-23.2	1.6	-5.8

a/ Preliminary.
b/ Excluding cocoa which is included under food.

Source: FAO, Statistics Division.

In Africa, the 4% decline in the value of agricultural exports in 1982 appeared relatively moderate. However, this followed a 15% decline in the previous year and an average loss of 3% per year in constant terms over the 1970s. There was also a considerable reduction in agricultural exports of Asian centrally planned economies, reflecting a 17% decline in the receipts of China.

Terms of Trade in 1982

The collapse in the prices of nearly all major agricultural products in 1982 (the overall average declined 12%) resulted in a continued deterioration in the terms of trade of agricultural commodities in spite of a weakening in the dollar prices of such major products as petroleum (Figs. 1-2 and 1-4). Using the weighted price index of manufactured goods and crude petroleum as a deflator, the prices of agricultural exports declined in real terms (net barter terms of trade) in both developed and developing market economies. While the decline in developed market economies was marginal, that of developing ones exceeded 10% (Table 1-11). For the latter group of countries, it was the fourth consecutive year that agricultural export prices had deteriorated in real terms at annual rates ranging from between 10% and 17%.

TABLE 1-11. NET BARTER AND INCOME TERMS OF TRADE OF AGRICULTURAL EXPORTS FOR MANUFACTURED GOODS AND CRUDE PETROLEUM, COUNTRY GROUPS, 1978-82

Country Group	1978	1979	1980	1981	1982
	.....1974-76 = 100.....				
Net Barter Terms of Trade					
Developed country market economies	89	83	69	66	64
Developing country market economies	103	93	77	67	60
Africa	128	114	89	71	69
Far East	95	89	73	67	57
Latin America	99	87	76	66	59
Near East	93	84	69	65	56
Income Terms of Trade					
Developed country market economies	110	109	101	99	94
Developing country market economies	113	107	88	82	74
Africa	111	103	77	62	61
Far East	106	110	95	91	82
Latin America	119	108	90	86	74
Near East	91	77	65	71	67

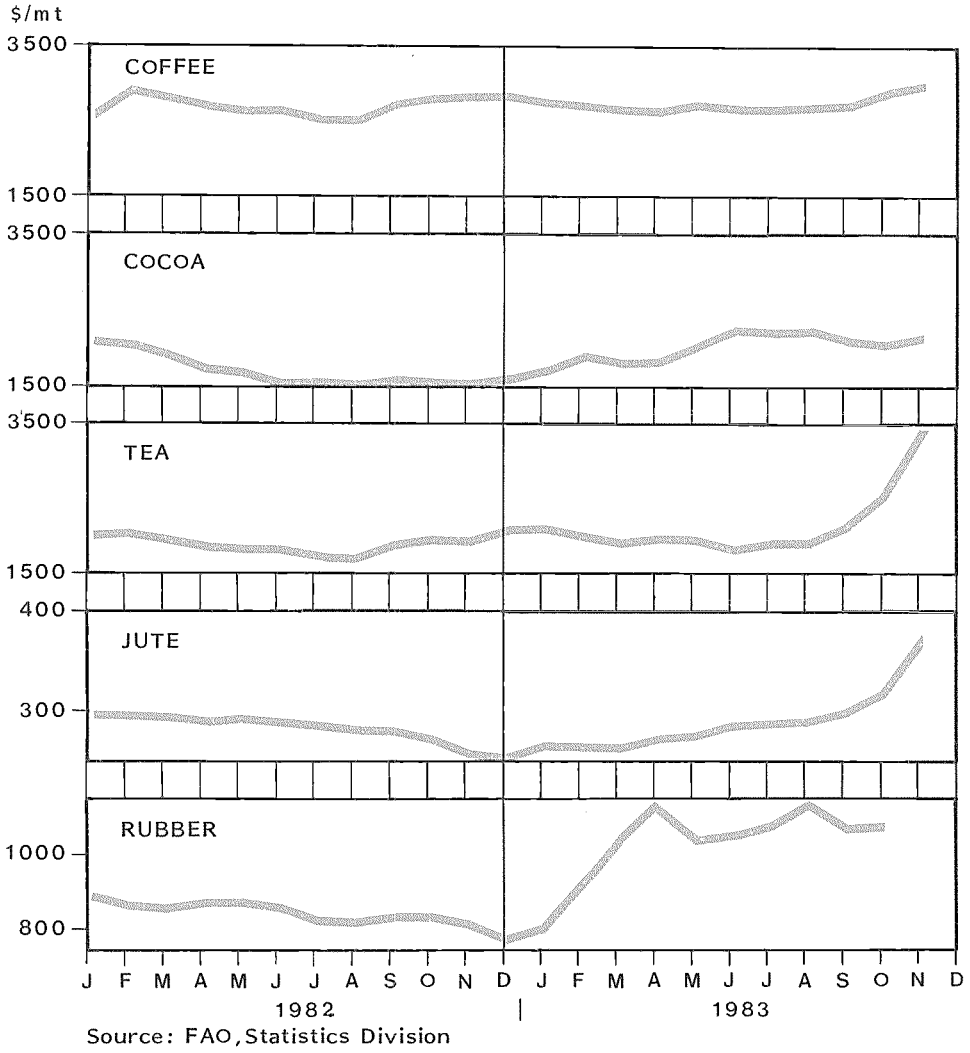
Note. Index numbers of net barter terms of trade are the ratio of index numbers of export unit values of agricultural products and the weighted price index of manufactured goods and crude petroleum.

Index numbers of income terms of trade are the product of index numbers of net barter terms of trade and the export quantity index of agricultural products. They represent the purchasing power of agricultural exports.

Source: FAO, Policy Analysis Division.

The volume of agricultural exports by developed market economies also contracted slightly in 1982, and that of developing ones remained practically unchanged. As a result, the purchasing power of agricultural exports--as measured by the index of income terms of trade--also deteriorated significantly for the fourth consecutive year in both groups of countries.

Among developing countries, the greatest losses in purchasing power were in Latin America (14%) and the Far East (10%). It is in Africa, however, that the erosion of agricultural export purchasing capacity appears most disquieting. Although the deterioration was minor in 1982, it was preceded by four years of sharp declines. In other words, Africa's agricultural exports in 1982 could purchase only a little more than one-half of the volume of crude petroleum and manufactured goods they were able to purchase four years ago.



Source: FAO, Statistics Division

Figure 1-3
INTERNATIONAL PRICES OF SELECTED NON-FOOD COMMODITIES BY MONTH, 1982 AND 1983

The upturn in prices in 1983

The terms-of-trade effects of the upturn in agricultural prices since late 1982 and, more notably through 1983, cannot yet be fully assessed. It appears, however, that by the first half of 1983 the net barter terms of trade of agricultural products for manufactured goods and crude petroleum improved by 12% over the 1982 average in developed market economies as a whole, and by as much as 30% in developing market economies. The latter countries benefited from the strengthening in prices of tropical beverages (24%); fruits, sugar and rubber (30% or more); and vegetable oils (100%). Such strengthening in prices appears even more marked if allowance is made for the 8-10% appreciation of the US dollar in 1983. Prices of most of these commodities are quoted in US dollars.

Country terms of trade

Information on agricultural terms of trade at the level of individual countries is available only until 1981 for most countries. During the period 1979-81, the net barter terms of trade of agricultural exports for total imports deteriorated in nearly two-thirds of the developing countries for which comparable data were available. The main factor was the strong increase in the prices of total imports of developing countries in 1980, particularly those of fuel and manufactured goods. Furthermore, the 7% overall decline in the prices of agricultural exports in 1981 cancelled the benefits of the very small increase in import prices for that year. Another explanation is the effective appreciation of many industrial countries' currencies against those of developing country trading partners. Such movements in exchange rates, which were unusually large in 1980-81, exerted a negative terms-of-trade effect on many developing countries.

Agricultural Imports

An indication of the severe foreign exchange shortage and debt servicing difficulties faced by many developing countries was the reduction in their food and agricultural imports in 1982. This occurred despite inadequate levels of domestic agricultural production in some cases (noted earlier) and exceptionally low internationl market prices. For developing countries as a whole, the value of imports of agricultural, fishery and forestry products in 1982 was estimated at approximately $79.2 billion, or 9% less than in 1981. In volume terms, the decline was of the order of 1% to 2%. These reductions marked a reversal in the long-term increasing trend in such imports, which had expanded at an average annual rate of 15% (7% in real terms) during the 1970s. Nevertheless, developing country imports still accounted for about 26% of the world total, compared with 17% in the early 1970s.

The volume of imports of crops and livestock products declined by as much as 14% in Latin America and by 3% in the Far East in 1982. In both Africa and the Near East they increased 3-4%, but these growth rates were markedly lower than the long-term average. Only in a few cases could the reduction in imports in 1982 be attributed to favourable developments in domestic food supply. Some examples are the Ivory Coast, India and Indonesia, where the growth in food production was substantially higher than that of the population during the previous two years.

Most countries were unable to take advantage of favourable world market conditions and low prices to consolidate their food supply position through increased imports because of constraints on foreign exchange. However, the recent downturn in food imports reflected to a large extent the trade position of a relatively small number of newly industrialized and oil exporting countries which account for the bulk of the total developing countries' imports, but which found themselves increasingly exposed to worsening economic conditions. Sharply reduced purchases by only two countries, Mexico and Brazil, were the main factor behind the decline in Latin America's agricultural imports in 1982. In the Far East, reduced imports by India, the Republic of Korea and Indonesia more than offset increased purchases by other major trading countries including Malaysia, Pakistan and Singapore. There were widespread declines in imports by countries in Sub-Saharan Africa as well, but Africa as a whole recorded an increase in the volume of crop and livestock imports because of sustained demand, in particular from Nigeria. Near Eastern countries also increased their volume of purchases as import demand from Saudi Arabia, the largest agricultural importer among developing market economies, continued to rise. However, imports of the other leading importer of the region, Egypt, declined moderately.

The changes in supply and market conditions for different commodities also resulted in some substantial changes in the composition of agricultural imports in 1982. For example, the share of sugar declined to 7% of the total value of the developing countries' total crop and livestock imports, two percentage points below the two previous years, mainly because of the collapse in prices. On the other hand, developing countries were spending more on meat (6% of the total) and dairy products (over 7%). Cereals as a whole represented about 31% of the total, this share having remained remarkedly constant since the early 1970.

Purchasing power of developing countries in 1979-81

Unfavourable price relationships have been the basis of an erosion in the import capacity of a majority of agricultural exporters. Most countries which experienced declining real prices in 1979-81 also suffered from deteriorating income terms of trade--that is, a weakening in their purchasing power. Only a few of them succeeded in compensating for declining real prices of agricultural exports through increased volumes of shipments. Overall, 64 of a total of 83 countries showed particularly important yearly losses (10-30%) in the purchasing power of their agricultural exports during 1979-81. Of these, for nine countries (six of them in Africa) the aggregated decline in income terms of trade over the two years exceeded 50%, implying that their agricultural exports in 1981 enabled them to purchase less than half the volume of merchandise of only three years earlier. While the agricultural component of total exports was minor for some of these countries--Nigeria, Venezuela, Iran and Syria--others were predominantly agricultural in terms of their structure of production and exports--Angola, Gambia, Ghana, Senegal and Sierra Leone.

Agricultural Trade Balances

As a result of the depression in agricultural trade that occurred during the early 1980s, and despite a cutback in imports (discussed above) developing countries recorded a widening deficit in their agricultural trade balance, which went from a surplus of $4 600 million in 1980 to a deficit of $4 000 million in 1981 that narrowed to $3 500 million in the following year (Table 1-12). Far from alleviating the trade deficit of other sectors, as was its traditional role until 1980, agricultural trade added to the overall merchandise trade deficit of many developing countries.

On a regional basis this deterioration of about $8 000 million in the trade balance during 1980-82 can be accounted for as follows:

Latin America and the Far East	- a declining surplus of $1 800 million for each region.
Africa	- a switch from a small surplus to a deficit of more than $2 000 million (total change nearly $3 000 million).
Near East	- an increasing deficit of $1 600 million.
Asian centrally planned economies	- little change in the size of their deficit.

TABLE 1-12. VALUE AT CURRENT PRICES OF AGRICULTURAL (CROPS AND LIVESTOCK) EXPORTS, IMPORTS AND BALANCE, COUNTRY GROUPS AND WORLD, 1971-73, 1980, 1981 AND 1982

Country Group	1971 - 1973	1980	1981	1982	Change 1980 to 1981	Change 1981 to 1982	Annual rate of change 1971 to 1982 current	Annual rate of change 1971 to 1982 constant*
	....thousand million $....				.....%			
Developing market economies								
Export	22.0	67.7	65.7	59.1	-3.1	-10.0	12.6	2.5
Import	12.9	59.0	65.1	58.5	10.4	-10.1	18.0	8.9
Balance	9.1	8.7	0.6	0.6				
Africa								
Export	4.5	10.6	8.7	8.2	-17.9	-6.2	8.7	-2.2
Import	2.2	10.2	11.0	10.5	8.4	-5.2	18.3	9.1
Balance	2.3	0.4	-2.3	-2.3				
Far East								
Export	5.2	19.4	19.5	17.3	0.6	-11.1	15.1	5.7
Import	4.6	16.1	17.8	15.8	10.4	-10.8	14.7	5.9
Balance	0.6	3.3	1.7	1.5				
Latin America								
Export	9.7	32.0	31.3	27.8	-2.4	-10.9	13.4	3.2
Import	3.2	14.1	14.3	11.7	1.0	-18.1	16.2	7.9
Balance	6.5	17.9	17.0	16.1				
Near East								
Export	2.5	5.0	5.7	5.3	13.2	-6.7	8.7	0.4
Import	2.6	18.0	21.4	19.9	19.2	-6.9	24.0	14.1
Balance	-0.1	-13.0	-15.7	-14.6				
Asian centrally planned economies								
Export	1.9	4.4	4.4	3.8	-0.3	-12.9	8.6	0.6
Import	2.0	8.5	8.9	7.9	4.6	-11.4	17.9	9.3
Balance	-0.1	-4.1	-4.5	-4.1				
Total developing countries								
Export	23.9	72.1	70.0	62.9	-2.9	-10.2	12.3	2.5
Import	14.8	67.5	74.0	66.4	9.7	-10.3	18.0	9.0
Balance	9.1	4.6	-4.0	-3.5				
Least developed countries								
Export	1.9	3.8	3.4	3.3	-10.8	-2.7	7.6	-3.2
Import	1.0	3.6	3.6	3.7	-1.2	2.6	14.7	5.8
Balance	0.9	0.2	-0.2	-0.4				
Developed market economies								
Export	43.9	150.6	152.3	140.0	1.1	-8.1	14.5	5.9
Import	55.6	157.5	147.2	141.3	-6.6	-4.0	11.7	2.5
Balance	-11.7	-6.9	5.1	-1.3				
Eastern Europe and USSR								
Export	4.7	9.9	9.7	9.4	-2.5	-2.6	8.1	0.3
Import	7.5	28.6	31.6	28.1	10.7	-11.3	16.1	5.3
Balance	-2.8	-18.7	-21.9	-18.7				
Total developed countries								
Export	48.7	160.5	162.0	149.4	0.9	-7.8	13.9	5.4
Import	63.1	186.1	178.8	169.4	-3.9	-5.3	12.4	2.8
Balance	-14.4	-25.6	-16.8	-20.0				
World								
Export	72.5	232.6	232.0	212.3	-0.3	-8.5	13.4	4.4
Import	77.9	253.5	252.8	235.8	-0.3	-6.7	13.6	4.3
Balance	-5.4	-20.9	-20.8	-23.5				

* Constant values obtained by deflating current values of trade with the indices (1974-76 = 100) of export and import unit values of agricultural products.

Source: FAO, Trade Yearbooks.

Therefore, disquieting situations have appeared in the market economies of the Far East, where the agricultural trade surplus of 1980 shrank to less than half its level by 1982, and in Africa which emerged as a net agricultural importer for the second consecutive year despite the agricultural base of most economies in the region. Furthermore, agricultural imports by Africa increased to absorb more than one-fifth of the region's total export receipts in 1982. In other regions, the ratios of agricultural imports to total exports were around 10% in the Near East and Latin America and 18-19% in Asian centrally planned economies.

The deterioration in the overall net agricultural trade position of developing countries is also evident at the individual country level. Of a total of 90 developing countries for which information is available for 1982, 41 showed a negative trade balance for agricultural products; the comparable figure for the early 1970s was only 23. For about half of the net-deficit countries the worsening of the agricultural trade balance was caused by the diminished importance of the agricultural sector in the economy or by more diversified production and export patterns. The growing imbalance was more of a problem for the other twenty net-deficit countries for which alternative sources of income are scarce. Sixteen of these, nine of them LDCs, are in Africa. Several of them have faced the double problem of a growing dependence on imported food combined with increasingly difficult access to foreign exchange.

Recent International Action on Agricultural Trade Problems and Issues 8/

The worst recession of the world economy since the depression of the 1930s has also led to a deteriorating climate for international economic cooperation in the area of trade relations. Both the serious fall in commodity prices and the rising tide of protectionism were major concerns voiced at the FAO Committee on Commodity Problems meeting in October 1983 and the FAO Conference of the following month.

Although the results of UNCTAD VI (6 June to 3 July 1983) fell short of expectations, the Conference adopted a number of resolutions in interrelated areas of commodity prices, trade, finance and development. No comprehensive programmes to revitalize development cooperation were adopted, but support was reiterated for several programmes related to agricultural trade issues that had already been approved at previous UNCTAD sessions. These included the Generalized System of Preferences, the Integrated Programme for Commodities (IPC) and the Substantial New Programme of Action (SNPA) for the LDCs.9/

The Common Fund for Commodities, which is intended to help finance the stabilization of commodity markets and commodity development programmes, has not yet come into force. As the revised deadline of 30 September 1983 for the ratification of the agreement approached, there were additional ratifications, but by the end of the year only 68 countries--accounting for nearly 43% of the directly contributed capital--had ratified it. However, as 90 countries, accounting for two-thirds of the fund's capital, have to ratify the agreement before the fund becomes operational, it could not begin operations by 1 January 1984 as envisaged.

8/ For a fuller discussion of these issues see FAO, Commodity Review and Outlook, 1983-84, Rome, 1984.

9/ For a discussion of SNPA, see FAO, The State of Food and Agriculture 1981, Rome, 1982, p. 26.

At their ministerial meeting in 1982, the GATT contracting parties decided to establish a Committee on Trade in Agriculture, with the aim of bringing agricultural trade more fully into the GATT framework. The Committee, which started work in March 1983, is examining tariff and non-tariff barriers against agricultural imports, as well as the operation of GATT as regards assistance to agricultural exports, such as export subsidies. By December 1983, work was proceeding on an analysis of agricultural trade measures and policies of some 45 member countries of GATT (the EEC accounts for 10 of these). GATT consultations towards liberalizing trade in tropical products are also under way.

Agricultural trade policies--in this case, those of developed countries--are also being discussed in another forum, the OECD. The origin of these discussions was the meeting of the OECD Council at the ministerial level of May 1982. It mandated that work be undertaken to strengthen co-operation on agricultural trade issues and to contribute to the development of practical measures on a multilateral basis. Work proceeded through 1983, mainly on Parts I and II of the mandate referring to the quantitative and qualitative assessment of agricultural policies and their impact on trade.

Negotiations and policy actions on individual commodities aimed at market stablization have continued recently, but results have been mixed. One new international commodity agreement, on natural rubber, became operational and one on coffee was renegotiated in 1982. However, negotiations on other commodities under the IPC did not make much progress, although agreements on jute and jute products and tropical timber were concluded in late 1982. The main function of each agreement is to promote research, market development and cost reduction, but none has provisions for market stabilization.

FLOWS OF FINANCIAL RESOURCES TO AGRICULTURE

According to the OECD, net receipts by developing countries of official development assistance (ODA) from all sources amounted to $34 200 million in 1982, representing a decrease of about $2 400 million (6.5%) compared with 1981. In terms of constant 1981 prices, the decrease was less (4.5%). It was mainly accounted for by a decline in OPEC bilateral commitments but decreases in multilateral commitments also occurred. However, net bilateral disbursements by countries of the OECD Development Assistance Committee (DAC) increased by 3.5% in 1982 in real terms. These disbursements accounted for 0.38% of DAC countries' total GNP, up slightly from 0.35% in the preceding year, but were far short of the 0.7% target of the International Development Strategy.

Official Commitments of External Assistance to Agriculture

Data on the volume of official external assistance to agriculture ('broad' definition) show that total commitments (OCA) increased in current prices by about 8% in 1981 and by 3% in 1982 (Table 1-13).10/ Nevertheless, because of declining rates of inflation and the appreciation of the US dollar against the currencies of other major donor countries, in terms of 1975 prices OCA (broad definition) increased in 1982 at a slightly higher rate (5%).

10/ In the broad definition, agriculture includes--in addition to activities 'directly' in support of the agricultual sector ('narrow' definition)--activities such as forestry, the manufacture of inputs, agro-industries, rural, regional and river development and rural infrastructures. The latter are defined as 'indirectly' in support of the agricultural sector.

TABLE 1-13. OFFICIAL COMMITMENTS OF EXTERNAL ASSISTANCE TO AGRICULTURE, BROAD DEFINITION, 1978 TO 1982

	1978	1979	1980	1981	1982a/
			million $		
TOTAL OCA					
Multilateral b/	5 244	5 122	6 674	7 060	7 288
Bilateral	3 837	4 942	4 627	5 152	5 296
Total at current prices	9 081	10 064	11 301	12 212	12 584
Total at 1975 prices c/	7 265	7 038	7 153	8 141	8 561
CONCESSIONAL OCA					
Multilateral	2 486	2 724	3 607	3 424	3 249
Bilateral	3 443	4 529	4 357	4 583	4 773
Total at current prices	5 929	7 253	7 964	8 007	8 022
Total at 1975 prices c/	4 743	5 072	5 041	5 338	5 457
NON-CONCESSIONAL OCA					
Multilateral	2 758	2 398	3 067	3 636	4 039
Bilateral	394	413	270	569	523
Total at current prices	3 152	2 811	3 337	4 205	4 562
Total at 1975 prices c/	2 522	1 966	2 112	2 803	3 103

a/ Preliminary.

b/ Including World Bank (IBRD/IDA), IFAD, IDB, ASDB, AFDB/ADF, OFID, AFESD, ABEDA, ISDB, UNDP, FAO (TCP/Trust Funds) and commitments to CGIAR (see glossary of terms).

c/ Deflated by the UN unit value index of the export of manufactured goods.

Source: FAO, Policy Analysis Division, and OECD.

The slowing down in the rate of increase in commitments to agriculture between 1982 and 1981 was mainly because of a decline of 5% in multilateral concessional OCA, against a modest 4.1% increase in bilateral sources.

Commitments of assistance to activities 'directly' in support of agriculture ('narrow' definition) reached $7 700 million in 1981 ($5 100 million at 1975 prices), and so decreased by about 8% compared with 1980 (Table 1-14). Reductions in bilateral assistance accounted for two-thirds of this decline.

The level of assistance ('narrow' definition) reached in 1981 is still 40% short of the internationally agreed estimate of annual requirements of $8 300 million at 1975 prices for the period 1975-80. Furthermore, it represents only 40% of the estimated requirements of $12 500 million (at 1975 prices) for 1990 projected in the FAO study, Agriculture: Toward 2000, and mentioned in UN General Assembly Resolution 36/185 on Food Problems. Preliminary data for 1982 show no signs of a significant improvement in meeting these estimated requirements.

Not only is the volume of assistance inadequate in relation to estimated requirements, but its concessional component is also declining from about 74% in 1980 to 69% in 1981. Both bilateral and multilateral assistance contributed to this decline, which is an indication of the hardening of terms of official lending for agricultural development activities in developing countries. This is because activities indirectly in support of agriculture in 1981, which normally get less concessional assistance, received 50% more commitments than the preceding year, while activities directly in support of agriculture did not expand significantly.

TABLE 1-14. OFFICIAL COMMITMENTS OF EXTERNAL ASSISTANCE TO AGRICULTURE, NARROW DEFINITION, 1978 TO 1982

	1978	1979	1980	1981	1982a/
	.....thousand million $.....				
Total commitments					
Multilateral	3.9	3.6	4.8	4.6	4.7
Bilateral	2.6	3.3	3.6	3.2	...
Total at current prices	6.5	6.9	8.4	7.7	...
Total at 1975 prices b/	5.2	4.9	5.3	5.1	...
Concessional OCA					
Multilateral	2.0	2.0	2.7	2.3	2.4
Bilateral	2.6	3.2	3.5	3.0	...
Total at current prices	4.6	5.2	6.2	5.3	...
Total at 1975 prices	3.7	3.6	3.9	3.5	...

a/ Preliminary.

b/ Deflated by the UN unit value index of the export of manufactured goods.

Source: FAO, Policy Analysis Division, and OECD.

Details of official commitments to agriculture in 1982

Data on bilateral assistance to agriculture show a very slight increase in 1982 because of greatly increased (140%) lending from OPEC sources. Concessional commitments by multilateral lending agencies show a decline for the second consecutive year.

In 1982 the World Bank committed $4 358 million to agriculture ('broad' definition). Its concessional commitments declined for the second year in a row, reflecting the squeeze on resources available to IDA during its Sixth Replenishment. The decline in concessional lending by the World Bank is likely to persist in the near future because the negotiations on IDA's Seventh Replenishment resulted in only $9 000 million over three years rather than $12 000 million, or even $16 000 million hoped for. This set-back will further depress agricultural investment in low income countries whose access to commercial lending has become increasingly difficult. The World Bank is still the largest single source of multilateral assistance to agriculture although its share has diminished since the 1970s. In 1982 it accounted for 60% of the total commitments to agriculture and virtually one-half of the concessional flows to the sector.

Regional development banks committed less funds to agriculture in 1982 than in 1981, particularly as concessional loans. They contributed only 25% of the total multilateral assistance to agriculture against about 29% in 1981, and their terms of lending are hardening. The Inter-American Development Bank (IDB) accounted for almost all of this decline, its total commitments having reached only $775 million in 1982 against $1 100 million in 1981.

Commitments by IFAD in 1982 reversed the decline in 1981, thanks to a decision to fund a second three-year programme. However, IFAD encountered difficulties when seeking this replenishment and also in having the obligations met on its first replenishment of $1 100 million over three years. These difficulties underline the problems of maintaining even current levels of financing agricultural development in low income countries.

OPEC multilateral commitments, which are mostly concessional loans, reached their highest level in 1982. They totalled $180 million, of which the Arab Fund for Economic and Social Development (AFESD) contributed more than one-half.

The regional distribution of OCA

The Asian and Pacific Region has received the largest share of total capital commitments to agriculture since the mid 1970s, 11/ followed by Africa, Latin America and the Near East (Table 1-15). The proportion of assistance to Africa has increased in the last eight years, with most of the increase directed to Africa south of the Sahara. This part of Africa received 22% of the total commitments in the period 1979-81 against only 19% in 1974-76.

TABLE 1-15. REGIONAL DISTRIBUTION OF CAPITAL COMMITMENTS TO AGRICULTURE, BROAD DEFINITION, 1974-76 AND 1979-81a/

Country Group	Total Commitments 1974-76	Total Commitments 1979-81	Concessional Commitments 1974-76	Concessional Commitments 1979-81
	..... %			
Asia and the Pacific	42	45	45	51
Africa	21	24	24	27
Latin America	24	23	18	13
Near East	13	8	13	9
Total developing countries	100	100	100	100
of which low income countries with per caput GNP up to $410 in 1982	33	39	49	55

a/ Excluding technical assistance grants.

Source: FAO, Policy Analysis Division, and OECD.

Both the Africa and the Asia and Pacific regions have increased their share of total concessional capital commitments, while the portion of these commitments going to Latin America and the Near East has declined in the last 8 years. This is largely because low income countries 12/ received more concessional assistance in 1979-81 than in 1974-76 and most of them were in Africa and in Asia and the Pacific.

11/ Excluding technical assistance grants.

12/ 38 counries with per caput GNP up to $410 in 1982.

Per caput concessional capital commitments to agriculture in low income countries increased by nearly 170% (from $0.60 to $1.60) in the period 1974-76 to 1979-81, while the corresponding increase for other developing countries was only 108% (from $1.20 to $2.50). However, low income countries accounted for less than 55% of concessional commitments to agriculture and for less than 40% of total commitments in 1979-81.

Disbursements of Multilateral Assistance in Relation to Commitments

As part of the development of its computerized data bank on external assistance to agriculture, FAO is now recording annual disbursements on each commitment to agriculture. This development will enable estimates to be made of rates of disbursement of commitments according to donor, purpose, recipient and other groupings. Some preliminary results on rates of disbursements are presented in Fig. 1-5.

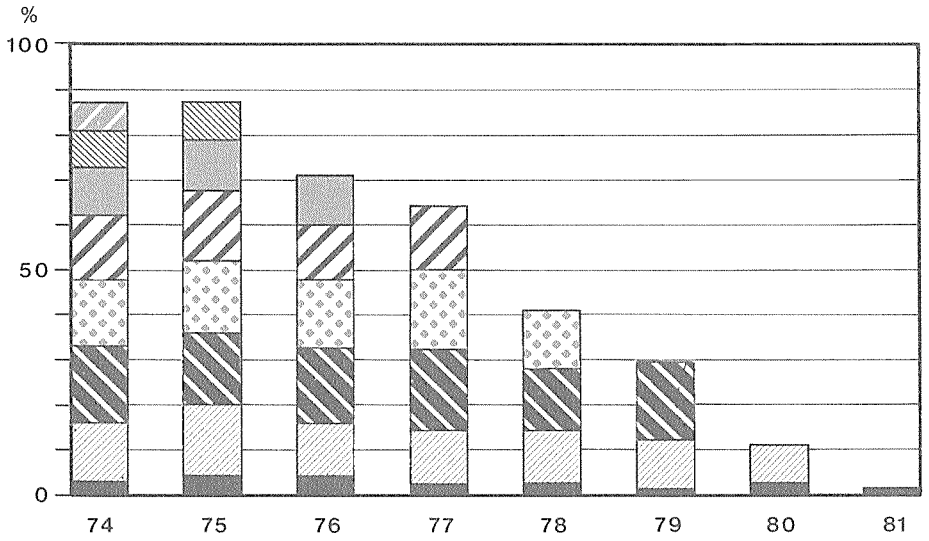


Figure 1-5
PERCENTAGE ANNUAL CUMULATIVE DISBURSEMENTS OF MULTILATERAL CAPITAL COMMITMENTS TO AGRICULTURE, 1974 TO 1981

Source: FAO, Policy Analysis Division

Although there are substantial variations in the rate of disbursement of each year's commitments, it is clear that it takes more than 8 years on average to disburse the entire amount of each commitment to activities in agriculture. Furthermore, only a very small percentage is disbursed in the year of commitment. In general, one-half of the amount committed is disbursed within four years and by the sixth year three-quarters is disbursed. Therefore it can be misleading to gauge flows of external assistance to agriculture on the basis of annual commitments alone. The levels of disbursements in a given year depend on commitments made in the preceding 8 to 10 years.

Among the multilateral donor agencies, the regional development banks as a group disburse at a slightly higher rate than the World Bank, particularly in the first year following the signature of commitments, and more than 90% of their average commitments is disbursed within 8 years.

The pace of disbursements of external assistance may reflect any of several factors: the nature of the projects involved (their period of gestation, lumpiness of investment etc.); the vigour of leadership and the administrative and financial capacity of recipient countries; and the flexibility of donor procedures.

Some broad tendencies revealed by Fig. 1-5 may be noted:

- There is an acceleration in disbursements in the second year which is more or less maintained until the fifth year when disbursements begin to taper off.

- Since the mid-1970 there has been a noticeable decline in the rate of disbursements in the early years of the disbursement period, although the rate may catch up in subsequent years.

From the preliminary analysis that has been done on bilateral concessional commitments, it seems that bilateral grants are disbursed more rapidly; disbursement is virtually complete by the fifth year. However, disbursement of bilateral loans appears to be only a little faster than multilateral loans.

The lag in disbursements means that the upswing in OCA that has occurred since the mid-1970s is still being felt in disbursements. Similarly, the tendency toward a levelling-off in OCA seen in recent years, especially in concessional flows, will not be immediately reflected in disbursements since they are spread over several years, a fact which has a smoothing as well as a lagging effect.

Food Aid

In recent years, annual disbursements of bilateral and multilateral food aid have had a value of about $3 000 million, or about a quarter of the value of commitments to agriculture. Only a small share (about 5%) of food aid is allocated to emergency needs, either through IEFR or the emergency component of the WFP budget ($45 million). Most food aid is to support development projects or nutrition intervention programmes.

Shipments of food aid in cereals are estimated to have been 9.07 million tons in 1982/83, about 1% lower than the previous year (Table 1-16).

TABLE 1-16. SHIPMENTS OF FOOD AID IN CEREALS, 1978/79 TO 1983/84

	1978/79	1979/80	1980/81	1981/82	1982/83a/	1983/84a/b/
	thousand tons, grain equivalent					
Total	9 501c/	8 887	8 943	9 140	9 070	9 007
	%					
Proportion of food aid shipments in cereals made by the 3 largest donors: USA, Canada and EEC	86	82	79	82	86	85
Share of total to low-income food-deficit countries	78	80	78	76	82	79
Proportion of cereal imports by low-income food-deficit countries represented by food aid	20	19	17	16	16	17

a/ Partly estimated.
b/ Allocations.
c/ In addition, according to unofficial reports, the USSR provided emergency aid to several countries in Asia amounting to 200 000 tons in 1978/79 and in 1979/80.

Source: FAO, Commodities and Trade Division.

Shipments to low-income food-deficit countries were 7.5 million tons in 1982/83 and represented 16% of these countries' cereal imports.13/ Food aid represents a declining portion of cereal imports by low-income food-deficit countries (20% in 1978/79) because the volume of food aid has stagnated while these countries' cereal imports have increased by more than 25% since 1978/79. In early 1984 allocations of food aid in cereals for 1983/84 were 9 million tons.

WFP completed 20 years of operations at the end of 1982. It has been estimated that about 170 million people have benefited directly from WFP development and emergency assistance during these two decades. In 1982 alone almost 2 million tons in food aid shipments and more than $800 million in commitments to development and emergency operations were made under the programme.

At its fifteenth session held in May 1983, the Committee on Food Aid Policies and Programmes (CFA) generally agreed that food aid needs in cereals were substantially in excess of the 9 million tons currently being provided. It reached the consensus that the estimate of 20 million tons made by the CFA secretariat provided a useful indication of current annual requirements of cereals for balance of payments support, project food aid and emergencies. Much more would be needed to meet minimum nutritional needs.

At the session, the CFA approved a target of $1 350 million for the regular resources of WFP for the biennium 1985-86. The target for the 1983-84 biennium was set at $1,200 million, 80% of which had been pledged as of early 1984.

Public Expenditure on Agriculture

In addition to monitoring flows of external assistance to agriculture, FAO has also launched a programme to collect data on public expenditure on agriculture in developing countries. This programme measures the volume and composition of expenditures over the five-year period 1978-82 and analyses them in relation to agricultural development policies. In 1983, data on annual planned expenditure on agriculture by the public sector were obtained for 57 countries. They include both capital and current outlays of central, regional and local governments as well as the capital expenditure of non-financial public enterprises engaged in agriculture.

Differences among countries and regions

The high rates of inflation and large swings in exchange rates that characterized the 1978-82 period make it difficult to compare expenditures from one year to the next, or to aggregate such expenditures according to country groups or regions. However, regardless of the method used, the data show that, with some notable exceptions, developing countries found it hard to expand public expenditures during 1978-82 at rates commensurate with population growth and development needs.

When deflated by local consumer price indexes, the data show that expenditures on agriculture declined significantly in 16 of the 57 countries, and declined modestly or increased insignificantly in 17 other countries. However, real expenditure on agriculture significantly increased in 24 countries including such populous countries as Brazil, Mexico and Bangladesh (Table 1-17).

13/ With per caput incomes of less than $795 in 1981 and so eligible to receive IDA assistance.

TABLE 1-17. FREQUENCY DISTRIBUTION OF ANNUAL RATES OF CHANGE (1978-82) OF PUBLIC EXPENDITURE ON AGRICULTURE, BY REGION a/ (AT CONSTANT 1978 PRICES, LOCAL CURRENCY)

	Annual rates of change %					
	-15.0	-15 to -5.1	-5 to 5	5.1 to 15.0	15.0	Total Countries
AFRICA		Lesotho, Gambia, Ghana, CAR, Tanzania, Somalia, Cameroon	Swaziland, Mauritius, Burundi, Benin, Guinea, Zaire, Kenya, Mali	Ethiopia, Algeria, Morocco, Tunisia	Liberia, Gabon	21
ASIA AND FAR EAST			Philippines, Pakistan	Nepal, Korea Rep., Bangladesh	Malaysia Thailand, Sri Lanka	8
LATIN AMERICA	Panama, Argentina, Haiti	Bolivia, Chile, Costa Rica	Surinam, Honduras Jamaica, Guatemala, Colombia	Brazil, El Salvador, Venezuela, Trinidad and Tobago, Mexico, Uruguay	Paraguay, Ecuador, Peru	20
NEAR EAST	Iraq, Libya	Sudan	Syria, Turkey	Cyprus, Egypt	Jordan	8
TOTAL COUNTRIES	5	11	17	15	9	57

a/ Deflated by the consumer price index (CPI) for each country.

Note: Countries underlined are LDC.

Source: FAO, Policy Analysis Division and Statistics Division.

Of the four regions, Asia and the Pacific region managed best to maintain the momentum of attention on agriculture. Only two out of the eight countries studied failed to keep pace with population growth. Flows for capital improvements in particular were sustained.

The pattern in Latin America was ambiguous. Nearly half of the countries studied in this region significantly increased outlays for agriculture during 1978-82, but nearly a third recorded major declines in real terms. Capital expenditure was cut back in the region, particularly in 1981-82.

The situation in the Near East Region is difficult to analyse because of special circumstances such as the Iran-Iraq war. Overall, it seems that the period was not favourable for the expansion of public outlays for agriculture.

The 1978-82 period was an economically difficult one for Africa and this is reflected in the resource flows to agriculture of the 21 countries studied in the region. There were declines in real terms in 11 countries, and outlay expansion failed to match population growth in three others. Furthermore, while current expenditures were broadly maintained, capital expenditures declined in most countries for most of the five years. This is serious, given the generally weak infrastructural base for agricultural development in Africa.

When the 14 least developed countries in the study were analysed as a group, the data showed a similar pattern: only three countries showed significant increases in real expenditure on agriculture. Notwithstanding the efforts of the LDCs to channel more of their public expenditure to agriculture during the 1978-82 period (discussed below), for most of them the growth in flows was slower than for the non-LDCs.

There were large annual fluctuations in expenditures in many of the reporting countries. Some countries showed increases of 30% or more from one year to the next, even in real terms, while others in the same region showed rapid declines during the same year. Probably a major reason for this erratic pattern is that budgets tend to be lumpy, because commitments for large new undertakings are not made every year.

The importance of agriculture in public expenditure

What is the relative importance of agriculture in overall public expenditure? The FAO study shows that about two-thirds of the countries devoted less than 10% of their overall public expenditure to agriculture during 1978-82. The remaining third devoting a larger share to agriculture consisted mainly of LDCs.

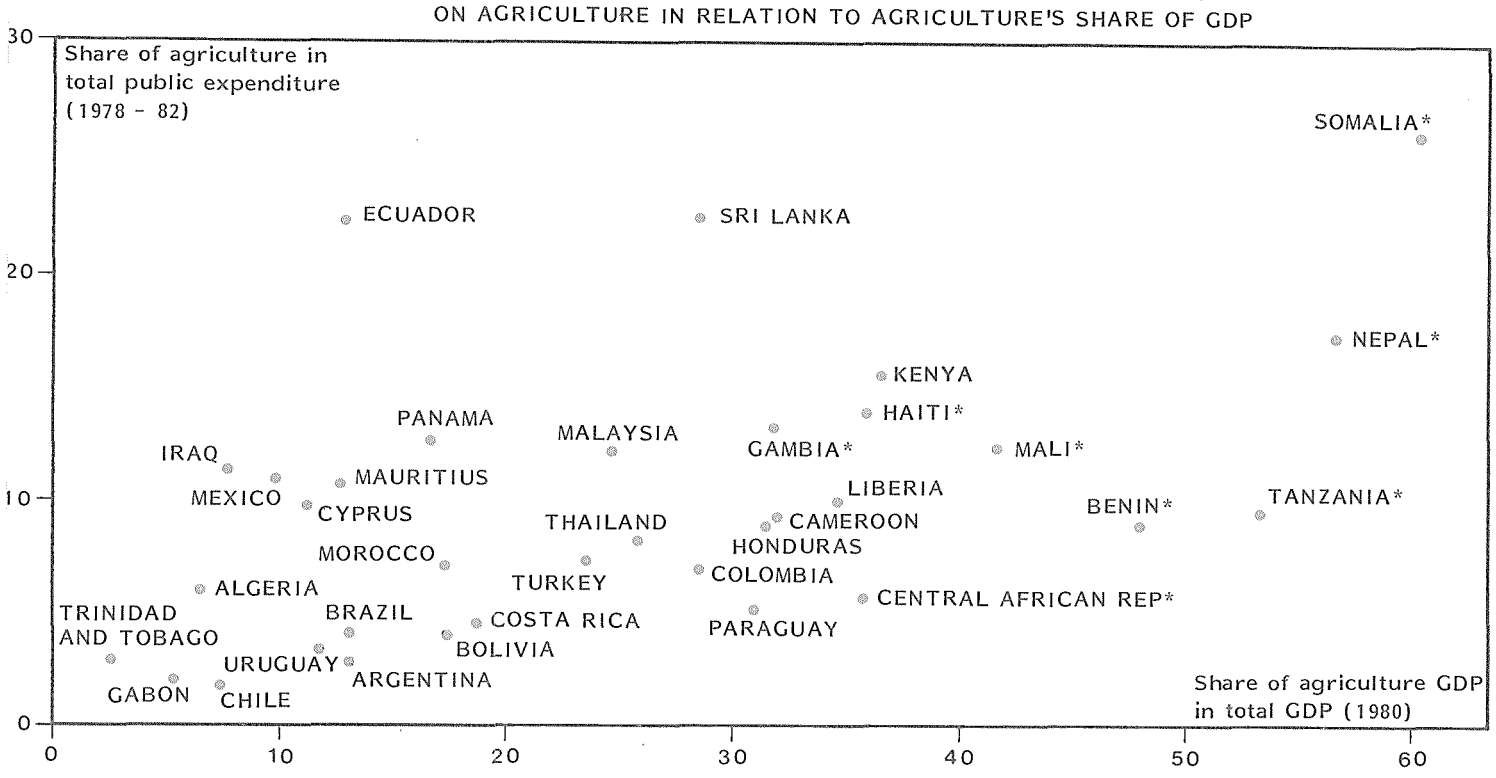
Agriculture generally accounts for a larger share of the GDP in LDCs than in developing countries. This may partly explain the relative importance given to agriculture in the planned public expenditure of the LDCs in the study, even though their overall levels of expenditure were lower. However, for most of the developing countries under consideration, agriculture received a share which was smaller than its contribution to GDP (Fig. 1-6).

While this may indicate that some countries have given lower priority to agriculture, it may also reflect:

- A lower degree of public sector involvement in the economy (private investment is not included in the study).

- The smaller capital needs of some types of agriculture.
- The level of development of the physical infrastructure of the economy.
- A combination of all these elements.

Figure 1-6 ALLOCATION BY DEVELOPING COUNTRY OF PUBLIC EXPENDITURE ON AGRICULTURE IN RELATION TO AGRICULTURE'S SHARE OF GDP



Source: FAO, Policy Analysis and Statistics Division

* Least developed countries

Indeed, for two-thirds of the LDCs studied, 60% of the public expenditure on agriculture was as capital expenditure during 1978-82, while this was so for only 40% of non-LDCs. This appears to reflect the high priority that LDCs place on improving the existing low levels of their agricultural infrastructure.

When the ratio of public expenditure on agriculture to total public expenditure falls far short of agriculture's contribution to GDP, questions can be raised as to whether agriculture is receiving an adequate or 'fair' share of public expenditure. However, to strive for expenditure on agriculture that is proportional to its share of GDP is neither the main question nor a target to be rigidly pursued, particularly by low income countries. Agriculture's share of public expenditure, however, can be one of the variables used in assessing the sector's performance in meeting development objectives.

Expenditure per caput

Only in one of the reporting LDCs did annual per caput expenditure on agriculture reach $ 20 in terms of constant 1978 dollars during 1978-82. On the other hand, one-half of the non-LDCs showed an annual per caput expenditure on agriculture higher than $ 20 and 14% exceeded $ 50 a year. These are in themselves surprisingly high figures in relation to per caput GNP, let alone per caput agricultural incomes. The average per caput GNP for the LDCs was $200 in 1978. However, while LDCs devote relatively more of their public expenditure to agriculture, this expenditure is generally lower than for non-LDCs on a per caput basis.

THE APPRECIATING US DOLLAR AND ITS USE IN COMPARING COUNTRY EXPENDITURE DATA

The US dollar has been traditionally used to convert flows of different international currencies into comparable values. However, the rapid appreciation of the dollar against almost all other currencies during the 1980-83 period severely limits its use as an international numeraire. Trends and growth rates based on the dollar exchange rate during this period are likely to be misleading. Unfortunately, selection of a numeraire for cross-country comparisons or regional aggregation is a very difficult task as distortions or methodological problems exist regardless of the currency used.

The FAO project currently under way to analyse public expenditure on agriculture from 1979-82 in developing countries is faced with precisely this dilemma since the growth rates of regions or other country groups need to be calculated for comparison. This requires aggregation of the expenditures of various countries into a common currency. Usually the dollar is used to convert currencies and aggregate them at the regional level. If the dollar is used, however, its appreciation in the past three to four years biases the value of other currencies downward. According to some sources, as of early 1984 the US dollar was overvalued by 32%. This gives an order of magnitude of the bias.

Moreover, any country's exchange rate is theoretically a reflection of the market value of its internationally traded goods. The subject of the FAO study is domestic public expenditure. While some of these expenditures are in dollars because official development assistance or other external sources of finance are made in this currency, only in some of the smaller low income countries are they likely to represent large shares of total expenditures.

This analysis of growth in public expenditure on agriculture in relation to overall public expenditure also shows that the former expenditure tends to move in line with the latter and suggests that agriculture generally benefits directly from an increase in the total volume of public expenditure.

FISHERIES

The Situation in 1982 and 1983

An increase of more than 300 thousand tons of fresh-water fish and nearly 1.4 million tons of marine species brought world catches of fish, crustaceans and molluscs to 76.8 million tons in 1982, the latest year for which complete information is available (Table 1-18). This was the fifth consecutive year of growth after the setback to the world fishery catch brought about by the resource limitations of some large fishery stocks and adjustments to the general introduction of national jurisdiction over the natural resources to distances of 200 nautical miles.

The largest part of the increase in 1982, however, consisted mainly of species destined for reduction to meal for animal feeding, a share of the production which accounts for about one-third of the total. Global catches of fish for direct human consumption have continued a modest, but steady expansion to 53.2 million tons in 1982. But the per caput supply of food fish has decreased in some populous countries such as India while the catch of food fish by African countries has barely increased in recent years.

TABLE 1-18. CATCH OF FISH, CRUSTACEANS AND MOLLUSCS, INCLUDING ALL AQUATIC ORGANISMS EXCEPT WHALES AND SEA WEEDS, COUNTRY GROUPS AND WORLD, 1980, 1981 AND 1982

	1980	1981	1982	Change 1980 to 1981	Change 1981 to 1982	Annual rate of change 1973 to 1982	Annual rate of change 1978 to 1982
	.....million m.t.....			.....%			
Developing market economies	26.6	28.4	29.1	7.0	2.4	3.9	3.2
Africa	3.1	3.2	3.3	4.0	0.6	-2.5	-0.6
Far East	12.4	13.3	13.1	6.7	-0.9	3.2	2.3
Latin America	9.6	10.5	11.4	9.2	9.2	7.6	5.7
Near East	1.0	1.0	1.1	2.3	4.3	6.1	9.2
Other developing market economies	0.4	0.4	0.2	-	-48.4	3.0	-10.9
Asian centrally planned economies	7.5	7.8	8.5	3.6	8.5	2.2	3.5
Total developing countries	34.1	36.2	37.6	6.2	3.7	3.5	3.3
Developed market economies	27.5	28.0	27.9	1.8	-0.3	0.9	0.9
North America	5.0	5.2	5.4	4.0	4.1	4.3	2.9
Oceania	0.2	0.3	0.3	11.9	9.1	4.4	6.7
Western Europe	11.2	11.3	10.9	0.5	-3.8	-0.3	-0.9
Other	11.1	11.3	11.4	2.1	1.1	0.7	1.7
Eastern Europe and USSR	10.7	10.8	11.2	0.7	4.0	0.3	2.9
Total developed countries	38.2	38.8	39.2	1.5	0.9	0.7	1.5
World	72.3	75.1	76.8	3.7	2.3	2.3	2.3

Source: FAO, Fisheries Department.

The most significant regional increase in fish catches occurred in South America following expanded catches in Argentina (31%), Peru (26%) and Chile (8%). There were also some significant increases in the catches of China (11%), Indonesia and the Philippines (both 6%), but decreases were recorded in Malaysia (15%), the Republic of Korea and Thailand (both 4%) and India.

The global production of developed countries expanded only moderately in 1982, though catches among individual countries varied markedly, such as Iceland (-45%) where catches of capelin collapsed; or, in contrast, Romania (+23%), Denmark (+16%) and Spain (+7%). The level of production of the remainder of Europe has stabilized around the level attained in most recent years. Japan and the USSR, the two top fishing nations of the world, increased their production by 1% and 4%, respectively.

Evidence available for 1983, though still incomplete, points to a decrease of the global amount of fish caught. This is mainly a consequence of the significantly smaller catches of fish made by South American countries bordering the Pacific Ocean which were adversely affected by the abnormally intense current, El Niño. The result is likely to be a decreased supply of fish for feed.

Trade in Fishery Products in 1982-1983

The value of world trade in fish and fishery products failed to grow in 1982 (Table 1-19). Even though there was a large expansion in the volume of trade, it was mostly of low valued fishmeal. The lack of growth

TABLE 1-19. INDEX NUMBERS OF VALUE, VOLUME AND UNIT VALUE OF EXPORTS OF FISHERY PRODUCTS, TOTAL DEVELOPING AND TOTAL DEVELOPED COUNTRIES AND WORLD, 1980, 1981 AND 1982

				Change		Annual rate of change	
	1980	1981	1982	1980 to 1981	1981 to 1982	1973 to 1982	1978 to 1982
	...1974-76=100....			.....%.....			
VALUE	223	234	226	4.7	-3.2	14.4	6.9
Total developing countries	252	278	279	10.4	0.5	18.4	9.9
Total developed countries	208	210	198	1.0	-5.8	12.2	5.0
VOLUME	135	139	142	2.6	2.3	5.5	3.7
Total developing countries	156	163	179	4.7	9.7	8.9	5.4
Total developed countries	125	127	125	1.8	-2.2	3.7	2.5
UNIT VALUE	164	168	158	1.9	-5.6	8.3	3.1
Total developing countries	162	172	158	5.7	-7.9	8.7	4.5
Total developed countries	167	166	158	-0.4	-4.8	8.2	2.4

Source: FAO, Fisheries Department.

in the value of trade reflects, on the supply side, resource limitations of some high value stocks fished by traditional large exporters. On the demand side, the widespread economic recession affected imports in many of the developed countries which account for 85% of the value of total world fishery imports.

This problem was particularly acute among West European countries where imports dropped another 2% in value after the unprecedented 10% decline in 1981. However, in Japan and in the USA, the two largest markets, imports grew by 6%.

Most developed countries also suffered some decline in the value of their fishery exports, the falls having been particularly significant in the cases of Spain (33%) and Iceland (29%). The exceptions were the increases in fishery exports of Poland (69%), Australia (27%), Ireland (19%), and a few others.

Developing countries again increased their share of world exports, accounting in 1982 for 43% of the total value of exports against 32% ten years ago. Noticeable increases occurred in Cuba (44%) and Senegal (36%). Countering this, however, the exports of some of the major exporting countries, such as the Republic of Korea declined by 10%.

Available evidence for 1983 suggests a slight improvement in the value of trade of fishery products. This improvement would result from higher fishmeal prices after the low levels attained in 1982 and a slight recovery in the prices of tuna. However, the low level of shrimp prices in 1983 may have an adverse effect on the earnings of many exporting developing countries. Although the short-term prospects are for an expansion of fishery trade, sustained growth will depend primarily upon the economic recovery of currently depressed markets.

Need for Improved Information for Fisheries Management and Development

The new developments in fisheries arising from the adoption of the new Law of the Sea are creating a greatly increased demand for information. For those coastal states that have acquired large exclusive economic zones (EEZs), there is a need to know more about the quantity and value of the resources the zones contain. Information is also required for effective management of limited inshore stocks as competition for them increases and decisions on their access by fishermen become more critical. Furthermore, with growing awareness of the persistent poverty of artisanal fishermen, there is a need to understand more fully the social and economic characteristics of fishing communities.

Obtaining such information is difficult for a variety of reasons.

- Fishery resources are not homogeneous. They include several hundred species, each of which may have a different pattern of demand and command a different price, depending upon the size of the individual fish, the nature of the local market, the season, and the availability of processing facilities and distribution networks. A single haul of the net may bring in highly valued species for the export market as well as trash fish that may be discarded or sold at low prices for fishmeal or feed for livestock.

- It is difficult to obtain information on resources because fish are not readily visible, move from place to place and are subject to environmental changes that are only partly understood. There is frequently great uncertainty about the accuracy of the information, which leads to a corresponding amount of economic risk in fishing operations and so to problems for decision-making on fisheries management and development.

- Fishing methods range from hand-held dip nets in shallow waters to highly sophisticated, large vessels capable of fishing thousands of miles from home ports. There is a vast range of costs and employment opportunities.

- Artisanal fishing communities are often isolated or, in some cases, migrate along coasts following the seasonal movements of fish. Fishing for subsistence or as a part-time seasonal activity also complicates the task.

The problems of acquiring satisfactory information present several challenges to governments, regional organizations and international agencies. A basic challenge is that of acquiring data cost-effectively. The collection of data on fishery resources, catches, fishing effort, international trade, prices, costs, incomes and employment can be very expensive. For some items, regional organizations and bodies can help to reduce the costs to individual countries by achieving economies of scale. For example, the collection and dissemination of data on international markets and trade of fishery products are achieved effectively in Asia and the Pacific by INFOFISH, and in Latin America by INFOPESCA, regional organizations established by FAO as first steps toward a global network of information services on fish markets. Regional collaboration is also important for obtaining information on fishery resources, particularly data on stocks shared by two or more states.

For other items, such as social and economic data on small-scale fisheries, the task of collection lies in the hands of individual countries. International organizations can have a role in this field, however, by improving training activities, developing training manuals and providing support for technical cooperation among developing countries.

THE WORLD CONFERENCE ON FISHERIES MANAGEMENT AND DEVELOPMENT

The Third United Nations Conference on the Law of the Sea completed its work on 30 April 1982 when it adopted an International Convention of the Law of the Sea. The Convention was opened for signature in December 1982. The new Convention, together with state practice, has resulted in the expansion of the coastal state authority over fishery resources to distances of 200 nautical miles from shore. Many coastal states have thus acquired not only new opportunities but also weighty problems, responsibilities and challenges.

FAO is organizing a World Conference on Fisheries Management and Development in 1984 which is the first international initiative to confront the practical realities of this new legal regime of the sea. The conference focuses on means of improving the self-reliance of developing countries to manage and develop their fisheries; strategies and action programmes designed to increase the contribution of fisheries to national economic, social and nutritional goals; the promotion of international collaboration to achieve these objectives.

The preparatory, technical phase of the conference took place in October 1983 in the form of an extended fifteenth session of the FAO Committee on Fisheries. Delegations from 121 states and representatives of many international organizations reviewed key issues involved in the management and development of fisheries, including those of inland waters and aquaculture as well as marine fisheries. They also considered proposals for a Strategy for Fisheries Management and Development and for associated programmes for specific action. These proposals are being further elaborated in consultation with governments and concerned organizations before they are presented for the final policy phase of the conference, which takes place in Rome from 27 June to 6 July 1984.

Improving the analysis of data is another important challenge. There is a pressing need for improved competency in economic and social research and for developing analytical models suited to the problems of small-scale fisheries, multi-species fisheries and stocks with highly fluctuating yields.

Achieving better communication between those making decisions on the management and development of fisheries and those providing the information for decision-making provides both a challenge and an opportunity. The challenge lies in setting up the appropriate institutional framework. The opportunity lies in improving the efficient use of information by making data collection and analysis directly relevant to the needs of decision-makers.

FORESTRY

Production in 1982

World production of forest products in 1982 continued to reflect the prolonged recession in the world economy (Table 1-20). For example, production of both sawnwood and wood-based panels fell by a further 5%, having fallen by 2-3% in 1981 and reached their lowest levels since 1974/75. World production of industrial roundwood also fell by more than 3% in 1982 following the 2.4% decline of the previous year. Overall production of these three products has declined over the five year period 1978-82. The effects of the recession were particularly felt in the USA where the production of coniferous sawnwood was the lowest recorded in many years, reflecting the very depressed state of the building industry. In other developed countries the effects of the recession were less severe although production levels dropped almost everywhere.

In the last quarter of 1982 a revival of demand was particularly evident in the USA where building activity, particularly the construction of domestic housing, was stimulated by a marked fall in interest rates. In 1983 signs of the economic recovery were also evident in Canada and in some western European countries. As a consequence, world production of sawnwood in 1983 is expected to increase by about 10% over 1982 so that total sawnwood production would return to the level of 1980.

In developing countries, the fall in the production of industrial roundwood and sawnwood, together with the slow growth in production of wood-based panels, reflects the depressed state of trade in tropical forest products. However, the domestic performance of the forest industries of developing countries was sustained by the continued growth in roundwood production for fuel and charcoal which accounts for more than 80% of their total wood production.

The pulp and paper sector was also affected by the world economic recession in 1982, as developed countries' output stagnated in 1981 and declined by about 5% in 1982. Developing countries managed to increase production marginally although they still have only a 10-15% share of total output. Some of them with relatively small domestic markets are threatened by imports of low-priced paper from developed countries and in these cases the continued operation of their domestic industry depends on considerable government assistance. For example, in the Philippines plant operation was at only 60% of the peak production level. On the other hand, Brazil, the largest pulp and paper producer among developing countries, managed to increase its production despite a marked decline in its export markets. India and Indonesia both continued to expand their industries' capacity and production.

TABLE 1-20. OUTPUT OF MAIN FOREST PRODUCTS, TOTAL DEVELOPING AND TOTAL DEVELOPED COUNTRIES AND WORLD, 1980, 1981 AND 1982

	1980	1981	1982	Change 1980 to 1981	Change 1981 to 1982	Annual rate of change 1973 to 1982	Annual rate of change 1978 to 1982
	.....million c.m.....			.....%			
ROUNDWOOD	2 970	2 977	2 959	0.2	-0.6	0.5	1.1
Total developing countries	1 625	1 633	1 659	0.5	1.6	2.4	1.9
Total developed countries	1 346	1 343	1 300	-0.2	-3.2	0.7	-
Fuelwood and charcoal	1 530	1 572	1 601	2.7	1.8	2.6	3.1
Total developing countries	1 298	1 323	1 351	1.9	2.1	2.2	2.2
Total developed countries	232	249	250	7.1	0.4	5.4	8.2
Industrial roundwood	1 440	1 405	1 358	-2.4	-3.4	0.6	-1.1
Total developing countries	327	311	308	-4.9	-0.8	3.5	0.7
Total developed countries	1 113	1 095	1 050	-1.7	-4.1	-0.1	-1.6
PROCESSED WOOD PRODUCTS							
Sawnwood and sleepers	440	428	408	-2.8	-4.7	-0.1	-2.6
Total developing countries	88	95	91	8.6	-4.7	5.6	3.5
Total developed countries	352	333	318	-5.6	-4.4	-1.3	-4.0
Wood-based panels	101	99	94	-1.9	-5.3	1.2	-2.7
Total developing countries	14	15	15	2.8	4.8	7.1	3.7
Total developed countries	87	85	79	-2.5	-7.1	0.4	-3.7
	.....million m.t.....						
Pulp for paper	130	131	125	0.5	-4.4	1.6	0.4
Total developing countries	15	15	16	-	1.3	7.3	5.6
Total developed countries	115	115	109	0.5	-5.1	1.0	-0.3
Paper and paperboard	172	173	165	0.1	-4.1	2.4	1.0
Total developing countries	19	18	19	-5.3	6.1	6.7	4.2
Total developing countries	153	154	146	0.1	-4.8	2.0	0.6

Source: FAO, Forestry Department.

There was a definite improvement in the demand for pulp and paper in the first months of 1983 beginning in North America but gradually extending to the other countries of Western Europe. Stock levels of pulp are reported to be some 30% lower than they were at the end of 1982. Preliminary estimates for 1983 indicate that world pulp production may have reached 132 million tons, an increase of 6% over 1982 but still only at 1981 levels. However, the production of paper should also recover to the 1981 level of 173 million tons.

Recycled waste paper is an increasingly important input to paper production, particularly in developing countries. This development may partly explain the slower growth of pulp production.

Trade in Forest Products

There was a further decline in trade levels of almost all forest products in 1982 (Table 1-21). Reduced economic activity occurring in the developed countries, the instability of exchange rates and the growing external debt of developing countries all contributed to reduce volumes of trade. Trade in industrial roundwood continued to decline but at a slower rate than in 1981. There was even a small gain for developing countries owing to the recovery in Chilean exports and to increased export volumes from some smaller exporters. However, the downward trend in trade in tropical roundwood will probably continue in view of the deliberate policy of some major exporters among developing countries to reduce their exports of unprocessed raw material.

Trade in sawnwood showed a small increase over 1981, thanks mainly to an upsurge of Swedish exports boosted by a substantial devaluation of the Swedish currency. Sawnwood exports of a number of developing countries, notably Malaysia, Indonesia and the Ivory Coast, recovered somewhat, but Chilean exports declined further to half the level of their 1980 peak. The total exports of sawnwood are still, however, some 8% below the quantities recorded in 1978/80.

The economic recovery that began in 1983 and the need to replenish very low levels of stocks are expected to have led to an increased volume of trade in forest products in 1983.

Trends in Prices of Forest Products

The period from 1972 has been one in which current prices of forest products have increased rapidly. However, when prices of forest products are taken together and related to those of manufactured goods, the picture is one of relatively stable real price (Fig.1-7). Several products--such as temperate roundwood, sawnwood, pulp and paper--correspond to this broad price stability. Plywood and, most strikingly, particleboard showed a marked downward trend in real prices. In contrast, wood-based fuels, particularly charcoal, and tropical logs and sawnwood showed an upward trend and are of particular importance to the developing world. Since about 1976 prices of tropical forest products have been about 20% higher in real terms than in the 1960s and early 1970s. The real value of the exports of forest products by developing countries doubled over the 1970s but has fallen back by about 15% during 1981-82.

TABLE 1-21. VOLUME OF EXPORTS OF MAIN FOREST PRODUCTS, TOTAL DEVELOPING AND TOTAL DEVELOPED COUNTRIES, AND WORLD, 1980, 1981 AND 1982

	1980	1981	1982	Change 1980 to 1981	Change 1981 to 1982	Annual rate of change 1973 to 1982	Annual rate of change 1978 to 1982
	.....million c.m.....			.....%			
Industrial Roundwood	115.2	100.8	98.4	-12.5	-2.4	-0.5	-4.7
Total developing countries	42.3	33.7	34.3	-20.3	1.8	-2.8	-9.9
Total developed countries	72.9	67.1	64.0	-8.0	-4.6	1.0	-1.4
PROCESSED WOOD PRODUCTS							
Sawnwood and sleepers	79.7	72.8	73.4	-8.7	0.8	2.5	-2.7
Total developing countries	11.0	9.3	9.1	-15.1	-2.1	3.4	-3.6
Total developed countries	68.7	63.5	64.3	-7.6	1.3	2.3	-2.6
Wood based panels	16.3	16.7	15.3	2.5	-8.4	2.5	-1.4
Total developing countries	4.7	5.4	5.1	14.9	-5.6	3.0	-0.4
Total developed countries	11.6	11.3	10.1	-2.6	-10.6	2.2	-2.0
	.....million m.t.....						
Pulp	19.8	18.8	17.2	-5.1	-8.5	-15.5	-0.3
Total developing countries	1.6	1.7	1.6	6.2	-5.9	10.0	12.8
Total developed countries	18.1	17.1	15.6	-5.5	-8.8	1.1	-1.3
Paper and paperboard	37.5	35.6	33.8	-5.1	-5.1	3.5	2.9
Total developing countries	0.9	1.1	1.0	22.2	-9.1	10.9	15.9
Total developed countries	36.6	34.4	32.8	-6.0	-4.7	3.3	2.5

Source: FAO, Forestry Department.

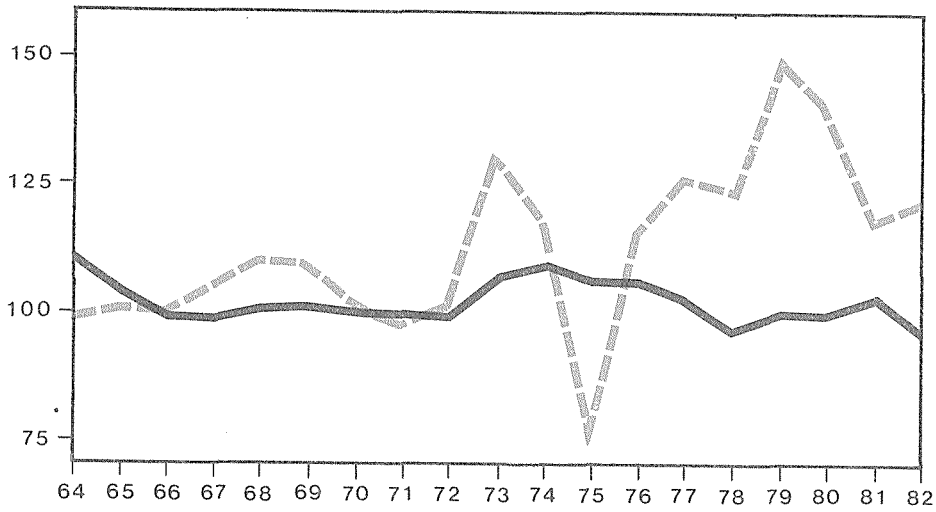


Figure 1-7
INDEX NUMBERS OF REAL PRICES OF ALL FOREST PRODUCTS AND TROPICAL LOGS AND SAWNWOOD, 1962 TO 1982

Source: FAO, Forestry Department

Impact of External Factors on the Forest

Air pollution - acid rain

The adverse and expanding impact of air pollution on forest cover is causing serious concern and arousing public awareness in industrialized countries of central and Western Europe. It is generally thought, although not yet scientifically proved, that the main cause of this adverse effect on the health, productivity and maintenance of forest stands and ecosystems is acid rain. A byproduct of heavy industrial production, acid rain forms when sulphuric dioxide and nitrogen oxides, spewed out by fossil-fueled industrial plants, combine with atmospheric moisture and oxygen. The resulting rain is thought to have directly damaging effects on forest stands, may lead to a cumulative increase in soil acidity, and contribute to increased susceptibility of the forest to damage from drought, insect infestation and epidemic disease. Forest ecosystems have, in general, a greater sensitivity to air pollution than open land with annual crops mainly because of the long life of trees and their capacity to accumulate pollutants. The Convention on Long Range Transboundary Air Pollution of the Economic Commission for Europe recommended, inter alia, a concerted international effort to deal with the threat of widespread damage to forests from air pollution. Substantial efforts are being made to introduce legislation to limit at their source the emission of air pollutants. Many countries in Europe and in North America are also undertaking research and are monitoring the long term impact of air pollution on terrestrial ecosystems.

Drought - bush fires

Recently exceptional drought conditions have worsened the fire hazards in a number of countries. In the first months of 1983 such conditions resulted in extended bush fires in the Ivory Coast, Ghana and Togo. The prolonged dry and windy conditions extended the fires from the grasslands and the savannah into the tropical forest zones, causing the destruction of forests and cocoa, coffee and oil palm plantations, even near

the coast. Fire is a perennial factor in the process of forest degradation in Africa.

In Australia, which has recently suffered a prolonged period of drought, forest fires caused extensive loss of lives and property, the destruction of 170 thousand hectares of plantation forest and severe damage to considerable areas of grazing land. Serious fires have also caused extensive damage to forests in both northern Europe and the Mediterranean region.

Storms and Other Causes of Damage

Severe windthrow has caused exceptional damage to forests in France and central Europe during the past year while the nun moth epidemic in Poland has caused extensive deaths of trees in that country. Insect epidemics are a recurrent risk in the temperate forests of Europe and North America and control by chemical treatment and particularly by biological methods has had to be increased.

One effect of such concentrations of damage is the emergence of exceptional flows of salvaged timber to the market which can have a destabilizing effect on prices. In many cases governments take special measures to alleviate these potentially harmful effects on forest industry by such means as subsidizing storage. For example, in 1983 France placed restrictions on the import of coniferous sawnwood to assist its domestic market in absorbing timber salvaged after a major storm there.

Salvaged timber is a potential threat in another way because it is subject to accelerated infestation by insects and disease which may easily be transferred in shipments both within the country and abroad. This is of particular concern in regions or countries with forests which do not have inherent resistance to new pests and diseases. Several countries have undertaken special campaigns to prevent the entry of pests or to control outbreaks of alien pests introduced through imports of infected timber or live plants.

THE FOOD AND AGRICULTURAL SITUATION IN SUB-SAHARAN AFRICA

The deteriorating food and agricultural situation of this region has drawn the concerned attention for more than a decade of those involved with agricultural and rural development. The Sahel drought of the five-year period from the late 1960s to early 1970s left in its wake a more enduring, widespread and apparently chronic situation of declining levels of per caput food production, rising food imports, increasing incidences of food emergencies, a stagnating nutritional status and a rather weak agricultural export performance. By the early 1980s several major diagnostic and prescriptive studies of the situation had been undertaken by United Nations and other agencies such as FAO, the World Bank and the United States Department of Agriculture (USDA).14/ Furthermore, African politicians themselves had become alarmed at the widespread deterioration in the performance of their countries' agricultural sector. In the Lagos Plan of Action they made both a declaration of intent to overcome this untenable situation and also set down the means to do so through a series of programmes to be implemented during 1980-85.15/

More recently, the FAO Committee on World Food Security, on the basis of an interim report prepared by the FAO secretariat,16/ gave special consideration to constraints to food production in the low-income food-deficit countries of Africa and possible measures to overcome them. It was agreed that CFS would continue to keep the problems of these countries under review at its future sessions.

This section cannot provide definitive answers. Rather, by building on the perspectives provided by various studies, it seeks to provide a meaningful departure point and framework for the constructive examination of strategies and policies in the region. It is structured in two parts: 1) an analysis, at the country and country-group level, of the variations in land and human resources, the intensity of input use and production performance in relation to population needs; and 2) a review of those national strategies and policies on urbanization, pricing, land and population that explain, at least partly, the varying degrees of success experienced by Sub-Saharan countries in their agricultural development. The important linkages between training and research are discussed as well as external factors related to trade and development assistance.

Variations in Country Situations

Sub-Saharan Africa, for the purposes of this section, consists of 46 developing countries that lie either completely or partly south of the Sahara Desert or are otherwise known as African island countries. Five developing countries are excluded from the analysis because they are either very small or comprehensive data on them are to difficult to obtain. The remaining 41 countries are an extremely heterogenous group.

14/ FAO, Regional Food Plan for Africa, Rome 1980; The World Bank, Accelerated Development in Sub-Saharan Africa, An Agenda for Action, Washington, D.C., 1981. (Alternatively known as the Berg Report after the name of its coordinator.) The World Bank subsequently produced a followup report, Sub-Saharan Africa: Progress Report on Development Prospects and Programmes, Report No. 4630, July 1983. USDA, Food Problems and Prospects in Sub-Saharan Africa: The Decade of the 1980s, Foreign Agricultural Research Report No. 166, Washington, D.C., August 1981.

15/ OAU, Lagos Plan of Action for the Economic Development of Africa, 1980-2000, Geneva, 1981.

16/ FAO, Interim Report on Constraints on Food Production in Low-Income, Food-deficit Countries of Africa, CFS 83/6, February 1983.

Inter-country variations are first of all due to differences in resources and climatic and agronomic settings. These factors have a pervasive influence on the crop and livestock production-consumption systems that have emerged historically, on the socio-economic structures associated with them, and on future potentials for improving incomes and food supplies.

Exposure to risk is another dominant variable. Agricultural production in Sub-Saharan Africa is very risky. Traditional peasant agriculture has adapted itself reasonably well to the uncertainties of natural settings--drought, pests and disease. Protection against such contingencies is often more important in the minds of farmers than maximizing output or income. However, the expansion of the area under cultivation, the intensification of cropping, the introduction of new crop varieties and farming systems, while increasing output per caput, also increase risk.

Furthermore, as changes in the structure of society take place, there is more and more exposure to 'non-natural' risks--unstable economies and political settings, volatile market and input prices, unclear government agricultural policies and undependable support and assistance delivery systems.

Another element of differentiation is the pace of population growth and recent urbanization trends which contribute to changes in food-consumption patterns and pose challenges to traditional food-supply systems. These economic, political and demographic differences have an important bearing on food policies and require special attention in each country. However, it is not feasible to treat each country separately; nor is it meaningful to discuss all of Sub-Saharan Africa as a single entity. For the purposes of the following review, it is useful to classify the 41 countries of Sub-Sahara Africa on the basis of two criteria:

a) The potential population supporting capacity of land (PPSC), i.e. the potential capacity of a country's agricultural land to support its population's minimum nutritional needs.

b) The food production and consumption patterns that have emerged from climatic and agronomic settings and that largely determine future potential for improving incomes and food supplies.

In many of the Sub-Saharan countries livestock, fisheries and forests are also an important part of the picture. How these elements combine with the above two classifications is shown in Table 1-22.

As can be seen from Table 1-22, eighteen of the 41 countries (or 44%) containing approximately 42% of the population, are relatively land- rich (with PPSC ratios of more than 2). But as much as 50% of the population live in the 15 land-scarce countries.

A Synoptic Account of Developments in the 1970s

An attempt has been made to give a synoptic account of the development experience of these countries, classified according to their land resources, also showing group averages weighted by the average population in the 1970s (Tables 1-23 to 1-25). Only a cursory analysis is possible, examining certain key indicators or variables.

TABLE 1-22. CLASSIFICATION OF COUNTRIES IN SUB-SAHARAN AFRICA ACCORDING TO POTENTIAL POPULATION SUPPORTING CAPACITY OF LAND (PPSC) AND MAJOR FOOD COMMODITIES CONSUMED, MID-1970s

PPSC	Major food commodities consumed						Number of countries	Total population Av. 1971-80 (million)	Share of regional population (%)
	Maize	Millet-sorghum	Rice	Roots-tubers	Roots-tubers & cereals	Mixed cereals			
Land scarce: 0.50	Cape Verde(Fi) Lesotho (L) Kenya (L)	Niger (L)		Burundi, Rwanda		Mauritania (Fi, L) Somalia (L)	8	33.1	11
Land moderately scarce: 0.51-1.00	Namibia (Fi, L)	Upper Volta			Nigeria(Fo) Uganda (Fi)	Mauritius, Senegal (Fi) Ethiopia (Fo, L)	7	120.5	39
Land in balance with population: 1.01-2.00	Swaziland (L) Malawi, Zimbabwe (L)	Mali (Fi,L)	S. Leone (Fi)	Togo		Botswana (L) Gambia (Fi)	8	25.1	8
Land moderately abundant: 2.01-5.00		Sudan (L) Chad (Fi,L)	Guinea-Bissau, Guinea(Fo)	Ghana (Fi) Mozambique	Benin, Tanzania (Fi, L)		8	63.7	21
Land abundant: 5.00	Zambia (Fo)		Madagas-car(Fo,L) Liberia (Fo)	Congo (Fi,Fo) Angola(Fo) Zaire (Fo) CAR (Fo)	Gabon (Fo,Fi) Ivory C. (Fo) Cameroon (Fo)		10	64.4	21
No. of countries	8	5	5	9	7	7	41		
Total population Av.1971-80 (mill)	33.6	37.4	17.6	64.8	112.4	41.0		306.8	
Share of regional population (%)	11	12	6	21	37	13			100

Note. Countries are also identified by significant agricultural resources apart from land: (Fi)= fisheries; (Fo) = forest resources; (L) = livestock.

Source: FAO, Policy Analysis Division.

TABLE 1-23. SELECTED INDICATORS OF POPULATION AND LAND IN SUB-SAHARAN AFRICA

Country group by PPSC	Total population 1980	current growth	Agr. pop. relative to total 1980	population growth 1971-80	Agric. lab.force growth 1971-80	PPSC	Arable land per caput 1980	Arable land per caput agr.lab.force 1971-80	Irrig.area relative to arable land 1980	growth 1971-80	Forest land per caput growth 1971-80
	'000	p.a.	%	% p.a.	% p.a.	ratio	ha	% p.a.	%	% p.a.	% p.a.
Cape Verde	324	1.5	56.2	-1.0	1.7	0.01	0.1	-1.7	5.0	-	-2.0
Lesotho	1 341	2.5	83.7	-0.7	0.9	0.46	0.2	-3.7	-	-	-3.3
Burundi	4 241	2.5	83.0	-0.5	0.7	0.22	0.3	0.4	0.4	-1.2	-0.5
Niger	5 318	3.0	87.9	-0.6	2.0	0.17	0.7	1.4	1.0	3.8	-4.6
Rwanda	4 797	3.2	89.5	-0.4	2.2	0.18	0.2	0.7	0.3	6.6	-4.0
Mauritania	1 634	2.9	82.8	-0.6	1.9	0.35	0.1	-4.3	4.6	9.6	-2.7
Somalia	4 637	5.6	80.0	-0.6	5.2	0.40	0.2	-4.5	15.5	-0.1	-6.0
Kenya	16 466	4.1	77.6	-0.6	2.5	0.27	0.1	-1.6	2.0	3.0	-4.7
0.50	4 845	3.7	81.7	-0.6	2.4	0.26	0.3	-1.1	2.9	3.0	-4.1
Mauritius	959	1.8	28.2	-1.9	1.0	0.71	0.1	-0.9	15.0	0.4	-1.4
Senegal	5 661	2.6	74.4	-0.7	1.4	0.89	0.9	-0.4	3.4	3.6	-2.7
Nigeria	77 082	3.4	53.3	-1.5	0.9	0.82	0.4	-0.7	0.1	7.7	-4.7
Namibia	1 009	3.0	48.5	-1.4	0.7	0.84	0.7	-0.6	1.2	4.2	-2.8
Ethiopia	31 468	2.2	79.1	-0.6	0.9	0.59	0.4	-0.7	0.4	0.3	-2.7
Upper Volta	6 908	2.7	81.4	-0.7	1.3	0.90	0.4	0.2	0.2	2.3	-3.2
Uganda	13 201	3.2	80.9	-0.6	1.7	0.97	0.4	-0.3	0.1	0.5	-3.4
0.51-1.00	19 470	3.0	64.2	-1.2	1.0	0.79	0.4	-0.6	0.4	5.6	-3.9
Swaziland	557	3.1	72.6	-1.1	0.9	1.75	0.3	1.6	15.9	-0.5	-4.1
Botswana	807	3.1	80.2	-0.8	1.6	1.27	1.7	-0.3	0.2	3.4	-2.6
Malawi	6 162	3.4	83.7	-0.6	2.0	1.27	0.4	-1.3	0.5	9.0	-4.4
Gambia	603	2.7	78.0	-0.5	1.8	1.49	0.5	-0.3	11.9	3.2	-5.2
Togo	2 625	3.0	67.9	-0.8	1.1	1.69	0.5	-0.9	0.7	15.1	-5.1
Zimbabwe	7 396	3.5	58.7	-0.9	1.7	1.65	0.3	-1.3	3.9	8.4	-3.3
Sierra Leone	3 474	2.8	65.1	-0.9	1.0	1.69	0.5	1.0	0.4	8.2	-2.7
Mali	6 940	2.8	87.0	-0.5	1.6	1.34	0.2	0.7	5.4	2.1	-3.5
1.01-2.00	3 570	3.1	73.9	-0.7	1.6	1.49	0.4	-0.4	3.1	7.2	-3.7

TABLE 1-23. SELECTED INDICATORS OF POPULATION AND LAND IN SUB-SAHARAN AFRICA (Continued)

Country group by PPSC	Total population 1980 '000	current growth p.a.	Agr. pop. relative to total population 1980 %	growth 1971-80 % p.a.	Agric. lab. force growth 1971-80 % p.a.	PPSC ratio	Arable land per caput 1980 ha	Arable land per caput agr.lab.force 1971-80 % p.a.	Irrig.area relative to arable land 1980 %	growth 1971-80 % p.a.	Forest land per caput growth 1971-80 % p.a.
Sudan	18 371	2.9	76.9	-0.7	1.7	3.71	0.7	-1.1	14.5	3.1	-3.6
Benin	3 530	3.1	45.9	-0.8	1.5	2.08	0.5	-0.4	1.1	5.5	-4.2
Guin.Bissau	573	1.7	82.2	-0.6	0.6	4.40	0.5	-0.2	-	-	-1.7
Tanzania	17 934	3.2	81.0	-0.6	1.7	2.29	0.3	-1.0	1.2	2.9	-3.2
Guinea	5 014	2.7	80.1	-0.6	1.2	3.39	0.3	-1.2	0.8	9.5	-3.2
Ghana	11 679	3.3	51.3	-1.4	1.2	2.04	0.2	-0.6	0.8	3.9	-3.8
Mozambique	10 473	2.7	64.4	-1.3	0.3	4.14	0.3	-0.1	2.2	1.0	-3.2
Chad	4 455	2.1	83.6	-0.8	1.1	3.15	0.7	0.1	0.1	16.4	-2.4
2.01-5.00	9 004	2.9	71.2	-0.9	1.3	3.0	0.4	-0.7	4.6	4.3	-3.4
Gabon	1 074	1.3	76.3	-0.7	-0.3	80.19	0.4	5.4	-	-	-0.9
Ivory Coast	8 034	3.3	79.3	-0.6	2.7	7.15	0.5	1.6	0.7	-2.2	-8.3
Congo	1 537	2.7	34.2	-1.9	0.1	29.90	0.4	0.6	-	-	-2.6
Madagascar	8 742	2.8	83.3	-0.7	1.0	6.29	0.3	2.1	15.7	0.3	-3.6
Angola	7 078	2.6	57.7	-1.0	1.0	8.57	0.5	-0.9	-	-	-2.5
Cameroon	1 697	3.6	69.7	-0.5	1.1	6.03	0.2	0.6	1.1	1.6	-2.6
Liberia	8 444	2.4	80.7	-0.8	1.8	10.25	0.8	-1.6	0.1	5.4	-3.5
Zambia	5 766	3.4	66.6	-0.9	1.5	10.17	0.9	-1.2	0.1	8.5	-3.5
Zaire	28 291	2.9	74.3	-0.7	1.4	11.91	0.2	-0.8	0.1	173.7	-2.9
CAR	2 294	2.2	87.3	-0.5	1.4	22.59	0.9	-0.7	-	-	2.1
5.00	7 296	2.9	73.9	-0.7	1.4	11.19	0.4	-	2.1	81.5	-3.5
Total	8 837	3.0	70.4	-0.9	1.3	3.4	0.4	-0.5	2.1	19.1	-3.7

Source: FAO, Policy Analysis Division.

TABLE 1-24. FOOD AND AGRICULTURAL PRODUCTION AND DEMAND FOR FOOD AND OTHER OUTPUT INDICATORS IN SUB-SAHARAN AFRICA

Country group by PPSC	GNP per caput 1980 $	Agr. GDP per caput growth 1971-80 % p.a.	Food prod. per caput agr.lab. force 1971-80 % p.a.	Fish catch per cap. 1980 kg	Fuelwood per cap. 1980 kg	Livestock unit per caput 1980 No.	Food prod. growth 1971-80 % p.a.	Food demand growth 1971-80 % p.a.	Food prod./dem. gap 1971-80 %	Agric. prod. growth 1971-80 % p.a.
Cape Verde	310	9.6	1.9	27.3	-	164	3.6	3.8	-0.2	3.6
Lesotho	470	0.5	-0.4	-	164	772	0.5	6.0	-5.5	-
Burundi	210	-0.2	1.0	3.5	116	221	1.7	2.3	-0.6	1.6
Niger	300	-6.6	3.1	1.7	386	988	5.1	2.6	2.5	5.0
Rwanda	220	-2.4	1.8	0.3	764	153	4.0	3.7	0.3	4.3
Mauritania	400	-3.9	-0.3	20.7	270	1 980	1.6	2.4	-0.8	1.6
Somalia	260	-2.7	-4.3	1.4	46	3 195	0.8	6.2	-5.4	0.9
Kenya	390	1.5	-0.6	2.9	746	815	1.9	5.1	-3.2	2.8
0.50	324	-1.0	0.1	3.2	501	981	2.4	4.3	-1.8	2.8
Mauritius	1 120	7.6	-1.2	5.6	9	198	-0.2	3.7	-3.9	-0.1
Senegal	420	0.9	-1.4	44.2	230	618	-	2.6	-2.6	-
Nigeria	870	-2.4	1.7	6.2	834	353	2.5	3.7	-1.2	2.5
Namibia	1 800	...	-2.3	235.5	-	5 978	-1.6	3.8	-5.4	-1.4
Ethiopia	130	-1.4	0.8	0.1	479	1 286	1.7	2.4	-0.7	1.7
Upper Volta	200	-1.3	1.2	0.9	652	523	2.6	3.0	-0.4	2.8
Uganda	200	-3.9	0.3	12.6	278	395	2.0	1.2	0.8	0.6
0.51-1.00	584	-2.0	1.1	8.4	649	641	2.0	3.1	-0.9	2.0
Swaziland	690	5.0	2.3	0.1	710	1 436	3.2	4.2	-1.0	4.0
Botswana	880	-8.7	-5.3	1.5	677	3 807	-3.7	6.5	-10.2	-3.7
Malawi	190	0.9	-	10.7	1 179	148	2.0	4.5	-2.5	2.8
Gambia	360	4.3	-4.5	20.9	1 501	627	-2.7	4.0	-6.7	-2.7
Togo	350	-1.9	0.4	3.5	152	228	1.5	2.8	-1.3	1.6
Zimbabwe	780	-3.9	-1.5	1.8	734	1 028	0.2	2.7	-2.5	1.8
Sierra Leone	300	-0.4	0.2	14.2	583	142	1.2	2.2	-1.0	1.2
Mali	180	1.8	1.5	11.5	3 150	984	3.1	3.5	-0.4	3.5
1.01-2.00	399	-0.6	-0.2	8.1	1 365	724	1.4	3.4	-2.0	2.1

TABLE 1-24. FOOD AND AGRICULTURAL PRODUCTION AND DEMAND FOR FOOD AND OTHER OUTPUT INDICATORS IN SUB-SAHARAN AFRICA (Continued)

Country group by PPSC	GNP per caput 1980 $	Agr. GDP per caput growth 1971-80 % p.a.	Food prod. per caput agr.lab. force 1971-80 % p.a.	Fish catch per cap. 1980 kg	Fuelwood per cap. 1980 kg	Livestock unit per caput 1980 No.	Food prod. growth 1971-80 % p.a.	Food demand growth 1971-80 % p.a.	Food prod./dem. gap 1971-80 %	Agric. prod. growth 1971-80 % p.a.
Sudan	360	-0.1	1.4	1.4	914	1 489	3.1	3.1	-	1.5
Benin	290	1.7	1.5	6.7	719	558	3.0	3.3	-0.3	2.5
Guin. Bissau	170	2.3	0.7	6.5	878	427	1.3	2.7	-1.4	1.3
Tanzania	270	1.9	2.2	12.8	1 389	769	3.9	3.5	0.4	2.3
Guinea	280	0.5	0.2	3.7	450	374	1.5	2.6	-1.1	1.5
Ghana	390	-4.3	-3.1	19.2	453	208	-1.9	2.7	-4.6	-1.9
Mozambique	...	-4.4	-1.9	3.5	745	179	-1.7	0.6	-2.3	-2.1
Chad	110	-2.3	1.4	25.8	878	1 207	2.5	-0.2	2.3	2.2
2.01-5.00	308	-0.9	0.3	9.4	888	764	1.6	2.5	-0.9	0.7
Gabon	3 700	-1.9	0.7	20.6	1 652	55	0.4	1.8	-1.4	0.4
Ivory Coast	1 110	-0.7	3.3	9.7	526	137	6.1	4.2	1.9	5.0
Congo	880	-0.8	1.9	13.4	674	170	2.0	2.7	-0.7	2.1
Madagascar	350	-2.5	0.1	5.5	455	1 143	1.1	2.1	-1.0	1.1
Angola	...	-12.6	-0.6	12.1	791	666	0.4	-2.9	3.3	-3.9
Cameroon	500	1.2	1.1	6.0	921	67	3.0	3.5	-0.5	2.2
Liberia	730	1.6	1.1	9.2	694	483	2.2	2.9	-0.7	2.0
Zambia	580	-1.3	0.6	8.8	459	469	2.1	2.0	0.1	2.1
Zaire	200	-1.6	0.2	3.6	212	69	1.6	2.1	-0.5	1.6
CAR	310	0.2	0.4	5.7	812	557	1.8	2.1	-0.3	1.7
5.00	490	-2.2	0.7	6.9	468	363	2.1	2.0	0.1	1.5
Total	489	-1.6	0.6	7.7	703	652	1.9	2.8	-0.9	1.7

Source: FAO, Policy Analysis Division.

TABLE 1-25. SELECTED INDICATORS OF NUTRITION, EXTERNAL TRADE, FOREIGN ASSISTANCE TO AGRICULTURE AND INPUT USE IN SUB-SAHARAN AFRICA

Country group by PPSC	DES relative to requir. 1979-81 %	DES change 1969-71 to 1979-81 %	Share of Food imports in total 1980 %	exports growth 1971-80 % p.a.	Agric. in tot. imports 1980 %	Exports (cur. value) growth 1971-80 % p.a.	Food imp. volume growth 1971-80 % p.a.	Agr terms of trade change 1971-73 to 79-81 %	OCA per cap. agr. population 1980 $	change 1974-76 to 79-81 %	Fertilizer use growth 1971-81 % p.a.	Tractor use growth 1971-80 % p.a.
Cape Verde	117.8	39.4	584	4.8	2	2.8	4.4	...	-56.0	369.7	326.8	4.0
Lesotho	106.1	19.0	134	-3.7	3	7.5	13.0	...	10.4	177.8	29.0	7.3
Burundi	101.1	6.3	38	0.9	37	18.8	8.9	...	8.1	315.6	2.6	39.9
Niger	99.3	12.3	13	-6.4	14	5.1	8.7	-26.6	11.3	270.0	28.9	10.7
Rwanda	98.0	11.1	25	4.5	23	24.1	11.1	-14.8	4.6	322.2	-8.3	-1.0
Mauritania	87.3	2.1	42	14.7	14	11.7	7.5	-12.9	32.6	366.5	423.6	12.9
Somalia	85.8	-10.6	95	8.6	40	15.3	11.5	35.5	18.8	137.4	-44.2	6.1
Kenya	85.3	-12.4	12	-7.2	30	18.4	-0.2	-37.4	7.5	101.1	-0.7	0.3
0.50	91.9	-1.3	38	-1.8	28	16.1	5.6	-21.7	10.6	198.7	20.9	7.7
Mauritius	119.2	15.6	30	0.1	47	15.3	5.9	-1.2	25.3	3 739.6	0.1	1.3
Senegal	103.6	5.1	43	-2.4	12	14.0	-1.0	-24.0	11.1	167.2	5.0	3.3
Nigeria	100.5	6.3	7	3.7	3	9.0	23.8	3.0	1.0	162.4	34.6	6.1
Namibia	93.0	-4.7	-	6.1	-	4.5	-1.9	...	-	-	-0.1	2.1
Ethiopia	92.2	5.1	22	14.8	54	12.3	23.6	-16.6	0.8	85.7	20.3	2.2
Upper Volta	84.8	2.0	63	1.8	22	17.1	8.4	-2.1	8.5	161.0	31.7	3.7
Uganda	75.5	-21.6	12	-9.9	118	6.9	-7.7	10.2	2.2	110.2	-57.6	3.6
0.51-1.00	95.5	3.1	16	4.7	28	10.3	18.7	-2.5	2.0	165.7	20.4	4.6
Swaziland	110.1	15.9	7	1.7	36	19.2	6.9	...	4.5	260.2	-1.5	3.9
Botswana	101.4	8.1	15	-1.9	7	13.1	14.4	...	23.8	297.2	-3.8	1.4
Malawi	95.4	-3.1	8	-5.9	58	16.3	-2.7	-30.6	3.8	153.2	8.6	2.9
Gambia	94.7	-3.1	51	12.5	17	9.7	16.8	-19.9	19.5	163.1	25.3	0.4
Togo	91.5	-3.1	15	2.0	14	14.7	13.3	15.2	5.0	159.8	22.6	11.9
Zimbabwe	88.2	2.6	3	-5.0	35	10.9	-12.8	...	2.8	-	-1.7	1.2
Sierra Leone	84.3	-6.4	46	7.5	14	16.1	2.2	1.8	5.3	473.9	1.8	-0.7
Mali	80.6	-7.7	27	-10.4	50	18.4	-6.0	-5.5	4.4	46.2	5.6	1.1
1.01-2.00	89	-2.5	18	-3.7	38	15.1	-2.9	-9.5	4.9	180.4	5.5	2.3

TABLE 1-25. SELECTED INDICATORS OF NUTRITION, EXTERNAL TRADE, FOREIGN ASSISTANCE TO AGRICULTURE AND INPUT USE IN SUB-SAHARAN AFRICA (Continued)

Country group by PPSC	DES relative to requir. 1979-81 %	DES change 1969-71 to 1979-81 %	Share of Food imports in total 1980 %	Share of Food exports growth 1971-80 % p.a.	Agric. in tot. imports 1980 %	Exports (cur. value) growth 1971-80 % p.a.	Food imp. volume growth 1971-80 % p.a.	Agr terms of trade change 1971-73 to 79-81 %	OCA per cap. agr. population 1980 $	OCA per cap. agr. population change 1974-76 to 79-81 %	Fertilizer use growth 1971-81 % p.a.	Tractor use growth 1971-80 % p.a.
Sudan	98.5	10.2	56	5.4	35	6.4	3.4	-16.2	9.3	208.1	-4.3	5.0
Benin	94.9	3.7	55	13.8	6	-0.1	3.5	-28.2	1.1	192.1	-20.1	2.0
Guin. Bissau	94.2	3.3	96	-16.1	10	24.0	-1.7	...	18.5	1 313.1	197.9	2.1
Tanzania	84.3	-0.9	29	2.7	32	8.4	2.3	-13.6	6.0	151.0	7.2	-0.2
Guinea	82.5	-6.6	17	-6.6	9	5.2	9.5	...	5.5	552.1	-13.9	11.2
Ghana	82.3	-5.5	8	-4.6	76	15.6	-0.7	39.8	8.7	65.9	20.2	1.8
Mozambique	80.0	-10.5	25	13.9	18	-5.3	10.0	-47.7	8.0	1 711.2	11.0	2.3
Chad	78.3	-12.0	3	-19.5	80	14.1	-14.2	-15.2	0.4	17.7	-46.5	3.2
2.1-5.00	87	-2.7	31	2.2	38	6.9	2.7	-11.4	7.0	412.4	2.2	3.0
Gabon	119.7	27.3	4	0.8	2	27.4	18.4	106.4	59.1	470.1	127.8	-0.1
Ivory Coast	113.5	5.9	13	-4.2	68	25.2	6.0	2.5	6.4	81.8	4.1	4.5
Congo	109.6	11.6	11	-3.2	3	13.3	11.0	71.0	28.4	1 601.8	-61.1	-0.1
Madagascar	109.5	0.8	16	3.0	49	13.3	6.9	-15.2	1.6	223.4	-6.7	-1.1
Angola	99.2	14.3	14	26.7	13	-2.2	23.7	16.1	1.4	-	-3.0	2.6
Cameroon	98.9	6.7	15	-3.3	28	19.8	5.1	8.3	6.7	199.2	11.6	11.4
Liberia	98.5	5.1	7	5.5	44	16.5	6.3	-6.5	9.2	313.6	5.6	4.9
Zambia	96.0	2.6	11	-	1	-	-1.9	-24.3	5.9	490.4	5.2	3.1
Zaire	95.4	-3.7	9	0.1	29	8.8	-3.6	-21.3	2.4	706.8	6.2	6.3
CAR	93.8	-3.1	17	-4.1	63	12.4	-0.8	-17.1	2.1	139.1	-14.8	6.8
5.00	100	2.2	11	2.1	32	11.2	3.4	-7.5	4.6	469.8	2.9	5.0
Total	94	0.8	20	2.2	32	10.8	9.0	-7.7	4.8	284.2	11.8	4.5

Source: FAO, Policy Analysis Division.

Per caput dietary energy supplies

Emphasis has been placed on per caput dietary energy supplies (DES) as a good indicator of agricultural performance in relation to human welfare. The incidence of undernutrition is widespread in Sub-Saharan Africa. Although the situation improved during the 1970s in the majority of countries, nutrition has worsened in a disquietingly large number, more than where the food situation is critical, as can be seen below:

	During 1970s: Number of countries		
	Total	Improved	Worsened
DES below minimum requirements in 1979-81	29	13	16
DES above minimum requirements in 1979-81	12	12	-
	41	25	16

Some overall patterns can be discerned in the distribution of countries according to nutritional levels. Taking food consumption groups as a reference, the highest DES tends to be in the group of countries where roots, together with cereals, are the main food consumed. Conversely, the lowest DES is in the maize and millet/sorghum (Sahel) groups.

There is not a strict statistical correlation between DES and PPSC, however, there is a certain amount of correspondence between the two. For example, the DES was below requirements in 75% of the very land-scarce countries (group 1) and 71% of moderately land-scarce countries (group 2), while it was above requirements in 50% of the land-rich countries (group 5).

In most countries food production performance is the single most important factor in determining DES. Of the 11 countries where food production growth exceeded population growth, eight countries improved their DES level, as would be expected. In the other three, the increase in per caput output was accompanied by a significant reduction in the volume of food imports and the DES failed either to increase or declined.

The level of food imports is therefore also important in determining nutritional levels. Sub-Saharan Africa is heavily dependent on food imports which increased in volume by nearly 9% per annum during the 1970s with only 13 countries reducing their imports. The DES of nine of these 13 countries deteriorated. Furthermore, the volume of food imports increased by 11% per annum in those countries where the DES increased by more than 5% during the 1970s, whilst in those countries where the DES worsened, food imports declined by 0.4 % per annum.

There is also a close correlation between the level of income and the attainment of an adequate DES. In the group of 10 countries with the lowest per caput GNP, the DES was only 89% of requirements, well below the regional average (94%). Conversely, the average per caput income of the 12 countries meeting DES requirements in 1979-81 was more than $900 in 1980 compared with the overall average of less than $500. The group of 10 countries with the highest incomes had a DES well above the average (105%). Undernutrition is therefore related not only to the restricted area of sectoral performances, but also to fundamental problems of economic development as a whole.

POTENTIAL POPULATION SUPPORTING CAPACITY OF LAND

Information generally available on a country's land resource endowment for agriculture - the extent, structure and intensity of land use - fails to relate the potential to the food needs of the population. This section presents, therefore, estimates of the 'potential population supporting capacities' (PPSC) of land in Sub-Saharan countries: that is, the capacity of land to produce, at various levels of input use, enough food to cover the minimum food-energy requirements of the population. Production of non-food crops is excluded. These estimates are based on a recent FAO study carried out in collaboration with the International Institute for Applied Systems Analysis (IIASA) and the United Nations Fund for Population Activities (UNFPA). a/ In this study the potential productivity of land was assessed at three levels of input use (low, intermediate, high) and related to the 'present' population requirements (as represented by base year 1975 data) and 'future' needs (as represented by year 2000 projected data). The low level of input use applied in this section assumes the use of only land and labour, no fertilizer and pesticide applications, no soil conservation measures, and cultivation of the presently grown mixture of crops on all potentially cultivable rainfed lands, allowing for fallow periods. It gives the best estimate of the 'inherent' capacity of a country's land resources. The high level of inputs assumes that all the necessary agricultural and conservation measures are applied to obtain maximum economic production.

The 'land potential' was assessed on the basis of rainfed crop production potentials through the delineation and analysis of agro-ecological zones, matching identified soil and climatic requirements of crops with soil and climatic conditions. The production from the area of land irrigated in 1975 and projected to be irrigated by the year 2000 is included in the assessment.

The PPSCs are then computed as follows. The maximum potential calorie production is calculated for each country on the basis of the areas of agro-ecological zones of different productivity it contains and the crops they can grow. Comparing this sum of calories with per caput calorie requirements specific to the population of each country, gives the number of people that could be supported from the total extent of land available and hence the number of persons supported per ha. of land. This figure is then compared to the actual (1975) population density to give the PPSC ratio.

For example Kenya, a land scarce country, in 1975 had an estimated population density of 0.24 persons per ha (13.5 million population for a land area of 57 million ha). However, its potential population supporting capacity at a low level of inputs was estimated to be only 0.065 persons/ha to give a PPSC (ratio) of 0.065/0.24 = 0.27. On the other hand, Ghana had a greater population density in 1975 of 0.44 persons/ha, but its land resources possess a greater population supporting capacity of 0.90 persons/ha even at a low level of input use so that its PPSC (ratio) is 0.90/0.44 = 2.04. Therefore, it can support more than two times its 1975 population.

How is it that some countries such as Kenya are managing to support a population greater than their land can theoretically

a/ FAO/UNFPA/IIASA - Potential Population Supporting Capacities of Lands in the Developing World, FAO, Rome, 1982. A popular version of this technical report is under preparation.

support? Setting aside the question of trade - some of the land can be used to grow crops for export and food can be imported - the following are some technical reasons:

- Some of the land is cropped with an intermediate or even high use of inputs (the PPSCs shown are based on low input use). Going to a high use of inputs can increase the PPSC by a factor of 20 or more.
- Land is used beyond its capacity to maintain its productive potential. Land of excessive slope is cultivated or fallow periods are shortened resulting in its degradation and, eventually, declining productivity. The ratio is based on the maintenance of land productivity.

The importance of land and human resources in agriculture

On the whole, the growth of food production does not seem to be directly related to PPSC ratios. The six countries that achieved high growth in food output (more than 3% per annum) are equally distributed among moderately land-rich and land-scarce ones (PPSC ratios below 0.50 and above 2.01). Conversely, the 17 countries with food production growth rates below 1.5% per annum, were distributed in almost equal numbers among countries with high, medium or low PPSC.

Changes in agricultural production are directly connected with variations in the area planted. Some of the countries with low PPSC ratios, where land is more of a constraint, such as Niger and Rwanda, expanded their crop areas and food output at annual rates far above regional averages. But some countries with high PPSC ratios such as Liberia, Angola, Mozambique and Guinea, failed to expand their cropland and food ouput did not increase significantly. It would seem, therefore, that changes in area planted are unrelated to PPSC ratios.

As regards human resources, the agricultural labour force in Sub-Saharan Africa is growing relatively slowly, typically at between only 1% and 1.5% compared with the growth rate in total population of 3%. Some of the highest increases in the agricultural labour force are found in countries where production expanded at fast rates. In countries like Niger, Rwanda and Cape Verde, the scarcity of land resources appears to have been compensated by increased availability of the labour force, thus contributing to increases in agricultural ouput which exceeded 3% annually. On the other hand, the lowest production performances appeared to be associated with high rates of rural-urban migration and low rates of increase in the agricultural labour force in a number of countries including Ghana, Mozambique, Gabon, the Congo, Lesotho and Sierra Leone. There are, however, numerous exceptions to this overall pattern, indicating the limited importance of the growth rate of the labour force *per se* as a factor explaining agricultural performance.

It appears that countries with a lower PPSC tend to have a higher growth rate in their agricultural labour force and a corresponding lower rate of rural-urban migration. It would be expected that countries with less land resources would have been those experiencing the highest rural-urban migration, but this does not appear to be the case. This underlines the serious mismatching of resources and populations existing in much of Africa.

Input use

In a large majority of African countries the use of fertilizers is both minimal, less than 5 kg/ha of arable land in 1980, and is subject to wide year-to-year fluctuations. As a comparison, Latin American countries used on average about 50 kg of fertilizer per hectare of arable land and

developing countries in the Far East 95 kg in 1980. Of the three African countries using more than 60 kg of fertilizer per hectare of arable land--Mauritius, Zimbabwe and Swaziland--only the latter recorded a favourable production performance. Similarly, Swaziland was the only country among the 41 where the number of tractors per 1 000 hectares of arable land exceeded 10 in 1980.

As there are serious gaps in the data regarding the use of other agricultural inputs, little meaningful cross-country analysis can be undertaken.

The capacity to finance imports

There are 17 countries highly dependent (more than 50%) on agricultural products for their total exports. In all but 4 of them, agricultural terms of trade have deteriorated as reflected in a lower growth rate in food imports (2.5% compared with nearly 9% overall). In a broader group of 23 countries where agricultural exports finance at least 20% of total imports, non-food production exceeded food production in only 7 of them. In other words, production, usually for export, has been growing even more slowly than food output in the majority of these countries. Therefore supply problems have also contributed to poor export performances, since in Africa most export products derive from non-food crops (cocoa and oilseeds are among the exceptions). In some cases, such as coffee, production may be limited by quotas under international agreements.

The failure to meet food demand from domestic production

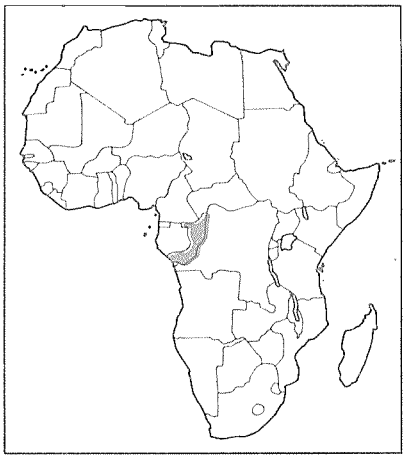
The most disturbing feature of food-production deficiencies is that the rate of growth in food production has failed to meet the growth of food demand in the majority of Sub-Saharan African countries (32 of 41). Furthermore, in 15 countries per caput GNP is estimated to have declined during the 1970s, depressing the estimated demand for food below population growth. When allowance is made for this, it seems likely that the rate of growth in food production exceeded that of demand in only 5 countries: Niger, Tanzania, Chad--which were recovering from the drought of the early 1970s--Rwanda and the Ivory Coast.

These aspects suggest that an abundance of natural resources, which would appear a priori to be a basic ingredient of agricultural development, has not been a determining factor. There is a wide gap between potential and actual levels of output and a severe mismatch of resources and accomplishments among countries. Nor do differences in input use explain Sub-Saharan performance differentials. Other explanatory factors must therefore be sought, particularly in national strategies and policies. The following section provides an overview of these crucial development factors.

National Strategies and Policies

The wide variations in the agricultural sector performance of countries with similar resource endowments in Sub-Saharan Africa underline the importance of what may be termed human intervention in determining the course of agricultural development. This intervention lies mainly within the sphere of government strategies and policies. It is the broad consensus among analysts of African developmental problems and prospects that African development strategies--including the role of government in development--and policies on pricing, land and population have been inimical to agriculture. Furthermore, sufficient attention has not been paid to agricultural research and training, nor to exploiting their interactions.

THE PEOPLE'S REPUBLIC OF THE CONGO
(Extremely land-rich, roots/tubers)



The People's Republic of the Congo shares--with the two other countries in the group of main root-crop producing and consuming countries, Zaire and the Central African Republic--the characteristic of an abundant, yet unexploited land potential. Only about 1% of the potential arable land is cultivated. The population density--0.04 persons per hectare of total land area--is among the lowest in Africa. While the extension of agricultural land remained virtually unchanged during the 1970s, the intensity of its use also stagnated. The population increased by 2.5% per annum, but a strong migratory movement toward the four main urban centres reduced increases in the agricultural labour force virtually to a standstill. The use of fertilizers appears to have actually declined during the decade.

While measures of resource use indicate an overall stagnation in agriculture, actual production performances are difficult to assess. For many commodities available data refer to commercialized production, which represents only a minor part of total output. Available information indicates an annual expansion in the production of commercialized food products of about 2% between 1969-71 and 1983 and unstable performances in export crops, punctuated in particular by heavy losses in coffee output between 1978 and 1979.

Food production appears to have barely maintained its precarious equilibrium between population growth and total demand. The country has succeeded in increasing the availability of dietary energy supplies close to minimum requirements largely by increasing the volume of food imports which, increasing by over 11% per annum during the 1970s, accounted for nearly one-quarter of the value of total imports in 1981.

The inadequate performance of the sector contrasts sharply with the country's potential for agricultural development. Even under low levels of input use, if all suitable land were used for agriculture, it would have the potential to support the minimum nutritional requirements of an estimated population 30 times greater than the present one. Agriculture also has the potential to play a far more important role in the economy. At present agriculture accounts for only about 12% of GDP and a quarter of that of the petroleum and industrial sectors. Only 34% of the population is employed in agriculture, compared with 56% in 1960.

The 1982-86 development plan identifies several areas particularly suited to rapid expansion. For the five most widely planted crops--cassava, maize, groundnuts, cocoa and coffee--the Plan foresees for 1986 an increase of nearly one-third in the area planted and total output over 1980 levels. Particular importance is given to the role of state farms, as indicated by the doubling of those areas allocated to the still relatively small state sector, compared with an increase of only 29% in the areas cultivated by individual peasants.

Development strategies

At various times many African countries have adopted development strategies that favour industrialization, exports and the urban sector at the expense of food production, small-farmer income and the rural sector. Agriculture has often been viewed as a surplus sector to be tapped for labour and government revenues.

Industrialization has typically been concentrated in the larger towns and cities. The resulting jobs and relatively high wages have led to expectations that standards of living would be improved by moving from rural areas to urban centres. The result has been rural-urban migration, domestic and international, in Sub-Saharan Africa at rates that are among the highest in the world.

Thus urban demands for food have increased rapidly at the same time as preferences for easily prepared and more palatable foods have become increasingly pervasive. Such trends have been reinforced by commercial food and beverage industries which were among the first industries to be established and are often associated with transnational companies.

African governments have faced a dilemma. Increasing domestic food production necessitated raising prices and hence would create pressure for wage increases and consumer subsidies. On the other hand, food supplies have been available on world markets and have been made relatively cheap by the generally overvalued exchange rates of African countries. In some situations, also, food aid has played a role in changing consumption habits and lowering the cost of imported food. Many African urban centres are themselves ports or have transport links to nearby ports, thus facilitating imports.

Other factors have also been working against the domestic agricultural sector:

- Governments, concerned about the structure of rural society, have sought to transform it while keeping in view the need for modernization and ensuring equity. Sometimes traditional agricultural systems and, along with them, proved means of risk protection, have been dismantled, with the result that farmers resent adopting proposed new systems.

- Prices actually received by farmers have sometimes been lower than they might have otherwise been because of consumer-oriented food policies and the high costs of agricultural marketing systems.

- Costs of agricultural inputs and consumer goods have been higher than they need have been because of industrial protection and high-cost distribution systems.

- Farming inputs and consumer goods have not always been available. In some instances the supply of inputs or consumer goods through official channels has deteriorated so markedly that a parallel, informal system of distribution through barter or exchange has emerged. Consequently, illegal border trade, always a potential problem in Africa with its long, uncontrollable territorial borders, often flourishes.

These above factors have accelerated rural migration to cities and even to neighbouring countries and overseas. Massive movements have occurred, particularly in central and western Africa. It has meant that, in the losing countries, the agricultural labour force has not been increasing at a rate fast enough to cope with the increasing demand for food and the need for expanding agricultural exports. From a regional point of view, not only has the agricultural labour force grown relatively slowly

(1.3% per annum compared with an average growth rate in food demand of about 3% per annum), but its capacity to increase output has diminished because the younger, more able-bodied and educated people are those who tend to migrate. In many cases, agricultural programmes have not yet been able to stimulate offsetting breakthroughs in agricultural labour productivity in Sub-Saharan Africa. Tractorization has spread rapidly in some instances, but there has not been a concerted approach to the selection, development and use of appropriate mechanization in agriculture.

The roles of government in agricultural development institutions

Since gaining independence, the governments of most African countries have tended to intervene actively in development activities, particularly in fields where the institutional base has been weak. Although the services portion of GDP in Sub-Saharan Africa grew modestly between 1960 and 1979 (from 34-37%) in the low income countries of the region, it expanded more rapidly from 31-40%, most of the increase being in the form of government services. Therefore, governments often facing severe manpower and budgetary constraints, have increasingly taken on the difficult task of development administration.

Governments have tended to intervene heavily in agricultural marketing and in the procurement and distribution of agricultural inputs. The supply of fertilizers and seed is entirely in government hands in about two-thirds of Sub-Saharan African countries. In some cases, governments also intervene in agro-industrial activities, usually through parastatals, and in agriculture through state farms. Not all of these institutions have had sufficient experience or fully adequate managerial capacity to carry out these tasks efficiently.

It is generally recognized that government bodies that are assigned tasks of programme administration, marketing, distribution and other service functions, often have weaknesses. In some cases limited domestic capabilities for assuming new development undertakings have forced assistance agencies to assume administrative roles themselves. Furthermore, non-governmental organizations (NGOs) have proved successful in administering small grass-roots projects in certain circumstances simply by acting as intermediaries between farmers and the government bodies that are supposed to be providing them with services and inputs. Sometimes private initiatives have been dampened by controls that are operated to maintain statutory monopolies in marketing and trade. For example, controls may be imposed on the movement of agricultural products between regions to enable a marketing parastatal to maintain a strong position in agricultural markets.

It may be asked whether more selective interventions would not be more appropriate or efficient, taking into account the functions which rural markets, cooperatives and traders can perform. could not local initiatives and experience be harnessed for some of the tasks now handled by governments or their agencies? widespread reprivatization would not necessarily be more effective and could be rejected by some on grounds of equity and principle. but forms of joint ventures could be tried. for example, in some francophone countries, parastatal agricultural marketing agencies contract with producer cooperatives to purchase on their behalf traditional food crops if the agencies do not themselves possess the facilities to do so. tanzania is another example where cooperatives have been reconstituted to take over from parastatal agencies marketing and supply functions in rural areas. it may therefore prove useful to review the functioning of existing public sector bodies with a view to improving them.

Price policies

As in many developing countries elsewhere in the world, more and more policy-makers in Sub-Saharan Africa are taking a close look at agricultural price policies as a potential means of increasing the domestic supplies of food and export products. Choosing the right blend of policy options in this field is difficult. Removing price disincentives, or introducing special inducements encourage farmers to produce more foodstuffs or export commodities are policy options of growing importance in tackling the problem of food shortages and the lack of foreign exchange. Such price policy interventions, however, can be at cross-purposes with objectives of making 'cheap food' available to low income families. If they result in prices that differ sharply from those which supply and demand forces would bring about, they may place heavy financial and administrative burdens on national governments. Export production may also be adversely affected. Conversely, promoting production for export might reduce food supplies.

In Sub-Saharan Africa, five interacting sets of policy measures which bear on farmer motivation to produce more food are frequently discussed:

- Cheap food policies, low farm procurement prices and price controls intended to make basic foodstuffs more accessible to needy families, but which can also deter farmers from increasing the production of these foodstuffs.

- Minimum price guarantees and related measures which favour the production of export commodities, but which again may deter farmers from producing more foodstuffs.

- Subsidies on farming inputs, mainly fertilizers, as a means of offsetting low farmgate prices for basic foods, but which in practice may be partly used by farmers to produce other crops, may not be available to all farmers and may impose unsupportable burdens on government budgets.

- Taxation policies aimed at extracting a surplus from agriculture for government revenue purposes.

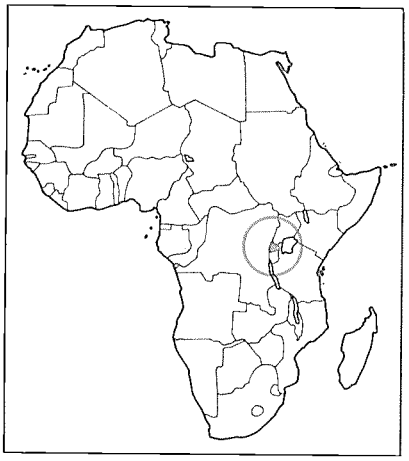
- Policies related to currency exchange rates, which have important effects on domestic farm production and patterns of input use, dependency on imports of food from abroad, and illegal movements of foodstuffs among adjacent countries within the Sub-Saharan region.

While there have been quite a few reports and studies related to price policies for specific commodities in individual countries, no comprehensive overview of agricultural price policies in Sub-Saharan Africa yet exists. However, this region is one of those receiving attention in the comprehensive FAO study of food price policies begun in early 1983. It gives attention to recent price patterns, ways in which existing price policies in Africa have helped or hindered food production, and steps that can be realistically taken to improve them. The findings of this study will be reported in future issues of The State of Food and Agriculture.

Agrarian, land tenure and land use policies

Sub-Saharan African agriculture is based on small-scale farming. Comprehensive data are scarce, but the results of the 1970 Agricultural Census available for nine countries of the sub-region show that for six of them, holdings of 1 hectare or less accounted for about 50% of all holdings. In some the share of the smallest holdings was larger still--68% in the case of Gabon. Since land is being brought into cultivation only slowly in most instances, more slowly than the increase in agricultural

RWANDA (Extremely land-scarce, roots/tubers)



The structural characteristics of Rwanda, a small, isolated and densely populated, low income country, impose severe constraints to its agricultural development. Lacking natural resources for mining or industry, the country's primary natural endowment, agricultural land, is already largely over exploited. It is estimated that, at a low level of input use, agricultural land could support only 18% of the mid-1970s' population without incurring a long-term loss in productivity. While heavily reliant on external markets, its landlocked position creates a costly and potentially disruptive logistic dependence on neighbouring countries.

Rwanda's population density of nearly 5 people per hecture of arable land, the highest in continental Africa, has increasingly led to the cultivation of marginal lands, deforestation and soil degradation. Land has been brought into cultivation at the high annual rate of 3% during the 1970s. If this trend continues, Rwanda may totally exhaust its cultivable land by the end of the 1980s. The considerable achievement of raising per caput DES by over 10% in the 1970s was reached at some cost to the land base. The volume of food imports has also risen, by 11% per annum. Rwanda's agricultural production increased by more than 4% per annum during the 1970s, the third fastest (after the Ivory Coast and Niger) of all Sub-Saharan Africa.

External factors played an important role in the accelerated growth of agriculture. External assistance, a major element in total expenditure, accounted for as much as 13% of the GDP in the mid- to late 1970s compared with only 2% during the 5 years from 1969. The agricultural component of this assistance (OCA, broad definition) per caput of agricultural population, rose nearly fourfold in real terms. There was also an improvement in the terms of trade, particularly during the commodity boom of 1976-79 when income gains derived from favourable export/import price relationships were equivalent to 3% of the GDP. Last, but not least, weather conditions were particularly favourable during most of the late 1970s.

The long-term effects of increasing production through the expansion and misuse of land may prove extremely harmful to land productivity. The growing pressure for land has largely contributed to a reduction, currently estimated at 5% per annum, of the forest area. Pasture land and land with low agricultural value, particularly with steep slopes, is being progressively brought under cultivation. More and more farmers are migrating from the richer central plateau and western highland zone to the savannah areas of limited agricultural potential. Periods of fallow have been shortened. The progressive exhaustion of the soil, already reflected in stagnating yields, may become more widespread and irreversible.

With the reduced potential for land expansion and the decline in soil fertility, it is unlikely that recent output performances can be sustained in coming years. In the current development plan (1982-86) a

planned annual expansion of 4.5% in food-crop production still assumes a 2% yearly increase in the early 1980s in the area cultivated through new land, double-cropping and cultivating fallow. The recently elaborated National Food Strategy envisages a further increase for the period 1986-2000 of 0.5% annually in the area cultivated for food products, mainly at the expense of pasture and fallow land. Prospects for improving the food situation appear limited, however, considering the formidable natural constraints and the difficulties the country currently faces in its budgetary and balance of payments position. Rwanda's food security will continue to be critically dependent on the external financing of planned agricultural investment. Despite the attention directed to agriculture by the Government, food production by the end of the century is only expected to cover 60-80% of the population's needs.

population, average farm sizes are decreasing. Landlessness, not a widespread phenomenon in Africa, nevertheless is an increasing problem in land-scarce countries such as Kenya where it was estimated that 5% of the rural population was landless in 1974. 17/ This is not a large percentage in comparison with other parts of the world, Asia in particular, but rural employment opportunities in densely populated areas are few, and therefore landlessness has serious implications for the incidence of rural poverty.

Throughout Africa, customary rights over the occupancy and use of land are gradually changing owing to economic and social factors as well as to the pressures of population. Customary land tenure affords equitable access to land for all members of the community. It emphasizes land rights and uses as integral components of community life, socio-economic relationships and family security. It also permits the multi-purpose use of the same parcel of land for hunting, cultivation, grazing or the transit of livestock. 18/ It also provides for pledging, the transfer of land use rights and compensation for permanent improvements. However, when land becomes scarce, customary land tenure arrangements are often eroded or discarded. To meet this situation, some countries have initiated programmes of agrarian reform, land redistribution or settlement.

For example in Kenya, tenure reform has followed three distinct phases: 1) adjudication of individual or group rights, 2) consolidation of holdings, and 3) actual registration, i.e. entering into a statutory register, which amounts de jure to the privatization of ownership. Such a process, for all its merits, carries the dangers of crystallizing existing inequalities in land distribution and may increase landlessness among members of the community who previously had customary land tenure rights over now-private ownership.

In other cases governments have brought all land into state ownership, sometimes as part of land reform programmes. In 1975, Ethiopia introduced land reform under which all rural lands became the collective property of the Ethiopian people. 19/ In Upper Volta, as well as in other African countries, all land has been declared public property, replacing tribal authority. Yet the policies for utilizing such land have not always been fully articulated.

17/ See The State of Food and Agriculture, 1981, Chapter 2, Rural Poverty and Means of Poverty Alleviation, p. 82.

18/ See H.W.O. Okott-Ogendo, "African Land Tenure Reform" in J. Heyer et al (eds.), Agricultural Development in Kenya: An Economic Assessment, Oxford University Press, Nairobi, 1976.

19/ Government of Ethiopia, Proclamation No. 31, "Public Ownership of Rural Lands", 29 April 1975.

The relative merits and demerits of private and public ownership of agricultural land are not an issue for discussion here. What is of concern to agricultural policy-makers, whatever their political beliefs, is to create an efficient environment for increasing and sustaining agricultural production, for which security of land tenure in whatever form is an important prerequisite. The lack of a land policy may impede development, particularly when there are increasinng pressures to use land more intensively. This intensification requires the investment of capital or labour which, in turn, demands some security of occupany. Such a need becomes of major importance when promoting such long-term investments as irrigation or drainage works and tree-planting for fuelwood and other uses.

The issue is succinctly presented in a recent policy document of the Government of Tanzania which states:

> All land in Tanzania is, and will continue to be, publicly owned and vested in the State. But the maintenance and improvement of the quality of the land depends crucially upon the land user, and often demands considerable investment of labour and resources... It is therefore essential that all users feel confident that their investments of effort and money will be beneficial to them and their families as well as to the nation as a whole. This principle applies equally to the peasant farmer, the village community, and the private or public commercial farmer". 20/

The method proposed to promote the best possible use and care of agricultural land in Tanzania is based on the issuing of leases or rights of occupancy from the State to villages. Villages will be allocated land on a 999-year basis. Villages can in turn lease land to village members for up to 99 years, with the actual system of tenure based, as far as possible, on local traditional land practices and beliefs (the customary system).

Land ownership and land use rights are always a highly political issue since they involve a structural modification in the social and economic conditions of a society, particularly a society that lives and works on agricultural land. It is therefore important that each government in Africa articulates land tenure policies suited to its particular situation.

Similar attention needs to be given to the establishment of land use policies. Soil maps are needed for such an exercise but as frequently they are not available in sufficient detail or scope, immediate attention is required to remedy the situation which is an obvious candidate for technical assistance.

Apart from the question of equitable access to land, farmers having very small holdings may be exposed to inequities in the provision of government services. In some instances, these may be drawn away by the demands of large-scale farmers and state farms. Government policies which therefore encourage the establishment of groups and/or associations of small farmers can be an important means of enhancing their social or economic influence and so avoid the marginalization of a greater part of the rural sector.

Training-research interaction

In discussing Africa's food problems at its session held in April 1983, the Committee on World Food Security (CFS) highlighted training and

20/ The United Republic of Tanzania, The Agricultural Policy of Tanzania Government Printer, Dar-es-Salaam, March 1983, p. 10.

research as two of the pivotal components of solutions to Africa's food problems. 21/ The importance of the creative linking of research and training needs to be especially stressed.

In following up these recent CFS discussions as well as earlier deliberations on the same subject 22/, FAO is conducting an in-depth assessment of existing training institutions and facilities in Africa and the region's requirements for trained manpower in agricultural development. Information has been received from more than 700 institutions and the results are being presented to the FAO Africa Regional Conference in 1984. 23/

It has frequently been observed that, as a whole, institutions of higher education in Sub-Saharan Africa are not yet of a satisfactory standard and that in some cases standards have deteriorated. Many analysts feel that programmes of manpower training should emphasize the strengthening of institutions, rather than the sending of large numbers of students overseas for advanced training in agriculture. This cannot be achieved quickly or easily, but can carry lasting benefits. This does not imply that each country should attempt to cover every academic field. Countries could share professional expertise. Possibilities exist for regional co-operation in structuring training institutions to serve the needs of the region as a whole by specializing. The directory of existing training institutions and facilities in Africa being prepared as part of the FAO assessment will be a useful first step in this regard.

If adequately staffed, the training institutions themselves can help their governments formulate and review policies and strategies for meeting food and rural income needs. In addition, they can be involved to a much greater extent in rural development work, extension activities and project design and evaluation.

While manpower training at high and intermediate levels is important, it can be of little value unless accompanied by training for rural people themselves--farmers, village leaders, women, local entrepreneurs and others. Here an innovation introduced by Niger is relevant, the groupements villageois, whereby a village or group of villages selects two or three candidates for training in a variety of simple skills--bookkeeping, improved farming practices, communal hygiene, etc.--in the local language. The courses are short and timed so as not to interfere with everyday work. Such local training can enhance responsiveness to new research findings and institutional innovations. It can also be important in generating local self-initiative and articulate feedback related to other important problems in rural areas.

Concerning research, CFS highlighted the need to develop technologies that enhance the production, processing, storage and distribution of food, particularly basic food crops, including roots and tubers. Indeed, considerable emphasis was given to the gap between the existing and potential technology that exists in African agriculture. 24/

21/ The other two pivotal components highlighted by CFS are delivery systems and institutional development.

22/ FAO, Report of the 12th FAO Regional Conference for Africa, Resolution 4/82, Algiers, September/October 1982, ARC/82/REP, Rome, 1983.

23/ This figure may appear large but it represents only one institution (of a variable quality) per approximately 500 000 people.

24/ United Nations General Assembly Resolution 37/245. Also, FAO has prepared a draft paper, "Food and Agricultural Technology in Africa", Rome, May 1983.

An indication of the gap is shown by comparing average yields for selected products in Sub-Saharan Africa with those in other developing regions of the world (Table 1-26). Nevertheless, the region's best yields easily exceed the average elsewhere. While it is of course not necessarily economic to seek high yields where land is not a limiting factor in production--the case in much of Sub-Saharan Africa--the low yields of the region (excepting tea) are striking. 25/ Furthermore, the yield gap between the world average and Sub-Saharan Africa is also tending to widen.

TABLE 1-26. CROP AND LIVESTOCK YIELDS IN SUB-SAHARAN AFRICA, TOTAL DEVELOPING COUNTRIES AND WORLD, 1979-1981

	Sub-Saharan Africa Yields in 1981	Sub-Saharan Africa Average yields	All developing countries	World	Percentage increase 1969-71 to 1979-81 Sub-Saharan Africa	Percentage increase 1969-71 to 1979-81 All developing countries
	kg/ha				%	
Maize	300- 2 500	959	1 903	3 252	4.1	29.8
Wheat	516- 4 634a/	1 152a/	1 622	1 888	7.1	41.1
Paddy	622- 4 700	1 701	2 680	2 767	22.2	20.1
Cassava	2 381-16 786	6 348	8 776	8 776	-4.1	-1.2
Groundnuts	343- 1 300	806	903	965	1.3	3.8
Coffee	200- 829	359	574	574	-11.2	21.4
Tea	453- 2 439	1 178	703	761	13.5	-6.2
Cocoa	115- 841	304	355	355	-11.4	2.3
Seed cotton	101- 2 727	850	1 030	1 317	2.7	17.1
	kg/head					
Milk	80- 2 500	442	656	1 917	5.0	8.0

a/ Countries producing more than 100 thousand tons per annum.

Source: FAO Production Yearbook, 1981.

Just as it is incorrect to treat Africa's agricultural problems continentally, it is equally wrong to view the technological gap as having a single dimension. It is correct to discern several components of the gap, thereby providing a guide to the type of research required and who should do it.

Bridging the research gaps is an obvious priority. Many specialists feel that there has been insufficient attention given to basic food crops, fruits and vegetables, and even some cash crops such as coconuts, and that this must be corrected.

The evironment gap has two aspects: 1) the availability of suitable land to expand production. As has been pointed out, the majority of countries of Sub-Saharan Africa possess reasonably abundant land resources, but availability is subject to 2) the adaptability constraints imposed by the various African environments (pests, diseases, moisture stress, etc.) on varieties and breeds that offer improvements but are not yet locally

25/ That land may be factor explaining low yields in Sub-Saharan Africa is shown by the case of wheat. Land suitable for growing wheat is limited in the region. Of the three main cereals, the region's average wheat yield, relative to that of other regions and the world, is the highest.

CROP PESTS NEWLY INTRODUCED INTO AFRICA

The increasing dependence of Sub-Saharan Africa on food imports and deteriorating standards of plant quarantine control, are increasingly exposing it to the introduction of new pests which are seriously reducing the continent's ability to achieve self-sufficiency in food. One such pest, the Larger Grain Borer (Prostephanus truncatus), formerly found only in Central America and southern USA, was discovered in Tanzania in 1981. It is proving far more destructive than in its native location, and losses in storage of up to 30% have been recorded in infested maize-growing areas of Tanzania. In its new environment the pest also attacks dried cassava and groundnuts. It is spreading fast. In the two years since its discovery in Africa it has spread to 11 regions of Tanzania and areas bordering Kenya and Burundi. A FAO technical cooperation project (TCP) rapidly mounted in 1982 has led to the formulation of a larger project, including external support of $3.2 million, to develop a pest management system with Prostephanus truncatus as the main target species. Early launching of this project is urgent given the seriousness of the pest.

Another pest of great significance to African food security is the cassava mealybug (Phenacoccus manihoti). This pest also is a newcomer to Africa, having been introduced from its native location of South America in 1973. By 1982 the pest was established throughout the main cassava-growing areas of Africa. It poses a serious threat to food security for the estimated 200 million Africans who rely on cassava as a staple food. A large-scale project has been proposed by the International Institute of Tropical Agriculture (IITA) for the biological control of this and other pests of cassava in Africa.

These accidental introductions underline the need for the strengthening of plant inspection and quarantine services in Africa.

adapted.26/ Much productive land is currently unused because of trypanosomiasis and onchocerciasis (which causes river blindness). These problems are being tackled by programmes of FAO and other UN agencies and institutions. Researchers consider that the local adaptability of many varieties or breeds can be enhanced in Africa, though yields comparable to those in the best environmental situations are not likely to be obtained.

Closing the feasibility gap, the difference between current 'best' farm yields and national averages is a meaningful target for all national research and development programmes. Achieving this target entails careful and localized analysis of why farmers are not able (because of, for example, a lack of access to inputs) or willing (through fear of risk or poor price incentives) to adopt improved practices.

A technological gap also indicates the failure of agricultural research to interact with farming systems, managerial capacities and local support services. This points to a linkage gap, or inadequate contact and dialogue between planners, research workers, extension staff and farmers. In Africa and elsewhere research programmes are giving increased attention to 'farming systems research' by which scientists are encouraged to become

26/ FAO agro-ecological studies have helped greatly to assess land production potentials. For example, the FAO/UNFPA study Land Resources for Populations of the Future used in this section focused initially on Africa. In the future, use of remote sensing and other improvements is anticipated.

better acquainted with the local settings where research findings will be utilized. An African example of this approach is IITA's On-Farm Adaptive Research Programme. 27/

During the period 1970-81, FAO assisted 239 national agricultural research projects in Africa with an allocation of $223 million, about 30% of the total allocation in this area to all developing countries. It has been recently recommended that training in research management should be given emphasis in the short term in Africa, thereby underlining the link between training and institution-building. 28/ FAO is currently developing a programme for this purpose and courses are being offered to research institute directors and programme leaders in 1984-85.

Population policies

Population issues in Sub-Saharan African countries have not been given great weight by their governments. Most countries of the region are relatively small and overall population densities are low. However, some countries have high average population densities and many others have areas with extreme population pressures. Furthermore, current growth rates in population, while far from uniform, are high. Figures of over 3% are common and some countries have annual rates of 4%, implying a doubling of the population in less than twenty years. Projections show that the region's population will increase more than 80% by the year 2000, and in some countries it will have doubled by that year since 1980.

Furthermore, the region has the highest annual rate of urbanization in the world, approaching 6%. Policy suggestions for tackling such problems have frequently been non-demographic, such as agricultural settlement schemes, the 'ruralization' of industries, or industrialization of rural-based activities. Indeed, such approaches are advocated in the Lagos Plan of Action itself. 29/

The inadequate importance attached by governments in Sub-Saharan Africa to the need for population policies is reflected in the very small number of countries which adopt them. Only one country in the region, Mauritius, has had success in implementing a policy of fertility reduction (a lowering of 29% in the birth rate was reported over ten years). By 1980 four other countries had adopted policies aimed at reducing population growth. Two of them (Kenya and Ghana) set quantitative targets as early as the 1960s and Botswana and Senegal followed in the 1970s.30/ However, there is no evidence of the success of these policies to date; of the four countries, only Senegal has a population growth rate of less than 3% per annum. Another 12 countries have authorized the delivery of family planning services either by departments of health or by private institutions.

27/ International Institute for Tropical Agriculture, situated in Nigeria.

28/ FAO Seminar on "Comparative Organization of Agricultural Research in Africa", Rome, December 1981.

29/ OAU, Lagos Plan of Action for the Economic Development of Africa, 1981-2000, Geneva, 1981 (para. 352). The Plan of Action does not address population growth directly, although it does state that the current rates of fertility and mortality are of concern. However, rapid growth in population and urbanization is acknowledged in the oppening paragraph in Chapter 1, "Food and Agriculture" (para. 16).

30/ See Miro C.A. and J.E. Potter, Population Policy: Research Priorities in the Development World, Report of the International Review Group of Social Science Research on Population and Development, London 1980, pp. 8-23.

The Economic Commission for Africa (ECA) drew the following conclusions from a recent comparative review of its member governments' views on objectives and policy instruments in the field of population and development. 31/

1. About two-thirds of African countries have the reduction of mortality (in particular maternal and child mortality) as a priority development objective.

2. Over 40% aim to stabilize or improve the spatial distribution of the population within the country.

3. Nearly one-quarter are determined to restrict rural-urban migration. This is seen to be a different problem from ECA's second conclusion.

4. Eight countries of Sub-Saharan Africa (two of which are small island states) have adopted reduction of the population growth rate as a policy objective. However, a third of the countries in the region have decided to integrate family-planning programmes with health services.

The Livestock, Fishery and Forestry Sectors

There has been a tendency for agricultural development analysts to focus on the developmental impact of crop production when, in fact, three additional sub-sectors--livestock, fishery and forestry--also have an important bearing on productivity and human well-being in non-industrial countries. This is particularly true in the case of Sub-Saharan Africa with its widely varying resource endowments of resources (see Table 1-22). Moreover, activities associated with these sub-sectors are integral and important parts of the daily life styles and the livelihood of many rural communities. In many cases the development of these activities is the main means of pursuing economic and social development. However, the sub-sectors underline the basic African paradox of the mismatching of population densities and resources and the varying ability to exploit them.

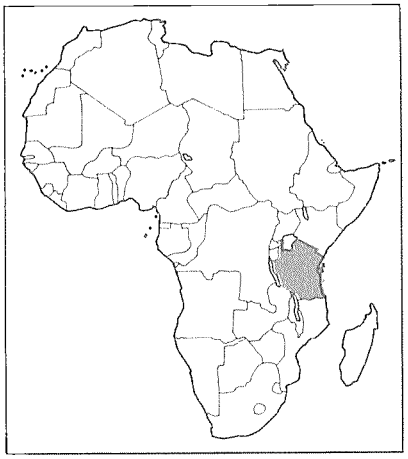
Livestock

The relative importance of the livestock sector can be shown by the number of livestock units per head of the agricultural population (Tables 1-22 and 1-24). An estimated 70% of the livestock is concentrated in the Sahel and Sudan zones mainly because of the incidence of livestock diseases, such as trypanosomiasis in western, central and eastern Africa. 32/ Overall animal resources represent a capital asset of enormous value for the region that is grossly underexploited. Of the 14 countries where livestock plays a major role in the agricultural sector, only five (Niger, Sudan, Tanzania, Kenya and Mali) achieved average growth rates in livestock production during 1971-80 of more than 3%. Two of these countries were recovering from the Sahelian drought of the early 1970s that decimated livestock herds. In four countries of the 14, livestock production declined.

31/ ECA, Population Division, African Population Newsletter, Nos. 40 and 41, July-December 1982, Addis Ababa, p. 21.

32/ The presence of tsetse and trypanosomiasis currently precludes the use in 37 countries of some 10 million km2 of land suitable for livestock.

TANZANIA (Land-rich, roots/tubers/cereals)



The economic crisis that has developed in Tanzania since the mid-1970s is largely a crisis of the agricultural sector. Agriculture's weight in the economy is in fact overwhelming: the sector normally contributes over 80% of total exports and 40% of the GNP. Nearly 90% of the population live in rural areas. Natural resources are not a constraint in this land-rich country with only 0.035 person per hectare of land. Tanzania can support more than twice its population with a low-input level of technology and, at an intermediate level of input use, more than nine times its population. Unlike many other African countries, Tanzania has a wide range of food and export products: tea coffee, cotton, sisal, cloves, cashews and tobacco. Other than the basic food crop, maize, the country is also richly endowed for the production of pulses, oil crops, cassava, vegetables and livestock products.

In the decade following independence in 1961, the production of the main crops, particularly those for export, rose by rates around 7% per annum. However, the 1970s witnessed a dramatic deterioration in the agricultural situation. Non-food crops declined in volume by over 4% annually during 1971-80, with sharp cutbacks or erratic performance in all major export crops except tea. The prices of Tanzania's agricultural exports also deteriorated relative to import prices during the 1970s, and the country's terms of trade worsened by 14%. The value of agricultural exports increased by 8% per annum during the 1970s, compared with 11% for Sub-Saharan Africa.

With a large number of farmers switching from cash crops to staples, food production did relatively better (an annual increase of 3.9% during the 1970s), but periods of drought, such as in the early 1970s, led to food shortages. However, there was a decline in the amount of officially marketed food crops. With food demand of the urban population growing at 7-9% per annum, the country had to resort to increasing food imports, which rose annually in volume more than 2% during the 1970s. While this was much less than for Sub-Saharan Africa, food imports still absorbed an increasing share of total export earnings.

It is difficult to assess the relative importance of natural, external and institutional factors in the crisis. Periods of bad weather, in particular the disastrous drought of 1973, caused major production shortfalls. External factors include the steep increase in energy costs, the deterioration in agricultural terms of trade, the breakup of the East African Community in 1977 and the conflict with Uganda in 1979. Among institutional factors, the large-scale socialist transformation of the rural sector, which followed the Arusha Declaration of 1967 and accelerated in the early 1970s, has probably contributed to the deterioration in the sector's performance. The efficiency of the marketing parastatals that replaced cooperatives has been questioned. The regrouping of farmers into new villages also caused some disruption to agricultural production.

The emphasis put on large-scale industry in development plans is thought to have hindered agricultural development. The share of agriculture in development spending was only slightly above 10% in recent years, compared with 17% in 1976-77. There was a similar decline in agriculture's share of recurrent spending.

The Government's heavy intervention in marketing and pricing systems has been characterized by a marked urban emphasis which, together with unstable domestic and external market conditions, has resulted in uncertain and generally depressed farm incomes. Producer prices in real terms declined by 20-30% for all major export crops except cotton between 1973/74 and 1979-80. On the other hand, real prices for most domestic crops appears to have increased substantially during the same period.

A number of important institutional and policy changes have recently been introduced in an attempt to tackle the agricultural crisis.* These include a reduction of the role of state marketing organizations; a corresponding emphasis toward co-operatives in market and input supply; changes in land tenure that permit individual leases; the encouragement of private commercial farms, in particular with regard to foreign exchange regulations; a commitment to better planning; regular adjustments of producer prices; and better access to inputs. It has been proposed to double the level of development expenditure on agriculture. These measures suggest a shift in emphasis within the four sets of policy principles--villagization, communalization, social infrastructure and agricultural output--towards a more pragmatic technical approach favouring output.

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* The Agricultural Policy of Tanzania, Dar-es-Salaam, March 1983.

Although livestock development policies should be defined for each ecological zone, there are certain essential features. 33/ The first feature is the development of appropriate livestock production systems for each zone. Broadly speaking, the existing systems fall into four main categories:

a) Pastoral systems of livestock production on rangelands with a highly seasonal production capacity. The main problem lies in a conflict of objectives since the stock owners generally wish to maximize stock numbers. This leads to overgrazing while increasing the productivity of rangelands generally involves as a first stage reducing stock numbers. Nomadic or transhumant systems also facilitate the transmission of diseases while making their control and prevention more difficult.

b) Settled smallholder systems of greater or lesser intensity, where crop and livestock production are more or less integrated. It is within such systems that the greatest potential for increased production lies which has formed the basis, in a few countries, of thriving dairy industries. Greater emphasis on small ruminants, rural poultry and rabbit development appears feasible.

c) Large-scale cattle production units, such as feedlots and ranches. Very often these are independent of the rest of the livestock and agricultural sector and contribute little to development.

33/ FAO, The State of Food and Agriculture 1982, Rome, 1983. Chapter 2 discusses these features in greater detail.

d) Intensive pig and poultry systems, often using large ammounts of capital and imported technology, livestock breeds and feeds, and needing highly trained personnel. Because of the scarcity of capital and trained personnel and the difficulties of maintaining equipment in most Sub-Saharan countries, these systems have not been widely adopted nor can they be recommended for most situations.

The second essential feature is the development of feed resources through the better management and improvement of pastures and rangelands, the introduction of fodder crops and the greater use of 'new' feed resources such as agro-industrial byproducts and crop residues. The key issues are:

- Stocking density, which entails finding a compromise between a stocking rate that will not lead to the degradation of pastures and one that will be acceptable to the stock owners.

- Development of fodder reserves as insurance against drought in the savannah areas. This can involve the preservation of standing hay, the planting of fodder trees and shrubs, and the provision of water.

- Feeding strategies and systems in areas where the potential for integrating crop and livestock production exists. Often crop residues and agro-industrial byproducts are produced in quantity, but are either wasted or exported. Their domestic use for animal feed merits encouragement in most cases.

Third, livestock improvement is required through the selection of the more promising indigenous breeds or the appropriate introduction of exotic stock for pure or cross-breeding. Sub-Saharan Africa has a few indigenous cattle breeds of good beef potential. There are also some livetock breeds and strains that are resistant to certain diseases. One example is N'Dama cattle which tolerate trypanosomiasis infection. Inter-country cooperation in breed evaluation and the development of programmes of selection, multiplication and conservation form important strategies for the genetic and managerial improvement of livestock populations. A first requirement, however, is for governments to conduct systematic assessments of livestock populations as a basis for a data bank on animal genetic resources. Without national genetic conservation and management strategies, Africa will be in danger of losing most of its valuable livestock genetic resources.

There are some areas of Sub-Saharan Africa that are climatically favoured and where cross-breeding between an indigenous adapted breed and a temperate breed is productive. This applies particularly to dairy cattle kept under intensive conditions and good veterinary control.

Finally, issues relating to animal disease control and prevention must be addressed before livetock development programmes can be effectively implemented. Livestock disease investigation, reporting systems, laboratory diagnostic services and vaccine production capacities are often understaffed and underbudgeted. Specialists state that particular attention should be focused on the following:

- Pursuing the control of African animal trypanosomiasis as in a current FAO-supported programme, through training, research, technical advice (on the correct use of trypanocidal drugs, for example) and integration into programmes of rural development.

- The control and eradication of rinderpest through the organization of a Pan-African campaign, as discussed earlier.

- The establishment of training and research centres for the control of ticks and tick-borne diseases. There are proposals by FAO/OAU for such centres to be strategically located throughout the region.

- The expansion of regional veterinary education capacities through the strengthening of existing facilities and the creation of new ones where necessary. This need is particularly acute in southern and west Africa.

- A survey of veterinary laboratories in Africa to assess their activities; to identify needs to improve diagnostic capabilities and vaccine production capacities; and to identify reference centres for training, research and the production of biologics.

Fisheries

The annual fishery potential of African waters, both marine and inland, is very large. Estimates put it at 11 million tons, or about 14% of the current world catch. In the marine sector, however, this potential is unevenly distributed and does not coincide with the densely populated areas. The areas of greatest potential are off northwest Africa (3.5 million tons) and southwest Africa (3.0 million tons), but these are areas of low population densities (Table 1-27). The potential of the densely populated Gulf of Guinea is moderate as is that of the East African fishing area.

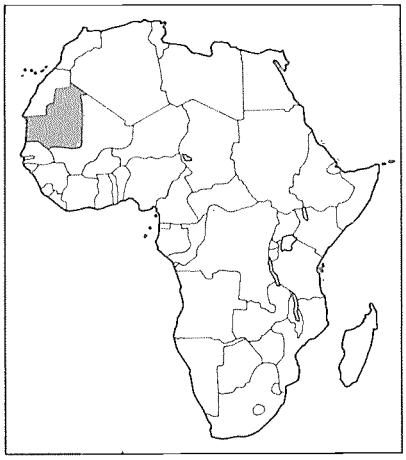
TABLE 1-27. PRESENT AND POTENTIAL CATCH OF FISH IN SUB-SAHARAN AFRICA

	Catches in 1982				Potential catch		
	By domestic fleet			By foreign fleet	Inland	Marine	Total
	Inland	Marine	Total				
	thousand metric tons						
COASTAL COUNTRIES							
Northwest Africa	28	634	662	1 762	37	3 350	3 387
Gulf of Guinea	314	725	1 039	25	383	1 120	1 503
Southwest Africa	111	306	417	1 450	296	3 000	3 296
Somalia and Djibouti	-	15	15	8	-	305	305
Southwest Indian Ocean	308	100	408	75	456	600	1 056
Red Sea	32	2	34	-	184	150	334
Total	793	1 782	2 575	-	1 356	8 525	9 881
LAND-LOCKED COUNTRIES							
Western Africa	107	-	107	-	120	-	120
Central Africa	135	-	135	-	140	-	140
Eastern Africa	308	-	308	-	423	-	423
Southern Africa	2	-	2	-	15	-	15
Total	552	-	552	-	698	-	698
Total coastal and land-locked countries	1 345	1 782	3 127	3 320	2 054	8 525	10 579

Note: Not all the coastal countries listed above belong to Sub-Saharan Africa; e.g. Morocco is included in the Northwest Africa marine zone; Egypt and Saudi Arabia also fish in the Red Sea. Catches by the Republic of South Africa are not included.

Source: FAO, Fishery Policy and Planning Division.

MAURITANIA (Extremely land-scarce, mixed cereals)



Mauritania's agriculture is confronted to an especially severe degree with several of the characteristic constraints facing the Sahelian countries: a harsh geophysical environment; a traditional and largely autonomous agricultural sector--concentrated in a narrow band along the northern bank of the Senegal river; food marketing difficulties arising from the dispersed nature of economic activities--with the capital, Nouakchott, far away from the main centres of production; a seemingly inexorable desertification process, threatening Nouakchott itself; and a strong migratory flow from rural to urban centres, exacerbated after the great drought of 1968-73. Unlike most other Sahelian countries, however, Mauritania has considerable latent potential, in terms of food supply and foreign exchange, in its 900 kilometre-long coastline, off which lie the richest fishing grounds of Africa.

The poor performance of the agricultural sector constitutes the most serious economic problem facing Mauritania. The whole structure of the sector was profoundly modified by the 1968-1973 drought. By the late 1960s, the country had nearly achieved selfsufficiency in food, with cereal production fluctuating around 100 000 tons per annum and a fairly diversified line of complementary crops such as dates and groundnuts.

After the drought, the country produced no more than 20-30% of its domestic demand for cereals and the output of other crops also sharply declined. The increasing dependence on imports and international aid and the urbanization process created entirely new consumption patterns with wheat, rice, maize and vegetables becoming major dietary items. The costs of food imports, mainly cereals, have increased their share of total export earnings by nearly 15% per annum during the 1970s. Cereals are still a relatively small component of food consumption in terms of per caput calorie supply. At 89% of estimated requirements, dietary energy supplies, derived mainly from meat and dairy products, sugar and fats and oils, are well below the Sahel average. After the 1968-73 drought, which reduced the cattle herd size by a one-third, fish consumption increased. However, fish is a food not favoured by most Mauritanians and fishing an activity remote to traditional nomadism.

Agriculture remains the chief means of subsistence for 75% of the country's population and is an important, if declining, component of the GDP (about 25% in recent years). The development of the sector, therefore, is at the forefront of Government concerns. The importance of water management through irrigation is recognized as the only way toward an improved and more reliable agricultural production system. However, achievements in expanding irrigated areas remain well below stated objectives: 3 700 hectares were irrigated under the 1976-80 national plan, compared with a 14 000 hectare target. The lack of capital resources remains a critical factor despite the heavy budgetary support provided, particularly by Arab countries after the great drought. External assistance in

1981 made up about half of Mauritania's total public expenditure and, in terms of per person in the agricultural population, official commitments to agriculture are among the highest in Africa (nearly $33 in 1980 at 1975 prices). In the current 1981-85 development plan, recognized as an interim plan, more results are expected in the short run from institutional reform--negotiations with the EEC on fishery exploitation, changes in price policies, reforms in the land tenure system--than from capital investment. Water management, particularly the construction of dams, will absorb an important part of the resources allocated to agriculture during this period.

The Government is also intensifying efforts to supervise and control Mauritania's maritime wealth which, until the adoption of the new Law of the Sea, was being expropriated by foreign fishing vessels. The country's own fishing capacity remains very underdeveloped. For instance, in the 1970s domestic catches averaged 32 000 tons annually in contrast to the corresponding figure of 200 000 tons in neighbouring Senegal, which has fewer fishery resources. Properly managed, Mauritania's fishery sector may generate more foreign exchange earnings than the present key export, iron ore. Major constraints are the lack of an infrastructure for the fishing industry at the port of Nouadhibou and a lack of seafaring tradition and expertise. The completion in 1984 of a deep-water port at Nouakchott, with assistance from China, is expected to add a new site for the fishing industry besides Nouadhibou. Expertise has also been provided by FAO in Mauritania's efforts to develop the industry and protect its fishing grounds.

The potential for the increased yield of inland fisheries over present production is not precisely known but is large (over 600 000 tons); that from aquaculture in the medium term is low (100 000 tons).

Regional fish production by domestic fishermen was 3.1 million tons in 1982, nearly 60 percent from the marine sector and the balance from inland waters. Production by foreign fleets exceeded the domestic catch and amounted to 3.3 million tons in 1982.

Fish is a particularly important component of the diet of people in the coastal west African countries where it accounts for more than 40% of the total intake of animal protein. The per caput supply of fish for Africa increased from 8.8 kg annually in 1974-76 to 9.3 kg in 1978-80. A subsequent decrease in the per caput supply in 1982 was caused by a combination of decreased imports and higher exports of fish products, a constant catch and high population growth.

Policy issues. The mismatch between the location of fish resources and human population in the region makes the development of intra-regional trade extremely important. This is particularly so between the resource-rich countries of northwest and southwest Africa and those lining the Gulf of Guinea, such as Nigeria which, at the height of its import boom in 1980, imported about 1 million tons (fresh-weight equivalent). It is believed that the establishment of a regional fish-marketing information and technical advisory service in Africa on the lines of the successful projects INFOPESCA in Latin America and INFOFISH in Asia will help African countries to develop further intra-regional fish trade. (See earlier section on fisheries.)

In many African countries, fresh fish is available only near landing places on the coast or near lakes and rivers because of problems of conservation and distribution. Furthermore, much of the fish landed is lost when processed in traditional ways. There is good potential for reducing wastage through better handling and training in improved processing methods, not forgetting the extremely important role of women in fish processing and marketing, particularly in West Africa.

In some African countries imports of high-value cured fish from developed countries could be substituted by locally produced and lower cost fish products. In other African countries where fish is a potential food source currently not exploited, consumer education could promote fish consumption.

The importance of small-scale fisheries in the supply of food fish to local populations cannot be overemphasized: about 80% of the catches of food fish in Sub-Saharan Africa is produced by local small-scale fishermen. This sector can be upgraded in most aspects. Opportunities for improving fishing gear and boats, shore installations, handling, processing and preserving catches are substantial. The important socio-economic role of artisanal fisheries in national economies deserves greater recognition.

The creation of exclusive economic zones by many African coastal states has had an important impact on national economies, not only in terms of possible increases in fish production, but also through payments for fishing rights or licences; increased landings of fish in African harbours by foreign fishing nations; and the creation of joint ventures between developed fishing nations and African coastal states. However, foreign catches off Africa decreased after 1978 when most African countries enforced their EEZs. After this decline, the foreign catch stabilized at about the levels of 1979. Domestic catches also declined during this period by about 5%. A problem closely linked with the establishment of EEZs is that of the monitoring, control and surveillance (known as MCS), of fisheries exploitation, particularly in cases where foreign fleets are very active. African countries need further assistance in this field.

Regional collaboration. The African fishing sector shows a marked need for regional cooperation, especially in management and development, and in overcoming the problem of shared stocks. FAO's response to this need is to establish a network of sub-regional technical assistance units, such as the CECAF (Committee for the East Central Atlantic Fisheries) project for Africa for the coastal countries, and the Southwest Indian Ocean Project for East African coastal and island states. Technical units are guided by regional fishery bodies that provide the focus for intercountry collboration in fisheries management and development and the promotion of cooperative activities in the aquacultural, research and small-scale fishery sectors. The participation of nationals in regional bodies helps to increase the political will and commitment of governments to develop their fisheries sectors.

Forestry

The rich closed forest resources of Sub-Saharan Africa, estimated at 217 million hectares in 1980, are concentrated in rather few countries. Almost one-half of the area is in Zaire. Another four countries--Congo, Gabon, Cameroon and Madagascar--each with 10-20 million hectares, account for another third. However, a number of other countries, such as Nigeria, the Ivory Coast, the Central African Republic, Ghana and Liberia, have

significant, if smaller, concentrations of rich equatorial forest. But in several of these countries the closed forest is subject to very rapid clearance. For example, Nigeria and the Ivory Coast between them account for half the annual clearance of the closed forest in Africa.

Commercial production based on the rich equatorial forest has principally involved the extraction of a few high value trees, perhaps only 10 m3 per hectare from stands with up to 300 m3/hectare of timber in a wide variety of species. A significant part of this production has gone for export in an unprocessed form, the volume fluctuating around 6 million m3 annually over the last two decades. The value of these exports has increased by about 30% in real terms since 1973, constituting about two-thirds of total wood-product exports from the region.

The production of mechanically processed wood products--panels and sawnwood--has increased from about 2 million m3 to just over 7 million m3 in the last decade and its contribution to domestic consumption has increased substantially. Trade in these products has been maintained virtually in balance. However, the region is still largely dependent on imports for its supply of paper.

Wood and energy

The most important contribution of forests to the well-being of people in Africa is through the supply of wood for energy. (See Table 1-24 for information on the use of wood for fuel at country level.) In Sub-Saharan Africa the annual consumption of fuelwood is about 320 million m3, equivalent to about 106 million tons of coal and about 70% of the energy supply for the region. However, the dependence on wood is greater in many countries. It is also estimated that between 90% and 98% of the energy needs in rural areas are met by fuelwood.

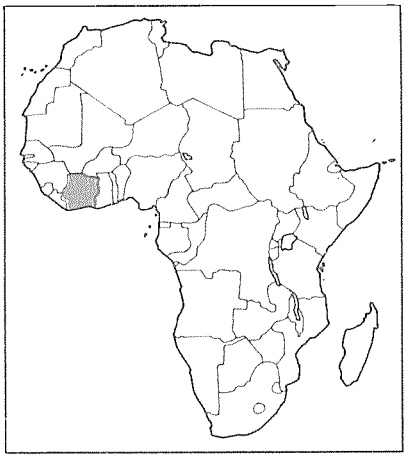
In the savannah zones, where the density of the population is high and where the ecological conditions are not favourable for forests, some 130 million people are able to meet their energy needs only by overcutting existing vegetation. It is estimated that in these zones 500 million people could face marked fuelwood deficits by the end of the century unless present trends are modified. This deficit might reach 300 million m3 and affect 37 countries of Sub-Saharan Africa.

In the arid and semi-arid zones of the region, the very low yield of shrub vegetation is not enough to meet even the basic minimum needs of the population for fuelwood. In addition, extensive grazing very often exceeds the carrying capacity of the grassy vegetation. The unfavourable climatic conditions of recent years have limited possibilities for the regeneration of wooded areas and grasslands in these zones. As a result there is a very acute fuelwood deficit which is leading to the overcutting of existing scarce vegetation, increasing soil erosion and the risk of eventual desertification. These are areas where failure to meet energy requirements with alternative supplies results not only in the destruction of remaining sources of wood but in the destruction of the productive capacity of the soil for arable and pastoral agriculture.

Some External Factors

Although national strategies and policies have played a major role in determining the course of agricultural development in Sub-Saharan Africa during the past decade, it is also clear that external factors, apart from wars and civil strife, also have had important effects. In reviewing the intercountry variations in performance, this section attempts to give an overview of the two major areas of external trade and development assistance.

IVORY COAST (Land-rich, roots/tubers/cereals)



Few developing countries in the world can match the sustained dynamism of the Ivorian economy during the past two decades. Despite a marked slowdown in economic growth since 1978, the average yearly increase in GNP has exceeded 7% since Independence in 1960. While the per caput GNP of less than $100 during the 1950s made the Ivory Coast one of the poorest developing countries, it reached $1 200 by 1981, among the highest in Sub-Saharan Africa.

Furthermore, unlike other fast-growing countries in the region, growth of the Ivorian economy has been based on agriculture: particularly cocoa, coffee and timber production. The share of agriculture in GDP declined from 43 to 27% between 1960 and 1981, but the sector still provides direct or indirect employment to three-quarters of the population and a similar share of export earnings. In addition, half of the manufacturing value added is accounted for by the processing of agricultural raw materials.

While it is generally recognized that the success story of Ivorian agriculture is largely man-made, the country also has favourable natural endowments. Its land has the potential to support more than seven times the existing population even at low levels of input use and nearly 25 times the population with a modest use of inputs. Indeed, land has been brought into cultivation at a very fast rate (4.3% in the 1970s) so that despite a rapid rate of increase in the agricultural labour force (2.7%, one of the highest in Sub-Saharan Africa), there has been an increasing amount of land available per agricultural worker. However, this has had adverse consequences for forest resources, which are being rapidly depleted by excessive clearing and exploitation. If uncontrolled, this may completely destroy Ivorian forests in the next few decades.

Coffee and cocoa, grown predominantly by smallholders, have played a key role in the Ivory Coast's export-led growth. These two crops cover nearly one-half of the country's total arable land. Cocoa production rose from 100 000 tons at Independence to 430 000 tons in 1981, making the Ivory Coast the leading world exporter, with 26% of the world cocoa-bean market. Coffee production has nearly doubled since Independence to 350 000 tons in 1981, the country being now the third largest world exporter. The pace of economic development and growth has been dependent on these two crops; the annual rate of economic growth slowed to only around 3% during the 1973-75 recession while it accelerated during the 1977-78 commodity price boom. The depressed rate of growth in recent years - 3% per year between 1980 and 1982 - was also largely due to low commodity prices, although the high costs of imported energy and heavy public indebtedness (the costs of debt-service rose from 7% of exports to 25% during the past 10 years) have also contributed to the present crisis.

This heavy reliance on the exports of only two crops for economic growth has led to problems. The massive transfer of tax-revenues from smallholder

coffee and cocoa producers has led to rural-urban gaps in incomes, opportunities and services and migration towards urban centres and the agriculturally better endowed southern parts of the country.

The dependence on export earnings from coffee and cocoa, which fluctuated on average by 29% around their mean value during 1972-82, also presents obvious risks.

While the 1981-1985 development plan and the 1983 budget reflect the need for austerity in the present difficult period, the modernization of agriculture remains a first government priority. Agricultural and agro-industry investments are expected to receive nearly 15% of total public investment during 1981-85 but coffee and cocoa will receive a smaller share (about 14%) in favour of food and other crops. The development plan emphasizes the need to reduce the dependence in food imports which rose in volume by as much as 7.5% per year between 1971 and 1981. Rice imports, in particular are expected to stabilize by the mid 1980s at about 70% of the current annual level of 350 000 tons.

External trade

The purchasing power of agricultural exports, as measured by income terms of trade,34/ deteriorated significantly in most countries in Sub-Saharan Africa during the 1970s. Of the 31 Sub-Saharan countries for which data are available, only five--Cameroon, Gabon, the Ivory Coast, Malawi and Rwanda--made significant gains in their agricultural income terms of trade during the period. All the countries, except Gabon, achieved these gains mainly through higher volumes of exports because international prices for primary commodities either stagnated or declined in real terms. The period was marked by steep increases in the prices of imported manufactured goods and crude petroleum. Sixteen countries of the 31 could not overcome these adverse price changes and showed significant yearly declines in their income terms of trade by amounts which ranged from 1.5-20%. There was no overall growth in the volume of the total merchandise exports of the region in the 1970s.

Furthermore, the export trade situation deteriorated even more during the post-1979 period when the deepening economic recession contributed to depressed prices of many of the region's export commodities, including such major crops as beverages, but also rubber, forest products and sugar. By 1981 the terms of trade had deteriorated for all but four of the 17 countries for which agricultural exports constitute at least 50% of total merchandise exports.

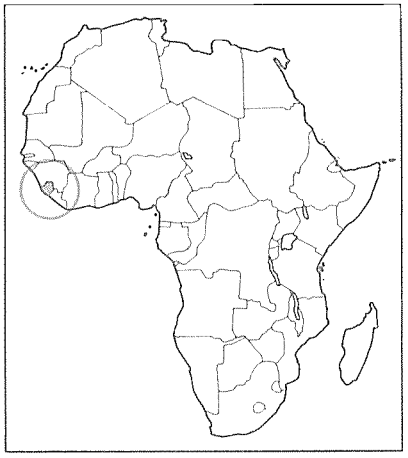
Apart from worsening price relationships, factors contributing to the poor export performance of Sub-Saharan countries include the following:

- The inability to expand and, in some instances, maintain the volume of export crop production (for reasons discussed earlier under National strategies and policies).

- Price instability and the narrowly-based structure of agricultural exports. Two-thirds of all the countries in the sub-region depend on exports of coffee, tea and cocoa for 30% or more of their agricultural export earnings. In some cases, such as Ghana and Rwanda, the proportion is over 90%. Unstable market prices for these products render the trade situation of these countries precarious.

34/ Income terms of trade is the ratio between the indices of value of agricultural exports and the prices of total imports.

SIERRA LEONE (Moderately land-rich, rice)



The agricultural sector in Sierra Leone, which employs about 75% of the population and accounts for a third of the GDP, has been declining or stagnating in recent years. While the population density is high, the potential productivity of arable land--which covers nearly three-quarters of the territory--is more than adequate to cover population needs. Fully utilized, Sierra Leone's agricultural land could feed 70% more than its present population at low levels of input use, while at an intermediate level of technology, it could support over nine times its population. Particularly promising areas for agricultural expansion, especially of rice, are the swamp lands which occupy about 20% of the arable land. There is also a considerable potential for the expanded production of tree crops (coffee and oil palm).

Although Sierra Leone grows over 60 food and export products, rice claims the bulk of the country's resources in land and labour. It is estimated that 70% of the total cultivated area is under rice and that 90% of all farm families are employed in rice production. Rice is also by far the most important foodstuff consumed in Sierra Leone, accounting for about half the daily calories in the average diet.

However, although the local production of rice paddy more than doubled during the 1960s and 1970s, it has been insufficient to meet an increase in domestic demand. Rice production was particularly poor during the 1970s when the average annual growth rate fell to only 1.2%. Food imports have been rising at a relatively modest rate (2% per annum in volume terms during the 1970s), but have been absorbing a rising share of the value of exports and represented 20-25% of the country's total merchandise imports by the late 1970s. Once a net exporter of rice, the country imported almost 90 000 tons of this commodity in 1982, equivalent to 36% of its total export earnings. Imports of wheat and wheat flour have also increased to meet domestic demand for bread, mainly from urban centres. The increasing dependence of Sierra Leone on overseas food resources has been one of the main factors in the country's massive external debt, which represented one-third of GNP in the early 1980s.

The poor development of the agricultural sector in Sierra Leone reflects the inadequacy of traditional production techniques in the face of increasing demand. Production remains based on family labour, simple hand tools, shifting cultivation practices and very little use of fertilizer or other inputs. Progressively shorter fallow periods have resulted in declining yields. The percentage of irrigated land is the lowest in the group of rice-consuming countries in Africa.

Other factors limiting production have been the low level of real farm prices as a result of the inadequacy of the internal marketing system's procurement programme, and the policy to supply the urban population with imported food. A very small portion--20-25% in the case of rice--of food domestically produced is marketed, and even smaller portions enter the official

marketing channels under official prices. In 1981/82 local rice was estimated to contribute less than 7% to the total rice purchased by the National Marketing Board.

The Sierra Leone Government is now engaged in a major policy thrust toward agricultural development. Steps are being taken to increase returns and to extend the system of official procurement prices to commodities other than rice. Rice production is being encouraged to move from shifting upland cultivation to lowland swamp cultivation which can double yields and leave room for the development of new crops. Rural development services are being improved. A composite flour programme to replace imported wheat and wheat flour with flour from locally produced grains and tubers is being formulated with the assistance of FAO.

- Difficulties in adjusting to changing conditions in world demand. This factor is linked to the excessive concentration of exports of Sub-Saharan Africa in a limited number of markets, particularly EEC and North America. Trade between Sub-Saharan African countries themselves represents less than 10% of their total exports.

- Protectionist barriers, which have hindered market penetration in some major industrial countries, particularly in the case of African products that compete with temperate products or semi-processed products such as leather.35/ Although protectionism is a long-term problem, it has become more acute in recent years as a consequence of the recession.

- Increasing domestic demand for consumption or processing. In some cases governments have adopted fiscal or other policies that limit the export of unprocessed agricultural products in order to promote local processing industries, not always successfully.

Sub-Saharan Africa would benefit particularly from improvements in international trade policy designed to stabilize export earnings and to promote the further processing of commodities. This involves initiatives in the following areas:

- More liberal compensatory financing arrangements such as those of the IMF and the Stabex Scheme of the EEC;

- The implementation of the Common Fund Agreement to stabilize prices and promote market and product development as foreseen in the Second Account of the Fund;

- Wider access to the markets of semi-processed and processed goods;

- Help to African countries in improving their capacity to respond to changes in commodity world trade patterns.

Development assistance

The inability of most countries of Sub-Saharan Africa to raise funds on commercial money markets has entailed costs and benefits. On the cost side, the sharp increase in real interest rates that occurred in the late 1970s has created debt servicing problems for some credit-worthy countries. On the benefit side many countries have had to rely more on

35/ Many African countries have preferential access to the EEC under the Lomé Convention. Unfortunately, the difficulties encountered by inexperienced exporters are not easily overcome by preferential tariffs alone.

development assistance, often that on concessional terms and so have been shielded from these problems.36/ However, aid flows to agriculture have tended to stagnate since the late 1970s having grown strongly during the middle of the decade. There is therefore rising concern about the magnitude of development assistance and how it may be used more effectively.

An examination of aid flows to the agricultural sector (OCA) of Sub-Saharan Africa over the period 1974-81 reveals the following pattern:

- In terms of commitments per person in agriculture, by and large the poorer countries have received more aid during 1974-81, but there are many exceptions. The overall average in 1980 was $5 in real terms (in 1975 prices). Placing this figure in perspective, in current dollars it was equivalent to $8 in 1980, while the average export earnings per person in agriculture was about $40 that year.

- There has been a significant increase in per caput commitments, which more than doubled during the period even after discounting the very large increases recorded in some countries receiving little or no aid at the beginning of the decade.

- There is no clear relationship between the amount of aid committed to a country's agricultural sector and its performance in terms of agricultural output and incomes. But it may be that the pattern is obscured by heavy aid commitments in some countries facing particular difficulties, as well as differences between commitments and actual disbursements.

With the economic and institutional problems that countries in Sub-Saharan Africa face, many have problems of mobilizing domestic resources and linking these with external development assistance. If the pace of agricultural development is to be accelerated in the near future, it will be necessary in many situations for international assistance to cover high portions of local costs.

Conclusions

Among the many conclusions and recommendations suggested by this analysis, the following few broader issues deserve to be highlighted:

- The expanding domestic market for food in Sub-Saharan Africa offers a great opportunity for equitable agricultural and rural development. In this regard a successful move toward greater self-sufficiency in food would be a step in achieving balanced agricultural and rural development. Yet the danger remains that the pursuit of a food self-sufficiency policy could result in lower nutritional levels if food imports are significantly and rapidly scaled down. Many countries of Sub-Saharan Africa may be going through a phase of increasing food imports before demographic changes and agricultural improvements can bring about a better balance between food demand and domestic supply.

36/ According to World Bank estimates, during 1970-79 the share of Sub-Saharan countries in total developing countries' public or publicly guaranteed debt fell from 9.6 to 6.0% in the case of debt incurred from private sources, but rose from 9.7 to 12.7% in the case of debt from official sources.

- It may be necessary to influence the pattern of food demand through pricing and other measures to make it comply more with the types of food produced domestically. Such measures may not be politically easy to apply and may discriminate against some groups of consumers.

- There is a great need for technological breakthroughs in African agriculture. In some cases, they may enable land use to be intensified and in others they may enable larger areas of land per person to be cultivated. The overall aim is to increase agricultural output and income per agricultural worker. It is unlikely that such breakthroughs will be achieved in one step or that a technological revolution is imminent, but a series of improvements appears feasible. Much could also be done in applying existing knowledge.

- The demographic aspects of development cannot continue to receive such little weight in overall strategies. Rates of population growth, rural-urban migration and urbanization are factors vital to developing sound food policies and to the progress of development itself.

- Since successful agricultural development is strongly associated with rural living standards, strategies must emphasize rural development and bring the advantages of improved basic services to as many rural people as possible.

- Governments have increasingly intervened in the process of development without adequate information. Frequently well-intentioned policies fail because of the lack of adequate data and their analysis. Here is a clear role for technical assistance.

- By and large, Sub-Saharan Africa has the natural resources to support a much greater population at significantly improved levels of nutrition and, indeed, higher standards of living. But the resources are mismatched with existing population densities, are inadequately managed, and are being mobilized without sufficient speed. These deficiencies constitute the main set of challenges facing the sub-region.

- Fairly modest endeavours to achieve closer cooperation among neighbouring countries of the sub-region could do much to enhance food security and agricultural development. These endeavours could productively embrace a wide spectrum of needs, such as animal disease monitoring and control networks; transport systems to link food sources to food users; and more compatible price, monetary and human migration policies.

- Particularly because of recent economic and food-production setbacks, it will be difficult, and almost impossible, for many Sub-Saharan countries to achieve needed momentum without help at international levels in finance, trade, agricultural technology and human resource development. At the same time, much depends on how effectively these countries themselves create a setting to ensure that assistance and opportunities from the outside are not wasted.

SOME ISSUES IN OTHER REGIONS

This final section of the World Review chapter deals briefly with some issues of current interest to other regions: recent agricultural production trends in the Far East, international trade in agricultural production in Latin America and the Caribbean, agricultural investment in the Near East and North Africa and agricultural policies in developed market economies.

Far East

The Far East Region, including the Asian centrally planned economies, accounts for over half the total world population and more than two-thirds of its agricultural population. Hence, any significant changes in the growth pattern of its agricultural production can have substantial international and national implications.

Since the late 1960s many of the developing countries of the Far East have been leaders in the rapid adoption of high-yielding varieties and other elements of improved agricultural technology. This has been reflected in substantial increases in the total and per caput production of rice and wheat, as well as certain other food and non-food crops. Though it receives less attention, meat and milk production has also increased in some countries. Yet recent food and non-food production data (Table 1-28) yield some warning signs that raise questions as to whether these rapid gains will continue at the same pace.

In some countries, especially in southern Asia, from the late 1970s the production growth rates of some commodities appear to have tapered off and there have been declines in per caput output. In part, this seems to reflect the recent economic recession, related declines in domestic and export demand, and current difficulties in obtaining funds for the expansion of intensified production systems. In addition, growing conditions have not been ideal. A number of countries experienced adverse weather conditions in two of the last five years (1979 and 1982). Moreover, a new generation of breakthroughs in farming technologies, diffusion methods and agricultural support systems may be needed if production is to maintain its lead over population growth in the future.

The recent declines in the growth of cereal production in South Asia and the ACPE have been especially striking. In the case of South Asia, per caput cereal production actually declined during the 1978-82 period. The slowdowns have been especially noticeable in paddy and coarse grains, whereas wheat production has continued to increase rapidly in a number of countries. In the ACPE, growth rates for both wheat and coarse grain production have declined in the recent period to about one-third of those of the late 1960s to early 1970s.

The recent deceleration of growth, particularly in food production, must be kept under surveillance, above all in the low-income countries of south Asia. The slowdown in food, and particularly cereal production, may also begin to affect average nutritional levels. These had shown some improvement during the 1970s, especially in China, and had recovered from the setback of the middle of the decade. But this improvement could be short-lived. Slower increases in coarse grain production would have serious implications for the food consumption levels of the poor as well as for livestock production (the expansion of which has in fact slowed down).

Non-food production shows a different picture. The production of cotton in China has grown very rapidly in recent years. This is reflected in the growth rate of non-food production for the ACPE and even for the

TABLE 1-28. FAR EAST: ANNUAL RATES OF CHANGE IN AGRICULTURAL, FOOD, LIVESTOCK, CEREAL AND NON-FOOD PRODUCTION

	Agriculture			Food			Livestock			Cereals a/			Non-food		
	1967 to 1982	1978 to 1982	1982 to 1983	1967 to 1982	1978 to 1982	1982 to 1983	1967 to 1982	1978 to 1982	1982 to 1983	1967 to 1982	1978 to 1982	1982 to 1983	1967 to 1982	1978 to 1982	1982 to 1983
	..... %														
South East															
Total	2.6	1.6	8.4	2.7	1.6	9.0	3.5	3.4	1.3	2.5	0.9	13.9	1.4	0.6	1.2
Per caput	0.3	-0.6	6.2	0.4	-0.5	6.7	1.2	1.2	-0.7	0.2	-1.3	11.5	-0.9	-1.5	-0.9
East and Southeast Asia															
Total	4.4	3.6	2.5	4.5	3.9	2.6	6.1	4.8	4.3	3.6	3.3	2.2	3.0	-	1.0
Per caput	2.1	1.5	0.4	2.2	1.8	0.5	3.8	2.7	2.2	1.3	1.2	0.2	0.8	-2.0	-1.0
Asian centrally planned economies															
Total	3.3	3.3	1.6	3.3	2.9	2.1	4.3	4.7	3.5	3.6	2.3	2.0	3.0	9.4	-4.7
Per caput	1.5	1.9	0.3	1.5	1.6	0.7	2.4	3.3	2.1	1.8	0.9	0.6	1.1	7.9	-5.9
Far East and Asian centrally planned economies															
Total	3.2	2.8	3.9	3.3	2.7	4.3	4.3	4.4	3.1	3.2	1.9	6.0	2.4	4.2	-1.7
Per caput	1.2	1.0	2.1	1.2	0.9	2.5	2.2	2.6	1.3	1.1	0.2	4.1	0.3	2.3	-3.5

South Asia: Population in 1982 = 928.8 million
Bangladesh, Bhutan, India, Maldive, Nepal, Pakistan, Sri Lanka.

East and southeast Asia: Population = 358.7 million
Brunei, Burma, Hong Kong, Indonesia, Korea Republic, Lao, Macau, Malaysia, Philippines, East Timor, Singapore, Thailand.

Asian centrally planned economies: Population = 1 104 million
China, Kampuchea, Korea DPR, Mongolia, Vietnam.

a/ Gross production.

Source: Statistics Division and Policy Analysis Division.

Far East as a whole, despite slowdowns in the growth of production of other non-food crops elsewhere in the region such as tea, coffee, jute, tobacco and natural rubber. These production slowdowns, some of which can be attributed to marketing difficulties, combined with weakening export prices, have contributed to a levelling-off in the region's agricultural export earnings in 1981, compared with an average annual increase of nearly 15% during the previous decade.

Cereal imports increased by about one-quarter between 1977-79 and 1982, or close to the average increase in all developing countries, mainly because of a sharp increase in China's imports and the re-entry of India as an importer of wheat in 1981/82. Although this increase has been partially offset by larger exports of rice, it does show the continued weakness of the region as far as its dependence on imported foods, particularly wheat, is concerned.

Many technical, environmental, economic and institutional factors are important in explaining these small, but possibly crucial, shifts in production and trade. Less easy access to inputs appears to be a major factor. Expansion in the irrigated area, fertilizer use and mechanization was notably slower during 1978-81 than during the longer period 1967-81 (Table 1-29). Two most important reasons for this slowing down were the rising costs of inputs, particularly energy costs, and supply difficulties because of balance of payments problems. Recent budgetary problems have also forced governments to reduce subsidies for inputs. As a result, prices actually paid by farmers for nitrogenous fertilizers (widely used on rice) were increased significantly in Bangladesh, Nepal, Pakistan and the Philippines in the last three to five years. Furthermore, some countries appear not to have provided adequate price incentives to maintain or accelerate the growth of agricultural output.

TABLE 1-29. FAR EAST: ANNUAL RATES OF CHANGE OF IRRIGATED AREA, FERTILIZER CONSUMPTION AND TRACTORS IN USE

		Irrigated area	Fertilizer consumption (NPK)	No. of tractors in use
		.....	%	.....
South Asia				
	1967-81	2.2	10.6	12.7
	1978-81	1.4	4.4	5.9
East and southeast Asia				
	1967-81	2.5	8.6	12.1
	1978-81	0.8	4.8	7.0
Asian centrally planned economies				
	1967-81	2.1	12.0	11.0
	1978-81	-0.1	6.7	6.8
Far East and Asian centrally planned economies				
	1967-81	2.2	11.1	11.6
	1978-81	0.7	5.8	6.5

Source: FAO, Policy Analysis Division.

Another factor is the diminishing possibilities for land and irrigation expansion. Much of the earlier production growth took place on land that was most suited to agricultural modernization. The 'green revolution' technologies and multiple cropping systems were largely attuned to such conditions. Fertile, level land and controlled supplies of water are now becoming scarce in the Far East. In some places, urbanization is competing with agriculture for these resources.

The dynamic changes taking place in China can to be largely explained by recent adjustments in planning and allocative systems. These include more emphasis on decentralized decision-making and new incentive systems that relate to agriculture.

The situation in 1983

Sub-regional food and agricultural production in 1983 showed positive and negative features. On one hand, countries of South Asia experienced a very favourable monsoon; it is reported that some areas of India had the best rains in a century. This resulted in large increases in food production, particularly in cereal production (see Table 1-28 where the 1982-83 increases have been set apart).

On the other hand, the South Asian production of non-food crops and livestock products did not do so well, tending to reinforce concerns based on longer term trends. Furthermore, increases in food production in East and Southeast Asia and the ACPE failed to maintain their longer term momentum.

Of course the outcome of a single agricultural season or even a few seasons does not provide enough evidence to justify a shift in agricultural policy. But the trends in food production and trade must be closely observed, especially those pertaining to South Asia.

Near East and North Africa 37/

In the Near East and North Africa renewed concern over food security has led to an increased priority for investment in agriculture. The impact of the global economic recession and inflation on the oil-exporting countries has stimulated a rethinking of the long-term practicability of their economic strategies as their oil reserves diminish. The rapid growth of the population and urbanization and rising per caput incomes have led to a fast increase in the demand for food. This has led to larger imports of food, which rose from $7 000 million in 1975 to $17 600 million in 1981. The region's net imports of cereals also rose from 13.2 million to 24.4 million tons, which reduced the region's selfsufficiency ratio for cereals from 79 to 68%. Food imports, therefore, have greatly added to the balance of payments difficulties of the poorer countries of the region.

Recurrent droughts and floods, as well as political instability, have seriously affected food and agricultural production in several countries and contributed to the alarming rise in the regional food deficit. Low agricultural prices and profitability have diverted resources away from agriculture, which has resulted in growing disparities between agricultural and non-agricultural incomes and constrained production increases. At the same time, falling real export earnings and increasing balance of payments deficits have eroded the capacity of the non-oil exporting countries to maintain food imports.

37/ Parts of this section have been extracted from "Strategies for Agricultural Investment in the Near East", FAO document for the 17th Regional Conference for the Near East, NERC 84/5, November 1983.

There is now an awareness that a continuation of the sharp upward trend in food imports, particularly for cereal imports, could expose the region to an unacceptably high level of dependence on uncertain external supplies. The accumulation of regional cereal stocks is no longer considered the sole means of providing the necessary security against serious global food shortages.

As a first priority, several countries are seeking increased self-sufficiency not only in wheat, but also in vegetables and fruit. This is reflected in a marked increase in agricultural investment by most oil-exporting countries to reduce their dependence on oil and to diversity their economies. For example, of a total allocation of $21 669 million for agriculture, Saudi Arabia has earmarked $2 400 million for land development and reclamation over the period 1981-85. Libya has allocated $8 025 million to agriculture, forestry and fisheries in the current 1981-85 development plan, while Algeria has raised its allocation for agriculture and irrigation to $12 274 million for 1980-84. Furthermore, Iraq is investing heavily in large irrigation schemes and the Gulf States continue to develop highly capital-intensive systems of poultry and dairy production.

Within the more limited budgets of the non-oil exporting countries, there is also a shift towards greater agricultural investment in their current development plans. Major reforms designed to improve the structure of agricultural incentives have been introduced. However, the rising burden of debt servicing, inflation and the continuing shortage of bankable projects have severely restricted their access to necessary investment funds.

Exchange rate policies designed to curb imports have tended to raise the costs of agricultural inputs and thus to reduce farm incommes. This has accentuated rural-urban migration. At the same time, a lower demand for labour in the oil-exporting countries, brought about by the current recessionary economic climate, has reduced the flow of expatriate remittances to the labour surplus non-oil exporting countries. There are also fears that financial flows from the various Arab development funds may be reduced.

To maintain the impetus toward increased agricultural investment, improved strategies are needed for the mobilization of greater domestic and international resources and for their more effective use. In most countries there is still scope for expanding agriculture's share of government development expenditures. However, adjustments in the pattern of government expenditure is also required to provide a framework to stimulate and facilitate investment by private and especially small-scale farmers, leading to increased agricultural productivity. Examples are improvements in agricultural marketing services and input supply.

The pattern of agricultural investment, particularly in the oil exporting countries, has been highly capital intensive, with low intersectoral linkages and an inequitable distribution of benefits. Labour absorbing agricultural investments are particularly crucial in the labour surplus non-oil exporting countries. For many countries the limited scope for expanding rainfed agriculture and the growing cereal deficit makes an expansion of irrigated cereals the priority concern. However, in view of the escalating costs of developing new irrigation facilities, emphasis will have to be placed on intensifying and rehabilitating existing works. Furthermore, a continued dependence on cereal imports will require a further expansion of storage facilities. The continued development of the feed-based livestock sub-sector, dependent on cereal imports, may be accorded lower priority. At the same time, balanced and sustained development will require higher priority for the fisheries and forestry subsectors where resources permit.

The same broad objective of balanced and sustained development implies that social objectives, especially the alleviation of rural poverty which is still pervasive in the region, must increasingly form a major component of agricultural investment strategies. Employment considerations will also have to be accorded more importance in the choice of investments. Furthermore, a greater consideration of measures to control soil erosion and desertification will also be required in development plans to preserve the land resource base. Yet these objectives become less easy to fulfill in the current adverse economic climate.

A key aspect of improved agricultural investment strategies in the Near East Region concerns the need to remedy the shortage of well-prepared projects and the inadequate administrative and management capacities of national institutions to execute and maintain them. Another urgent need is to intensify work on resource surveys and preinvestment and feasibility studies in order to build up a pipeline of new projects. These needs will require substantial training programmes at all levels based on detailed manpower assessment and planning to strengthen capabilities for project analysis, implementation and monitoring. Measures will also be needed to attract and retain skilled personnel for key positions in agricultural planning and development.

The development of joint ventures and schemes for agricultural development can also play an important role. It has long been realized that the complementarity of resource endowments between oil exporting and non-oil exporting countries in the region favours close cooperation in agricultural development. There appear to be good prospects in such areas as investments in storage for sub-regional food security stocks and in regional projects for the production of agricultural machinery, equipment and pesticides. But it is only recently that positive steps have been taken in this direction.

Some examples of such cooperative projects--the financing of which has been hindered by budgetary cutbacks currently necessary for even the major oil exporters--are as follows:

- On the basis of the recommendations of the Arab Summit Meeting on Food Security, held in Amman in 1980, the Economic and Social Secretariat of the League of Arab States was requested to submit a comprehensive list of agricultural investment projects in the region. A list of projects costing about $800 million was prepared and is being appraised.

- As a result of the Conference of Gulf States on Food Security, held in Dubai in 1981, projects covering the production of grains, vegetable oils, fish, meat and fertilizers, and the establishment of grain stockpiles, at a total cost of $35 000 million were submitted by specialized organizations of the Arab League and are under consideration.

- The implementation of the programme, sponsored by the Arab Authority on Agricultural Investment and Development for a number of large agricultural commercial projects in the Sudan, appears to be gathering momentum. The programme involves about $300 million in investments.

- In January 1983, the ministers of agriculture of the six member states of the Cooperation Council of the Arab Gulf States (CCG) resolved that a common agricultural policy aimed at self-development, increased production, and the promotion of joint enterprises with the private sector be prepared and adopted by member countries. Various attempts to formulate a common agricultural policy are currently under way.

It is now more widely accepted that full realization of the region's potential for agricultural development will require major efforts to intensify regional cooperation, especially to benefit the region's low-income countries. Yet it is becoming increasingly evident that more rapid progress toward cooperation requires a precise analysis of the anticipated benefits and costs of schemes for integration or cooperation.

An appropriate policy framework is also necessary to promote investment, especially from private sources. Suitable price policies for agricultural inputs and outputs are of prime importance, but must be reinforced by complementary measures in other fields such as marketing, credit and extension. Measures are also needed to mobilize rural savings for agricultural investment.

Latin America and the Caribbean

The Latin American region, traditionally a large net agricultural exporter, nevertheless has seen the volume of its agricultural imports rise much faster than its exports during the 1970s. Between 1969-71 and 1981, the volume of agricultural exports increased by 36%, while that of imports went up by 168%. This had a negative impact on the region's overall trade balance. The imports required for the modernization and intensification of agricultural production that took place during the decade also increased substantially.

Furthermore, a deterioration in the region's agricultural trade balance during the 1970s was accompanied by a small decline in food self-sufficiency. Eight countries of the region (Bolivia, Chile, Haiti, Jamaica, Mexico, Peru, Trinidad and Tobago, and Venezuela) were not self-sufficient in food in 1981, whereas three of them (Haiti, Mexico and Peru) had been selfsufficient in 1969-71.

The volume of agricultural exports remained almost unchanged between 1970 and 1975, but has since risen at a satisfactory annual rate of 4.2%. Nevertheless, the share of agriculture in the value of total merchandise exports dropped from 43 to 32% during the 1970s. Yet the region has maintained its traditional share of world agricultural exports of 12-14%. Exports of soybeans, bananas, sorghum and other food products have shown considerable dynamism, particularly in the second half of the 1970s. On the other hand, non-food agricultural exports, such as coffee and cotton, performed less satisfactorily. Their export volumes declined until 1975 and then regained previous levels by the end of the decade.

The rapid growth in food imports is the result of various circumstances. Economic growth and high population expansion put considerable pressure on food supplies. This feature coincided, in some countries, with the rising availability of foreign exchange owing to high prices for primary export commodities, and large inflows of foreign capital. Most countries were also unable to increase food production fast enough to meet growing domestic demand. Thus Mexico and Venezuela had to import increasing quantities of wheat, coarse grains and oilseeds; Brazil increased its imports of maize because of the growth of its livestock production to satisfy the growing demand for meat; and several Andean and Caribbean countries had to increase their imports of cereals, dairy products and other temperate-zone staples.

The growth of food imports is also related to changes in food consumption patterns that continue to take place throughout the region as a result of urbanization, the westernization of habits and, in some instances, the influence of transnational food corporations. Food consumption patterns in Latin america, particularly in the middle- and high-income

strata of urban areas, have become closer to the temperate-zone diet typical of industrialized countries. Thus, between 1961-65 and 1979-81 the percentage of protein intake of animal origin in the region increased from nearly 33% to over 37%, thus narrowing the dietary difference between Latin America and the industrialized countries by one-fifth. Consequently, the percentages of proteins and calories coming from traditional foods (maize, tubers and roots, and pulses) decreased.

The pattern of agricultural development has also affected the trade balance. In food production, for example, some livestock systems have been geared to the substantial use of imported feeds, equipment and breeding stock. In food marketing, brand-name processed items, which have to be imported from outside the region, have been widely promoted and consumed.

Various structural aspects of external trade remained unfavourable to the region. Trade is heavily concentrated in a few markets such as North America and the EEC. Exceptions have been Cuba's exports of sugar and, more recently, Argentina's exports of grain to the USSR and Eastern Europe. There is little product diversification as only six products (sugar, coffee, meat, maize, cotton and soybeans) represent more than 80% of total agricultural exports. Similarly, six products (wheat, vegetable oils, maize, dairy products, sorghum and rice) account for 90% of agricultural imports. Some Latin American countries continue to depend heavily on a few large agribusiness firms whose investment decisions and other policies may affect domestic trade and income opportunities.

Integration schemes and other measures to promote intra-regional trade have failed to achieve expected results in the agricultural sector. Intra-regional trade accounted for barely 10% of all agricultural trade in 1981, only slightly more than it did 20 years ago. Although agricultural trade for the Andean Pact countries rose from 2% of total trade in 1970 to 5% in 1977-79, it is still not important. Inter-Andean trade is also limited to a few products and to neighbouring countries (Bolivia exporting mainly to Peru and Colombia to Venezuela, for example). Substantial increases in this trade are not likely since agricultural complementarities are not large.

In 1981 the volume of Latin america's agricultural exports increased by more than 11%, or about the same as the region's total merchandise exports. However, declines in the export prices of sugar (41%), cocoa (20%), coffee (19%), maize (14%), beef (11%) and cotton (9%) more than offset gains in volume, so that the value of the region's agricultural exports declined by 2%.

Trade data for 1982 show a mixed picture, with declines in export volumes for soybeans and cotton but increases for wheat, maize, sugar and coffee. Export prices, however, continued to decline for most agricultural products, particularly for sugar, beef, maize, cotton, soybeans and cocoa (the last for the fifth consecutive year). Although coffee prices stabilized after four years of steady deterioration, the value of the region's agricultural exports declined by 11% in 1982.

Agricultural imports also declined in 1982, by 18%, because of better harvests in several countries, the economic recession and debt servicing difficulties. For example, Mexico's imports of cereals and vegetable oils decreased in 1982 to less than half the previous year's value of $3 000 million, and the country again became a net agricultural exporter. However, the agricultural trade balance further deteriorated for the region as a whole.

The liberalization policies followed in some countries of the region in the last part of the 1970s and early 1980s have had mixed effects on their agricultural sectors. Producers benefited from reduced tariffs on inputs and capital goods, and the reduction or elimination of price controls for foods, export taxes, and subsidies for competing imports. On the other hand, lagged exchange rate adjustments in these countries, which resulted in persistent overvaluation of their currencies, worsened the competitive position of producers of agricultural export commodities in world markets. A liberalization of interest rates led to extremely high financing costs and to a reduction of farm investment in capital goods. Agriculture also suffered from cuts in public expenditure resulting in lower input subsidies and reduced extension programmes generally.

The present adverse economic climate may have serious consequences for small-scale farmers. Support for government programmes, oriented toward equity rather than output, has declined in several countries. The most notable case is the drastic reduction in the Sistema Alimentario Mexicano (SAM) programme. The extent to which a renewed vitality in agricultural markets in the future would be accompanied by corresponding improvements in the lives of rural people is thus uncertain in a number of countries.

The burden of foreign debt incurred by several Latin American countries is also forcing them to improve their trade balances. 38/ Current policies therefore tend to favour exports and restrict imports. Since the middle of the 1970s commercial agriculture has shown a capacity to respond to favourable market conditions, having ample natural, technical and human resources at its disposal. But public investment and expenditure on credit and subsidies have been heavily cut to cope with high inflation rates, low tax revenues and heavy debts. Until there is substantial recovery in international commodity prices and prospects for growth in trade, the economies of the region will be seriously constrained in providing the necessary internal climate for a sustained productive effort.

To make matters worse, 1982 and the first part of 1983 have been a period of very unstable weather, which has adversely affected production in most countries with dramatic consequences in some areas. The warm water current El Niño is held partly responsible. In 1982 severe rains hit Nicaragua and other parts of Central America. Rains and also frosts and drought seriously affected the production of basic grains in Mexico. Cotton and other crops were greatly affected by a drought in Colombia. Flooding hit cattle ranchers in the eastern provinces of Bolivia. Then, in the first part of 1983, heavy rains and floods caused enormous damage to crops and infrastructures in the coastal areas of Ecuador and northern Peru, in the northeastern provinces of Argentina and in parts of Paraguay and Uruguay. A drought of unprecedented severity has affected the Andean highlands of Bolivia and southern Peru. These adverse economic and weather factors have resulted in an absolute decline in food production in 1983, the first since the late 1960s.

38/ In 1982, two of every $5 earned from exports from Latin America had to be remitted abroad to meet net interest payments on external debts and profits by foreign enterprises.

Developed Market Economies 39/

Despite record harvests in recent years, particularly in North America, farmers in many developed market economies experienced declines in real net incomes in the early 1980s. In the EEC the index of real income per person in agriculture was 92.5 (1973-75 = 100) in 1980/81, while that for the economy as a whole stood at 113.2. Aggregate net farm incomes in 1980 were only 75% and 69% of their 1976 values in the USA and Canada, respectively.

An examination of prices received and paid by farmers during the mid-1970s and early 1980s reveals very similar patterns, even among countries or groups of countries such as the EEC, Japan and North America which pursue quite different policies in support of their agricultural sectors. Essentially, it has been a question of input costs rising faster than output prices. Although in Japan and most countries of the EEC input costs have tended not to rise as fast as in North America, output prices have risen more slowly, so that the squeeze has been broadly similar. As an example, the indices of prices paid and received by farmers in three countries were as follows in 1981:

	Prices received	Prices paid	Ratio
	1977 = 100		
Federal Republic of Germany	106	119	89
United States	138	150	92
Canada	150	161	93

Weather has sometimes aggravated recent farmer income problems. In Australia, the effects of the world recession on export demand, combined with domestic inflation, coincided with a serious drought. The deflated net value of rural production in Australia is estimated to have fallen by around 50% in 1982/83 to the lowest level since the mid-1950s. About half of the decline was attributed to drought.

Faced with these declines in net farm income, farmer organizations have exerted much pressure for government help. Subsequently, significant increases were made in EEC agricultural prices in 1981 and particularly 1982 to correct the situation. The USA also introduced increasingly comprehensive acreage reduction programmes, including the PIK programme of 1983 which sought to reduce stocks, raise prices and save on production expenses.

These policy measures, while alleviating the farm income problem somewhat, do not address the underlying problem of restructuring the farm sector in response to fundamental market and technology changes. 40/ Embodied in such longer term adjustments is the need to minimize the income disparities among people in agriculture and other sectors.

39/ This section draws heavily on situation and outlook reports of the United States Department of Agriculture, Agriculture Canada, the EEC and the Bureau of Agricultural Economics (Australia).

40/ This received attention at the meeting of the OECD Committee for Agriculture at Ministerial Level, 3 December 1982, and the 34th Session of the EEC Committee on Agricultural Problems, March 1983. These concerns and the dilemmas faced by agricultural policies of developed market economies were further discussed by the OECD Committee for Agriculture meeting in December 1983.

Other groups related to agriculture have been hurt by these problems, including industries supplying agriculture with inputs and processing its outputs. Agro-chemical and farm equipment manufacturers have been particularly affected. For example, fertilizer consumption in terms of plant nutrients fell by 9% in the USA in 1981/82 and is believed to have fallen a further 7-12% in 1982/83. The profits of food processing industries in Canada declined by 10% between 1981 and 1982 as a result of reduced volumes and weak prices at a time of rising costs.

The rising costs of energy and of energy-based inputs such as fertilizers were a major source of agricultural cost inflation in the mid-1970s. These pressures tended to diminish by the early 1980s. However, the costs of debt servicing rose as a result of unprecedentedly high interest rates. The unweighted average of interest payments as a percentage of gross value added in agriculture for eight countries (North America, Japan and Europe) rose from 6.6% in 1971 to 11.1% in 1980. The figures were particularly high in North America, at 19-20% in 1980/81.

Parallel with this and indicative of the overall recessionary state of agriculture in the USA, the value of farm land declined by 6.5% during 1980-81, the first fall in two consecutive years since 1933. Farmer asset-debt ratios, therefore, worsened significantly.

Relief from recessionary conditions was by no means assured in 1983 and interest rates remained high in real terms, especially in North America. However, the export prices of some commodities began to increase or stabilized. It is expected that farm incomes in the USA will have increased by about 12% to $36 000 million, the level achieved in 1980. In Canada, it is expected that farm input costs will have fallen in 1983, for the first time in several years, but that net incomes will have been close to the 1981 level. In the EEC, the overall price increase of 6.9% (measured in national currencies) adopted for 1983/84 was more modest than those of the previous two years in response to increased demands for budgetary restraint and in the light of the increasing stocks of some products, nearly two points below the expected rate of inflation.

The problems of cost inflation, high interest, and weak consumer demand of the late 1970s and early 1980s--along with the short-term solutions that were introduced--have placed agricultural policies at the forefront of political attention in many developed countries. Conflicting pressures are emerging. Consumers want an efficient agricultural sector that provides food at moderate prices and requires less tax expenditure for farm subsidies. Producers, many of whom are struggling to stay in business, want lower input costs and interest rates, as well as help in facing declines in commodity prices. Governments want to reduce the costly burden of holding large stocks of agricultural products. For example, toward the middle of 1983, the stocks of dairy products in the USA amounted to 245 thousand tons of butter and 612 thousand tons of skimmed milk powder. Four years earlier they were 95 thousand and 237 thousand tons respectively. Currently, about 10% of the milk producted is stored.

A policy reaction to these stock accumulations has been to promote agricultural exports, through the use of export subsidies, low-cost credit to foreign buyers and other means. Greater protection of domestic agriculture from foreign competition has been another tendency. These actions reflect the perennial policy dilemma of deciding to what extent the agricultural sector should be protected and helped in easing the economic adjustments that will inevitably have to be made by producers of certain commodities, less-efficient producers and many rural areas.

Under further political and budgetary pressure to reduce the costs of agricultural support programmes, governments are increasingly turning towards measures designed to hold unwanted supplies off the market. High support prices, as part of the EEC's Common Agricultural Policy, have resulted in annual production increases of 1.5-2%, compared with a consumption growth of less than 1%, and have led to a crisis in the EEC's agricultural budget. Projections for 1984 are for a deficit of about $2 600 million for a planned expenditure of over $14 000 million. However, proposals for limiting CAP expenditures recommended by the Commission, including the freezing of farm prices, are meeting opposition from farmers' lobbies.

In the USA, the current milk subsidy programme costs $2 700 million per annum, but measures proposed to curb dairy production--a cash payment not to produce milk--could add another $1 000 million by 1986. Government leaders have proposed to reduce support prices by 11-12% but this has set off political opposition. Easy solutions to the problems created by the overproduction of some commodities do not appear in sight for either Western Europe or the USA.

CHAPTER 2 WOMEN IN DEVELOPING AGRICULTURE

INTRODUCTION

** Women in traditional agrarian settings contribute more to food production and family earnings in skilled labour and entrepreneurship than is generally known or accepted. They often make such contributions in female work groups rather than as family members.

** In many rural places, migration of men and other changes in farming systems are placing even greater burdens on women as mainstays of small-scale agriculture, the farm labour force and day-to-day family subsistence. It is estimated that 18% of the households in the developing world are headed by women, and that in some countries the figure is as high as 40%.

** Women in agriculture generally have not received equitable opportunities, rewards or decision-making privileges. Typically they have encountered more difficulty than men in gaining access to land, credit, technical services and commercial market outlets. This limits food production and family income. New ways to provide assistance to women directly as well as through families are therefore needed.

** Rural women are not sufficiently involved in the planning and implementation of development. Even where women's groups are active in production, where women's production responsibilities differ sharply from men's, and where there are many female-headed households, officials and specialists often assume that consultation with women is not required.

** Negative effects on women, families and production targets have followed from the fact that the designers of agricultural projects have not taken adequate account of women's responsibilities, participation, well-being, priorities or capacities. These effects should be recognized and avoided.

** Better information about women's situations and their multiple roles, as well as the increased involvement of women in development planning and monitoring, is needed. This would help agricultural policies, programmes and projects achieve greater agricultural productivity and national food self-reliance while also supporting socio-economic goals.

These are the messages of the special chapter that follows, which is intended to call attention to the problems, contributions and potential of women in agriculture. The role for millions of women in Third World agriculture is helping their families survive on small subsistence holdings with little access to services, or through livestock raising, or as landless persons in search of seasonal work. In these situations coping with drudgery and little prospect of a better life are the norm.

Unprecedented changes in the socio-economic fabric of many developing countries are taking place. The continuation of traditional life styles, extended family and community relationships, and subsistence farming systems in rural villages can no longer be taken for granted. Drought, desertification, civil strife, and inadequate socio-economic policies have wrought devastating changes. There is more exposure to the vagaries of the outside economic and political world.

These difficulties are compounded for women whose traditional living patterns have been altered by the departure of husbands or other family members, the introduction of new agricultural systems, and unaccustomed confrontation with modern economic and legal institutions. Many women are being left, for a time at least, to carry on farming operations alone or to find work in addition to their usual domestic roles. Yet local customs often prohibit women from doing certain agricultural tasks. Many women would like to introduce improved farming practices only to find that they do not have equitable access to the necessary credit, input supplies or technical services. A lack of the legal right to inherit, own and transfer agricultural land can be a problem for females; where laws may ensure equality, practice, in fact, may not. It is imperative that rural women be supported in fulfilling their responsibilites and be enabled to take on new functions and methods where these can lead to greater efficiency and well-being.

For women who depend on earnings as hired workers, new high-yielding crop practices may or may not make them better off. Larger plantings and harvests may generate more work opportunities; multiple cropping may extend the work season. The improvements in land preparation, cultivation and harvesting equipment that often accompany these developments can facilitate work, increase productivity and set the stage for higher wage rates. On the other hand, mechanization sometimes reduces the demand for unskilled hired labour. And since females are often the persons with the least education or opportunity for training, this means that they are especially affected by such labour displacement. Women who are expected to contribute labour for family efforts without pay may face a crisis: whether to spend limited time on tasks such as weeding and watering of cash crops, on a larger scale than ever before, or whether to grow food crops, often on less productive land.

To overcome the problems of women in agriculture, a concerted effort by both men and women is needed. International conferences on women have done much to increase world awareness of the problems and potential and to point toward possible solutions and policy action. For example, the World Conference on Agrarian Reform and Rural Development in 1979 was the first major international meeting to endorse an important programme of action for the integration of women in rural development, including equitable access to land, water, other natural resources, inputs and services and equal opportunity to develop and employ their skills. However, real progress on an enduring basis can be made only if these ideas receive attention at national and local levels as an integral part of the regular activities of ministry officials, development planners, law-makers and enforcers, project managers, agricultural specialists, educators, community leaders and other key groups.

A first step is to gain an accurate understanding of the situations and roles of women on farms in developing countries. In this way the relevance of their activities and views for policy formulation and project design becomes clear.

This chapter presents descriptive data and insights that have been gained at the local level through recent research. No attempt is made to include all the data or research findings that are available. Rather, a selection of facts and case studies is given to stimulate thinking and further attention to the particular circumstances and possibilities of women.

Similarly, universal solutions and prescriptions are not offered in this chapter. Indications are given of possible approaches to alleviate the problems described in specific cases based on FAO experience. More-

over, underlying ideas and key questions are suggested that may be helpful in coming to grips with analogous problems in other settings. What should be done, how best to go about it, and who should do it depend on the goals, available resources, institutional obstacles, cultural environment and other issues related to the particular national or local situation.

This chapter is concerned mainly with women on the land as smallholders, tenants or landless workers. Special attention is given to those who depend primarily on small-scale farming for their subsistence. The problems and contributions of women in other agrarian settings are equally important and should be kept in mind, inter alia, those in nomadic livestock raising groups and those in village, project or large-scale collective activities. Similarly important are the entrepreneurial roles of women in rural society as traders and managers, as well as their existing and potential roles as agricultural specialists and leaders. Women's domestic roles outside agriculture are not detailed here, although their important responsibilities as mothers and wives obviously include the responsibility to help in the provision of food.

WOMEN'S PARTICIPATION IN AGRICULTURE

Generalizations about women's agricultural activities invite specific questions about regional and cultural differences which are of obvious interest to planners who need more detailed information than may be readily available. The following sub-sections describe the types of information involved.

Macro-Level Information

Existing macro-level data on women's employment in agriculture, access to land and livestock, access to agricultural extension services, and participation in rural organizations are subject to several conceptual and statistical shortcomings. It is important to interpret national trends as indicated by macro-level statistics in combination with available micro-level data.

An indication of the participation of women in agriculture in developing countries is shown by the results of the 1970 FAO Agricultural Census in 34 selected countries. Corresponding figures from the United Nations Population Census and ILO labour force and household surveys were also consulted. Although disparities among sources were found to be small in the case of male employment, they were sometimes considerable for female employment. Moreover, the surprisingly low recorded use of women's labour in Latin America casts doubt on the reliability of estimates for this region. However, while from these data the overall participation of women in agriculture typically appears to be one-third, one-half is not exceptional and higher figures occur. The participation of women in agriculture in developing countries is comparable to that of men although there are regional differences (Table 2-1). According to these figures, the participation of women in the agricultural labour force is highest in Africa where it generally exceeds that of men. This often unrecognized fact has important implications for development planning and action relating to regional food security.

In many countries the percentage of women classified as 'unpaid family workers' predominates among economically active women, although their numbers may be significant in other categories as well (Table 2-2).

TABLE 2-1. MEN AND WOMEN IN AGRICULTURE[a/]

Country	Men	Women
	'000	
Africa		
Botswana	101 - 112	140 - 146
Cameroon	1 067 - 1 263	962 - 1 410
Central African Rep.	317 - 387	426 - 434
Congo	113 - 134	65 - 236
Ghana	1 051 - 1 193	773 - 766
Ivory Coast	800	892
Lesotho	280 - 314	241 - 323
Malawi	908 - 1 823	727 - 1 297
Togo	252	343
Zaire	3 474 - 3 707	3 793 - 4 000
Zambia	1 217	1 108
Latin America		
Argentina	1 218 - 1 411	78 - 97
Belize	19	8
Bolivia	608 - 811	69 - 89
Brazil	11 833 -12 416	1 258 - 5 653
Dominican Republic	628	95
El Salvador	463	31
Peru	1 422 - 1 553	148 - 173
Suriname	18	20
Uruguay	143 - 167	7 - 38
Venezuela	596 - 743	16 - 23
Far East		
Bangladesh	15 229 - 16 592	609 - 3 509
India	93 887 -104 274	25 892 -57 339
Indonesia	16 171 - 19 466	7 715 - 8 501
Rep. of Korea	2 728 - 3 594	2 179 - 3 758
Nepal	3 001 - 3 187	1 392 - 2 135
Pakistan [b/]	8 366 - 9 183	536 - 4 488
Philippines	8 353	1 233 - 3 601
Sri Lanka	1 287 - 1 657	495 - 651
Thailand	6 645 - 6 708	6 572 - 6 599
Near East		
Egypt	3 952 - 4 872	81 - 196
Iraq	1 254	856
Jordan	130	74
Saudi Arabia	615	216

a/ Ranges of numbers are shown from the stated sources excepting those countries where there is a single estimate.
b/ Plus 512 000 permanent employees with no sex breakdown given.

Source: FAO, 1970 Agricultural Census; UN Population Census 1970-76; and ILO surveys of the 1970s.

LIMITATIONS OF MACRO-STUDIES OF WOMEN'S PARTICIPATION IN AGRICULTURE

Why do macro-level studies or national level statistics tend to under-represent women's contributions to agriculture that micro-studies reveal? The UN Population Census and the FAO Agricultural Census, both conducted every 10 years, are the most widely quoted sources of macro-level statistics. At present, however, they are not consistently disaggregated by sex and they mask important regional or sub-regional variations. They also reflect enumeration problems.

The main source of omission of female labour from statistical returns is widely thought to be an inadequate coverage of unpaid family labour. While generally the agricultural census gives much higher figures for total female family labour because of its closer questioning on farm management issues, it typically excludes the smallest holdings on which female farmers predominate.

There are three main sources of enumeration problems.

- The short reference period recommended by national census offices excludes much of the seasonal farm work in which women are mainly engaged.

- The population census defines people's economic activity by their stated 'primary occupation'. If the respondent records a woman's primary occupation as 'housewife', she is excluded from the 'economically active population' even though her agricultural activities may be economically significant.

- Cultural attitudes to suitable roles for women can inhibit recognition of their economic activities. For some, the very fact that a woman is performing a certain task implies that the task is part of domestic work.

In some cases, national level statistics are being conducted in such a way that a more accurate picture is given of women's contributions in various aspects of their lives. For example, time allocation data collected in the Ivory Coast for the 1979 National Households' Food Consumption and Budgetary Survey show that, in a season when agricultural work is at a minimum and their tasks are not exceptional, women still do 39% of all the family work related to crop production, on-farm processing, storage and sales, as defined by the Labour Force Census. But for rural families there are other activities as essential as those recognized by the Labour Force Census, such as food gathering, fishing and hunting, and water and wood collecting. Women contribute 71% of the time devoted to these subsistence activities. Furthermore, women perform 87% of all domestic activities. In sum, they contribute two-thirds of the total time devoted to all economic, subsistence and domestic work performed by rural families in the Ivory Coast.

Revised estimates of the sex composition of the agricultural labour force for a sample of 82 developing countries--in an attempt to correct estimates of women's participation--suggest that women constitute over 40% of the total agricultural labour force in 52, or nearly two-thirds of the countries. women make up over 50% in 24, or nearly one-third, of the countries. The average for the 82 countries is 42%.

TABLE 2-2. PERCENTAGE OF WOMEN ECONOMICALLY ACTIVE IN AGRICULTURE BY EMPLOYMENT STATUS

Country	Employers & workers on own accounts	Salaried employees & wage earners	Unpaid family workers
	..... %		
Far East			
India - 1971 a/	1	2	-
Indonesia - 1976	19	20	61
Korea - 1975	14	6	80
Nepal - 1971	90	3	7
Pakistan - 1973	23	11	66
Philippines - 1977	21	23	56
Sri Lanka - 1976	12	72	16
Thailand - 1981	9	4	87
Near East and North Africa			
Dem. Yemen - 1973b/	1	2	37
Egypt - 1976	15	53	32
Iran - 1976 c/	4	18	42
Morocco - 1971	16	13	71
Syria - 1976d/	18	29	53
Turkey - 1970d/	3	1	96
Latin America			
Bolivia - 1976	46	4	50
Brazil - 1970	55	25	20
- 1976	36	32	32
Chile - 1970	32	47	21
Colombia - 1973	28	62	10
El Salvador - 1978	5	87	8
Guatemala - 1979	9	69	22
Guyana - 1977	41	40	19
Mexico - 1970e/	24	44	21
Uruguay - 1975	31	38	31
Venezuela - 1978	20	63	17
Sub-Saharan Africa			
Ethiopia - 1974d/	14	5	81
Ghana - 1977	66	1	33

a/ 97% were classified as cultivators and agricultural labourers.
b/ 60% - the economically active population includes the nomad and rural populations.
c/ 36% not classifiable.
d/ In these countries the entire economically active population in the rural areas is included instead of those exclusively in agriculture.
e/ 11% - classified as ejidatarios.

Source: Constantina Safilios-Rothschild (1983a).

Village-Level Information

The most valuable contribution of village level statistics is in showing how rural men and women divide agricultural and domestic work, including water and fuel collection, and the practical implications of these differences for project planning. For example, an estimate of the time rural women spend on various agricultural activities in Africa, based on studies by anthropologists, sociologists and extension workers, shows that women account for two-thirds of all the hours spent in traditional African agriculture, and three-fifths of the hours spent on marketing (UN, 1975). According to an FAO report, women traders handle 60-90% of the domestically produced farm and marine produce consumed in West African countries.

Village level data can also provide valuable information on women's access to land, credit, extension services, inputs and cooperatives and other types of rural organizations. The cases of Peru and Ghana illustrate the usefulness of combining macro- and micro-data in obtaining fuller and more meaningful guidelines on policies that affect rural women. Most of the illustrations that follow are drawn from such micro-studies. They show the kind of detailed enquiries that are necessary if planners are to have appropriate baseline data for intelligent project design and more effective implementation. False assumptions about rural women's free time and low opportunity costs have led to equally false expectations that they can easily direct their labour towards additional production activities.

However, the availability of macro- and micro-level statistics about women in agriculture is not a guarantee that these data will be used by planners to integrate women in rural development. On the contrary, there is evidence that unless a special effort is made--for example, by an inter-ministerial coordinating body--to assemble, analyse and interpret these data and to bring them to the attention of planners, women's roles in agriculture will remain invisible. Thus policies and projects will not be able to take into account their contributions, constraints, needs and potential (Safilios-Rothschild 1982, 1983a).

Structural Factors Affecting Women's Participation in Agriculture

The extent of women's participation in agriculture depends on a number of macro- and micro-level factors such as price policies for different crops, the availability of credit for different enterprises and the stage of the family cycle and, therefore, the ages and needs of children. However, the main factors appear to be cultural patterns for the male/female division of labour; socio-economic status; competing demands on women's time and hence their opportunity costs; and the amount of land and other productive resources available.

The male/female division of labour: a regional review

Agricultural tasks are partly or wholly gender specific. In a given culture they are defined as appropriate to one or the other sex. However, because societies are constantly evolving and adapting to new pressures, the allocation of tasks between sexes within the community also undergoes change. For example, in some cases work that has traditionally been done by women is taken over by men once it has been mechanized. On the other hand, women heads of households will have to take on management responsibilities as well as work tasks which men would normally be expected to assume.

THE CASE OF PERU

Detailed agricultural data from a regional case study in Cajamarca (Peru) show that underenumeration of women economically active in agriculture can be serious. According to the 1972 Peruvian Census, less than 3% of the rural women in Cajamarca were economically active in agriculture while the 1976 Cajamarca Peasant Family Survey gave a total of 16% of women as being economically active in agriculture, mostly in animal care. But the more searching questions of the latter survey also revealed that women were the primary or secondary persons charged with crop production in 46% of the households and with animal production in 95%. Even this estimate underenumerates women's economic activity in agriculture in the area because of deep-rooted patriarchal values that make men and women alike reluctant to report women's active participation in agricultural field work (Deere and Leon de Leal 1982). One method that helps to overcome this cultural resistance is a set of questions on who performs specific agricultural tasks (Safilios-Rothschild 1983b). When such questions were asked in Cajamarca, it was found that women participated in agricultural field work in 86%, rather than in 46%, of the households (Deere and Leon de Leal 1982).

With regard to specific agricultural tasks, about one-half of the women in Cajamarca had participated during the preceding year (in this case 1975) in planting and weeding; about two-thirds of the women in harvesting and threshing; and one-fourth of the women in field preparation and cultivation. The participation of men is not 100%, but rather only from three-fourths to four-fifths in the different tasks. Overall, women in Camajarca, Peru, provide 21% of the labour days employed in field work in peasant agriculture. However, if one takes into account their total labour input in all farm activities (including agricultural processing, marketing activities and labour intensive animal care), smallholder agriculture in the area qualifies as a female-based farming system.

Women's participation rates in agricultural field work were found to be higher among smallholder and near-landless households than among better off rural households. Thus, while women from near-landless households participate in 75% of 15 agricultural field tasks, women from middle income and high income peasant households participate in about 60% of them. Moreover, women from low income households perform field tasks requiring the use of agricultural tools such as a pick or a hoe or even a plough more often than women in better-off households. But also women among the poorer strata have greater responsibility for agricultural inputs and more often share decision-making power with their husbands than women in the higher strata. These data underline the desirability of segregating agricultural data even by some simple indicator of social status such as the size of holding.

The cultural variations in male/female division of labour mean that the same intervention, such as a new weeding technology, will affect the lives of men and women in different ways from one society to another. Yet cultures also change and so these innovations themselves can engender new patterns of task allocation between the sexes.

In most parts of Africa women have traditionally been responsible for producing food for the family on land to which they gain access upon marriage, but do not necessarily control. Their fundamental role in securing food for the family and therefore in national food security must be stressed. Men have generally been responsible for land preparation and have helped with other tasks such as weeding and harvesting (Table 2-3). There are cases where men have been more involved than women in staple food production. In countries where female seclusion was practised, men were responsible for providing most of the food, although women were expected to contribute to production of milk, eggs and vegetables that could be produced near the house.

Two factors have brought about a stronger confirmation of African women in food production and an increase in their workload. First, fiscal and corvée policies of the early colonial period drew men from the villages to work on plantations, in mines or in road building. The second factor was the spread of cash crops, particularly in the 1920s and 1930s. Women's labour inputs for food production often increased because men had less time to assist them. Men also found that they could not cultivate cash crops without the assistance of their wives or hired labour. Thus women had more work producing food and were also likely to be required to assist with cash crops. On the other hand, because of competing demands on women's time, the male/female division of field tasks can be moderated in the case of cash crops. On coffee, tea and pyrethrum, for instance,

Table 2-3. DIVISION OF RURAL LABOUR BY TASK AND SEX IN AFRICA, PERCENTAGE OF TOTAL LABOUR IN HOURS

Task	Men	Women
	..... %	
Cuts down the forest; stakes out fields	95	5
Turns the soil	70	30
Plants the seeds and cuttings	50	50
Hoes and weeds	30	70
Harvests	40	60
Tansport crops home from the fields	20	80
Stores the crops	20	80
Processes the food crops	10	90
Markets the excess	40	60
Carries the water and the fuel	10	90
Cares for the domestic animals	50	50
Hunts	90	10
Feeds and cares for the family	5	95

Source: UN 1975. Quoted in FAO 1982.

men can be seen to share in weeding, which is usually regarded as women's work. When this type of change does not occur spontaneously or by design, production goals can suffer along with family health. Women may choose to withhold their labour from cash crop production in favour of food production, especially at times of peak labour demands.

However, the actual division of labour on a particular cash crop can vary greatly according to the overall crop mix of the farm, the availability of wage labour, and the presence or absence of women's individual agricultural activities.

THE CASE OF GHANA

Generalisations are often made that women provide labour for production of cash crops but do not manage them, and that they own small rather than large holdings.

However, farm-level data about persons employed in agriculture in Ghana show that while women constitute more than one-half of staple crop and vegetable farmers, one-third of farmers producing cash crops such as cocoa, rice and sugarcane, about one-fourth of tobacco, coconut and oil palm cash crop farmers and three-fifths of all cotton farmers are women. About one-fifth of all poultry farmers, farm managers and forestry workers and two-fifths of all coffee farm managers also are women (Ewusi 1978). Despite the limitations of the data, it is clear that a considerable percentage of those who cultivate and manage cash crop farms are women.

Another study in northern Ghana raises serious questions about the generally accepted stereotype that women own only small farms. 67% of the men and 63% of the women had rice farms of 1-50 acres; 23% of the men and 20% of the women had 51-100 acres; and 10% of the men and 17% of the women had rice farms of over 100 acres (Gbedemah 1978). It seems that women in Ghana tend to own very small farms when they cultivate foodstuffs, as was found for women farmers in southern Ghana (Tamaklow 1978), but not when they cultivate cash crops. This finding emphasizes the need to collect data on the size of farms owned and/or managed by sex and by type of major crop in order to be able to design and implement agricultural programmes better.

Besides the issue of the size of holdings, the quality of land is important since there is evidence that in Ghana women prefer to have individual farms near their home that do not need clearing. They are, therefore, often left with the least fertile pieces of land with the shortest fallows (Bukh 1979).

Women rice farmers in northern Ghana have acquired their land equally frequently (in one-third of the cases) through inheritance, lease or purchase, while the men rice farmers in the area predominantly acquired their land through lease (in 73% of the cases) (Gbedemah 1978). A study of mixed-crop farmers in Southern Ghana showed, on the other hand, that 29% of the women had great difficulty in acquiring land (Tamaklow 1978). Another study showed that about 60% of women farmers lost their individual farms mainly because of marital dispute (24%), the husband's migration to a city (20%), or the loss of the husband (16%). Women who lost their individual farm either left farming altogether (20%) or sought employment as farm labourers (70%) (Andah 1978). It seems therefore that women's small individual farms cultivated for family food and/or profit are vulnerable to different family crises, thus rendering women's access to land quite precarious.

Asia differs from Africa in that it has higher population densities, which necessitate a more intensified agriculture. This means that both sexes have been much involved in field work. Introduction of cash crops in Asia did not draw men from food production on smallholdings to the extent that it did in Africa. For example, in Malaysia indentured labour was brought from other countries to work on the plantations and in the mines. Also, as in Java (Indonesia), labour levies were imposed on both men and women for local public works.

Nevertheless, there are field tasks in Asia considered to be appropriate for one sex or the other. In nearly all rice-growing areas, men traditionally prepare the land and lift the seedlings, while women transplant, weed and harvest the crop. Women also thresh and winnow it. However, there is some evidence that, in countries or areas of Asia where there is little socio-economic differentiation or landlessness, men and women share in all field tasks--although rice processing still seems to be women's work. In northeastern Thailand, for instance, women may help in the land preparation for all crops, and men do a considerable amount of planting and a little weeding (Palmer et al, 1983).

Marked social stratification, a characteristic of Asia, can also lead to changes in the male/female division of labour in particular circumstances. Where there are strong class distinctions, much labour is hired. Since women are almost always paid less than men, they are hired for all tasks (except for the exacting work of land preparation). Thus in Tamil Nadu (India) women wage labourers can find, on average, 310 days of work a year, but men only 190 days (Harriss 1979). The situation in Java has been seen as unique by some observers in that even very small-scale rice farmers have for a long time hired labour. Data for the years 1926-31 show that hired labour averaged as much as 69% of the total labour input, and of this women accounted for between 52% and 70%, depending on the area. Until the last decade or so, female wage labour could account for about one-half of all labour input in rice production.

This advantage of women to participate in the wage-labour market ends when production of the dominant crop can be mechanized. Few women are hired for mechanized wheat production in India, for example. Moreover, women workers often receive lower pay than men.

Generalizations on the division of labour in non-food cash crops or food crops in Asia should be avoided. Facts for each country are needed. In Thailand, for example, women's labour in kenaf production is slightly more than men's, but their work in tobacco production may be more or less than men's depending upon the extent of vegetable production in which they are also usually engaged. Men are more involved than women in Java in dryland crops (mostly maize and cassava, which are much less labour intensive than rice). The division of labour on garden crops, such as vegetables and fruit, depends very much on what is grown, but women usually do more work than men. In India, only women--largely hired as labourers--are used for cotton picking. They are also very active in field work on all secondary food crops.

In the Near East official data show that women's participation in agriculture is very low, but there are likely to be significant errors arising from inhibitions against recognizing the contributions of women or from their multiple roles, as well as from problems of underenumeration in general. There is also great diversity. In Saudi Arabia, for instance, women do relatively little field work, but in Jordan it has been estimated that women do about one-half of all farm work and larger shares of weeding, harvesting and processing (Fig. 2-1). In Iraq 41% of the agricultural labour force is officially estimated to be women.

While most of this work is undertaken in small-scale family units, even in this region there may be class divisions with the poorest women working for wages. Throughout the Near East, whether or not women work very much in food or cash crop agriculture, they are almost everywhere heavily involved in dairy production. They are also skilled livestock breeders. In Egypt, for instance, farm women may perform less than 20% of all productive work in the field, whereas they may contribute more than 60% of the work with livestock (Hansen 1969). Poultry, eggs and dairy products are also often sold by women .

In Latin America the participation of women in agriculture and the sex specificity of field tasks are even more diverse than in Asia. This is not simply because the commercialization of agricultural production varies so much, or because holding sizes are unequal, or because there is massive male migration. Rather, it is because these three factors occur together in widely differing combinations. The result is that rural Latin America appears to be a patchwork regarding sex ratios and the balance between cash crops and food production. But one common outcome for poorer women has been that small farms have been retained by their owners as low-yielding assets, on which women work in subsistence or very small-scale cash crop production in addition to seasonal wage employment on larger farms. Men may do some work on these small farms but they depend mostly on local or migratory wage employment. Thus, in many cases, women underwrite the basic maintenance costs of the family when their husbands enter an uncertain labour market.

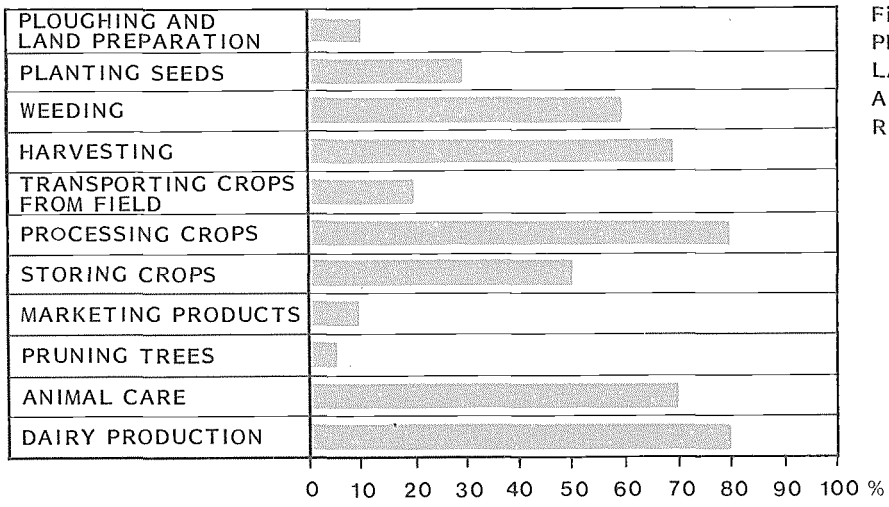


Figure 2-1
PERCENTAGE OF FEMALE LABOUR BY AGRICULTURAL ACTIVITY IN THE JORDAN RIVER VALLEY PROJECT AREA

Source: Hammad, Hassan J., 1980

In Latin America, of course, it is also well known that women often migrate to cities. Work as domestics is particularly common.

Allocation of land within families

The division of land between men and women of the same household to meet separate responsibilities can also influence women's involvement in agriculture or, more specifically, in producing particular crops.

Where fields are allocated to women for household food requirements, as in Africa, there is a natural preference for women to work those fields first--since their output is under their control--before helping with the cash or other crops of their husbands. In these situations it is misleading to consider the household as a corporate production unit with a homogeneous supply of adult labour units and a single opportunity cost of adopting a new technology or crop. 1/ Those women with the responsibility to provide the family with food have a separate economic opportunity cost to consider when decideing how best to allocate their labour.

1/ Opportunity cost is the benefit given up by forgoing an alternative activity.

One conventional approach to analysing such situations of sharp division between women's food crops and men's cash crops is to view women's domestic chores and food production as primarily a fixed labour overhead cost, after which they work on cash crops in the hope that part of the cash income will be returned to them or used to pay for household needs. This framework assumes that women always grow food for consumption and that men always grow cash crops. It does not allow for the cases where men grow food to meet subsistence requirements and women sell surpluses of food or small quantities of 'pure' cash crops.

A simpler and more accurate analytical approach would be to study the division of fields between men and women (and between groups of men and groups of women) along with labour and produce exchange relations. Throughout West Africa, in particular, there are complex field systems whereby a group of men, or a group of women, may grow food collectively, or whereby one 'household' food plot may be under the control of the male head rather than the woman.

Are women able to act on their preference to work in their separate fields when they face competing demands for their labour from men? A study of the Tiv people in Central Nigeria indicates that they may be able to do so in a situation where division of labour by field tasks varies so that both men and women perform a range of activities on all crops. Women contribute more labour to the production of yams, cowpeas and maize, while men have a relatively higher labour input in millet, sorghum and rice cultivation, although sorghum and a little millet are grown by women too. Women do all of the weeding and virtually all the post-harvest work. Cassava is grown by both men and women (Table 2-4). This situation, of each sex growing a range of foods, is marked by an exchange of labour between husband and wife. For example, men may pay women in millet for their labour. Economic relations go beyond labour use: a woman may buy millet or sorghum from her husband to make beer; loans on which interest is paid may also pass between them.

The development practitioner who introduces new activities to the 'household' in such a situation would be acting on erroneous assumptions about corporate action at the household level.

TABLE 2-4. SHARE OF LABOUR INPUTS BY SEX IN STAPLE CROP PRODUCTION, THE TIV PEOPLE OF CENTRAL NIGERIA

Crop	Land preparation		Planting		Weeding		Harvesting		Processing		Storage	
	Women	Men	W	M	W	M	W	M	W	M	W	M
	..... %											
Yams	50	50	80	20	100	-	100	-	100	-	100	-
Millet	-	100	20	80	100	-	50	50	100	-	50	50
Sorghum	-	100	20	80	100	-	50	50	100	-	100	-
Cassava	25	75	75	25	100	-	75	25	100	-	100	-
Maize	25	75	90	10	100	-	90	10	100	-	100	-
Rice	10	90	100	-	100	-	50	50	50	50	100	-
Benniseed	-	100	50	50	100	-	50	50	100	-	100	-
Cowpeas	25	75	100	-	100	-	100	-	100	-	100	-

Source: Bohannan and Bohannan 1968; Vermeer 1964.

A more complex situation occurs in The Gambia (Dey 1980). Again there is a high degree of specialization in cultivation tasks by sex. Men and women have separate charge of certain fields all of which are used for food crop production but with varying ratios of output for subsistence or sale. Some fields are worked by groups of either men or women. Men and women both exchange and hire labour. The food produced from the collective fields goes to a common cooking pot. The output from individual fields comes under individual rights of disposal; it can be sent to a common cooking pot or it can be sold. Here the concept of the household is important only in that the individual fields come from family holdings, and that wives and husbands tend to assist each other with labour and loans before contributing to collective operations. But even these transactions are normally based on some economic exchange.

The Tiv and Gambian examples suggest that, contrary to popular ideas, the greater the scope for economic exchange between men and women, the more efficient is women's allocation of their labour. Cash and produce are sometimes contributed as a substitute for labour. This enables women to use their labour in a more flexible manner and to concentrate on the fields and crops which have the greatest returns. Individual rights to returns of labour and changes in the male/female division of labour promote more accurate 'pricing' of labour.

Commercialization, holding size and socio-economic status

Studies of Latin America, where differences in the size of land holdings are very marked, provide useful insights into how the commercialization of agriculture, the intensity of mechanization, land distribution and the emergence of wage labour are connected. These studies also show how these factors affect women's agricultural activities.

The commercialization of agriculture has penetrated least in the Andes. For example, in the mountains of Bolivia there are still areas where there is practically no market oriented production. The exchange and reciprocity of labour and produce, which allows for some specialization, is mediated by kinship ties.

In this traditional peasant agriculture there is some division of labour which, as elsewhere, varies with combinations of cropping, livestock raising and home industry. Women may plant, weed, harvest and thresh crops. In addition to caring for small livestock, they are often seen herding large animals. Although these peasant women have a very mixed work profile, many of them consider agriculture their main occupation. For instance, a study in Peru (Deere and de Leal 1982) found that this was true for 62% of women. But even in this Andean peasant culture, land shortage is leading men to seek supplementary income through migratory labour, leaving women as the effective heads of households, managing farms alone with children.

Elsewhere in Latin America there are many finely graded positions between the extremes of small-scale subsistence farming and total dependence on wage labour. For instance, in one area of the region of Oaxaca in Mexico, peasant-based production continues under conditions of moderate social differentiation and inequality of farm size (Young 1982). There is some cash cropping of avocados, but subsistence food production remains more important. The male/female division of labour in agriculture is still traditional in that area and men make the major contribution to food production. In fact, women with all sizes of holdings rarely perform field agriculture work other than harvesting. Their work is concentrated in processing, some home industry and in raising livestock. Few of the families depend on wages for survival.

WOMEN'S WORK STRESS

It is often overlooked that women suffer a particular labour constraint--seasonal work stress --which can present various health problems as well as weaken any incentive to limit family size or send children to school. Women's workloads reach a peak during planting, weeding and the protracted harvest and post-harvest periods. But at all times of the year women also work full days in secondary agricultural and non-agricultural work and in domestic tasks.

For example, a study in the northern zone of Upper Volta indicated that, whereas women spend a daily average of 6 hours in farm production and marketing, they may spend an additional 6 hours on domestic tasks (McSweeney 1979). Similarly a report from southern Cameroon noted that, while women worked 6-7 hours a day in the fields, this was less than half their total working day (Guyer 1977). These examples offer a picture of a total working day of about 13 to 14 hours during much of the year.

Women confined to activities around the home rather than to agricultural field production also suffer seasonal stress because many of their home-based activities, such as livestock care and dairy production, cannot be neglected when crops come in to be processed.

Landless women in agricultural wage employment can be just as greatly affected by seasonal workloads as women on family farms. Coffee-pickers in Mexico experience a total working day of 18 hours, including their domestic work (Young 1982).

When such periods of major physical exertion coincide with illness or food scarcity, the health of women and their infants may be seriously impaired. Pregnant women have been recorded as losing weight by season and birth-weights also vary by season (Rowland et al. 1981). Lactational ability is also likely to fluctuate according to a mother's net intake of energy, while the incidence of miscarriages can multiply at planting and harvesting time, as recorded in a study in northeast Thailand. The majority of the respondents sampled stated they had to reduce breast-feeding during rice planting and harvesting, and 17% said that they had to terminate it prematurely. The high incidence of mortality amongst children under 5 years old may also be a reflection of seasonal demands on women's time (Palmer et al. 1983).

Planners have to consider such workloads when defining development projects. Even if projects focus on the male heads of households, the additional activities that would be introduced may have important effects on the workload of the entire household. This process often results in dramatic changes in the use of women's time, with possible undesired consequences for the family food supply. Such workload increases caused by projects are especially critical for poor families who cannot afford to pay for extra labour. Without such accurate baseline data on what each family member does, projects are likely to compound the problem of stress among women in agriculture. Where national statistics may be misleading, it is clearly important that micro-studies be consulted or conducted before projects are initiated.

Projects that focus only on women are not necessarily the answer either, although they may provide models of the ways in which the interplay between the various roles of women can best be taken into account. For example, projects that aim at supporting women's dairy production activities may need to include a child care component along with the introduction of technology to reduce the demands that domestic chores make on women.

With a more complex differentiation among sizes of farm holding and more market-oriented production in some areas, poorer women frequently tend to participate more in agriculture, both as unpaid family workers and wage workers. This greater participation arises partly because men from poorer households migrate to find wage employment and partly because larger farms offer harvesting work to poorer women.

The Garcia Rovira region of Colombia is one such area. Corn, potatoes, beans and peas, underwrite market-oriented activities such as cattle in the highlands and tobacco and sugar production in the lowlands. The most common holding size is between 1 and 3 hectares, which is too small for self-sufficiency (Deere and de Leal 1979). While women participate in cattle production, men are still primarily responsible for crop production. Only on the smaller farms do women regularly engage in agriculture on family holdings. Although in this area subsistence food production is still the most important sector of agriculture (comprising 80% of farm land), insufficient farm size and poor local wage labour opportunities oblige some men to seek seasonal migratory work. It is in these poorer households that women participate in agriculture on a more regular basis; but in most of the households of all income groups there is at least one woman who helps in tending animals. The main activities of women are, as in Asia, processing--for instance, processing tobacco, selecting beans and grains, manually preparing corn, and making milk products. The tobacco selection and packing plant established in this region employs mostly women.

In areas where cash cropping is undertaken by families together with food production on small farms, women may work in both agricultural sectors. Two coffee-specializing areas serve as illustrations--Fredonia in Colombia (Deere and de Leal 1979) where socio-economic differentiation is advanced, and the highland Zapotec region in Mexico (Young 1982) where it is moderately advanced. In Fredonia a large number of households have plots of less than 0.25 hectare. These coffee-growing holdings are small enough for women and children to manage alone. The adult men migrate to year-round employment and the women pick coffee on larger farms for wages. But in households with more land, of around 1 hectare, coffee production is the primary responsibility of the male head; his wife and children help him, particularly through seasonal employment. Yet even in these households the adult males are obliged to seek seasonal work locally or elsewhere on larger holdings.

The hacienda class of coffee-growers employs a small permanent male labour force, but relies heavily on seasonal female wage labour from the smallest farms for harvesting, selecting and sorting the coffee beans. The availability of these seasonal jobs for women is influenced by the amount of year-round migration by men who cannot find regular work locally.

In the Zapotec region there is more diversity among income sources. In households with no coffee land but small (owned or rented) plots for subsistence food production, women work as wage labourers on other farms alongside their husbands or fathers (if these have not already migrated) performing tasks which were once considered men's work. They also work on their food plots and may do housework for richer families. In households owning 1-5 hectares of coffee land, women work as unpaid family labour on the household land.

These two examples show that the moderate commercialization of agriculture increases women's participation in agricultural production, especially as paid labour. In situations where men migrate, women are most likely to be employed on neighbouring farms. The seasonality of this work helps to explain why censuses and surveys record so few of them as participating in agriculture.

In areas where land is held by a small minority in very large units and production is directed entirely to the market, the majority of people are virtually landless and form a rural working class. Here women tend to be excluded from agriculture. The greater the degree of mechanization, the more likely is there to be a small, permanent male labour force, supplemented by seasonal and casual labour which unemployed local men take unless they find more remunerative work in other rural areas. In mechanized wheat growing areas in particular there is relatively little seasonal or casual work and women are almost totally excluded. Their only participation in agriculture may be working on very small plots producing food.

The Effects on Women of Land Shortage and Labour Migration

Land shortage follows from the concentration of land in a few holdings, which also tends to be associated with the emergence of a single cash crop as shown by previous examples drawn from Latin America. It is also increased by the sub-division of farms through inheritance and soil depletion. In these situations of land shortage a greater share of household income has to be obtained from off-farm work by both men and women. It also provokes more intense competition between food and cash crops on individual holdings. If the objective of producing food for the household is secondary to that of obtaining a cash income, not only will the division of labour on the small-holding change, but sources of food and women's roles in the household will change as well. Were the household a truly corporate economic unit in matters of production, wage earning and consumption, this would not matter: the corporate unit would be responding to incentives to maximize its total revenue and welfare. However, as has been seen, the household is not always a corporate economic unit and its components may have different objectives. The woman's position in the family may be weakened as a consequence of the change; she may place greater emphasis on food security than on cash income because cash may not allow her to buy rather than grow food.

In Africa, the patrilineal allocation of lineage land, or inheritance, has grave implications for women's role in food production and for women's economic authority when land scarcity is felt. In many areas the cash economy and a situation of land scarcity have eroded the norm of allocating a wife enough land to feed her family. For example, in southern Cameroon there are signs that some women are not being allocated fields for food production by their husbands and are having to work on the fields of others in exchange for land. This can only add to a woman's work burden. In other areas the situation is even more serious. In the Bamiléké chiefdoms of western Cameroon, an acute shortage of land is causing women to seek wage employment or land in other districts (Diekmann and Joldersma 1982) and lead quite separate economic lives from their husbands.

Land can also become scarcer to women, if not to the society as a whole, as a result of change in the nominal status of the male head of household. In southeast Ghana, for instance, a change from lineage land allocation (with wives customarily obtaining land for food production) to bestowal of a permanent tenancy on male heads of household, has increased the uncertainty of women's right of access to land. Men now have the power to allocate more land to 'joint' food crops than to women's separate food crops. Men often invoke this power to persuade their wives to work on these common fields since they then have stronger rights of disposal over the food output. This often leads to women asking their fathers for land or begging land from a distant relative. Of a sample of married women living with their husbands, 40% were using land from their husbands' lineage, 44% from their fathers' lineage, and 16% had acquired land on other terms (Bukh 1979). Women naturally give more attention to their own land for food production, if they have any.

A related phenomenon, the distribution of responsibilities within the household, is revealed by the same study. The respective responsibilities for husbands and wives for family maintenance are not fixed and can be the subject of argument. Women still tend to be the main food providers, with husbands generally paying school fees. Medical expenses and children's clothes appear to be roughly equal obligations.

Research and collection of data on responsibilities for expenditure are greatly needed. Overall, land shortage leads to the steadily declining ability of women to provide directly for their families from their own fields. As husbands are not always expected to provide cash for food purchases from the marketed crop they control, planners must take account of rural women's income needs. Satisfying these needs tends to lead to a more adequate family food supply.

Increasing shortage of land is also leading to more migration to urban areas. There is evidence from quite diverse countries that the proportion of women migrants is rising. For those women who remain in rural areas, development can bring increased or decreased agricultural employment opportunities, depending largely on how much male migration has occurred, as has already been seen.

USE OF CHILD LABOUR

It is not surprising that rural women turn to children to help with their work. The help of daughters in particular is extremely important to women. For example, more than half of the trading women in western Kenya had their children do the cooking, and nearly half did so for water collection and cleaning (Okeyo 1979). A study in Upper Volta showed that from 7 years of age girls spent 3.5 hours and boys 1.5 hours a day working for the family. A peak of 9.8 hours was reached by girls of 15 years, but the peak for boys was only 6 hours at 13 years. In Java girls of 10-15 years averaged 94 hours a month on housework and water collection in the poorest households, 70 hours in middle-income households, and 26 hours in the richest households. Corresponding figures for boys in these activities were 38 hours, 8 hours, and 9 hours (Sajogyo et al. 1980).

In the Ivory Coast it was found that children of both sexes between 10 and 14 years old contributed nearly 12% of the household time devoted to 'economic activities', more than 13% of the hours spent on 'self-provisioning economic activities' and almost 10% on 'domestic tasks'.

In many countries the discrepancy in school enrolments between boys and girls has been noted. Until rural women have access to technology and services that can make their work more efficient and satisfying, they will continue to draw on the labour of their children and, in so doing, limit the opportunities their children have for attending school.

The effect of men's migration on women's roles in agriculture depends in part on the length of absence. In Pakistan, for instance, where men migrate for years at a time, women on the smallest farms experience an increase in their farm work. In families where women have no male help, the farm may be leased to a sharecropper. In households with larger farms, the women tend to withdraw their agricultural labour faster as remittances arrive. Yet very few women are able to invest large sums of remittances in agriculture.

The widespread male migration in Latin America can mean that women are left for years alone with their children, having to live on farms that are too small to support them adequately. They find work if they can and, indeed, the absence of men often allows them greater entry into the wage labour force. Enlightened planners could, in fact, meet labour demands through programmes to train women in specialties that do not traditionally employ women, thereby providing more cash to poor local families while increasing the supply and efficiency of labour.

When the male head of the household in Africa migrates, it is generally for shorter periods. More often than not he will keep in touch with his family and interest himself in household issues such as the amount of land to be planted with cash crops, credit-raising and farm investments. Often men return for weekends at regular intervals. However, the incidence of households de jure headed by women is highest in Sub-Saharan Africa--22% (Buvinic and Youssef 1978). In areas of high rates of male migration the proportion of household heads which are de facto headed by women is much higher--63% was the figure recorded in one country in southern Africa (FAO 1982).

A man's absence means the loss to the family of an adult working member and fundamental changes in the male/female division of labour. His wife may undertake land preparation herself, decide to hire labour or use exchange labour. Where exchange networks are normally handled by men, a woman on her own can experience difficulty calling upon labour assistance from this source. Moreover, extended family systems may reduce their support in the absence of the husband. The result of these difficulties is nearly always a decline in output. Another result is to shift to less labour intensive crops, which may mean crops of less nutritional or monetary value.

Concern has been expressed that remittances from migrant men are saved and not invested by women to improve land productivity or to hire labour to maintain output. But this apparent misuse, or underutilization, of land resources may be optimal from the longer term viewpoint of the household. The goal of the family may be to invest accumulated savings in more farm assets and a higher state of agricultural technology when the male head returns. The practicality of investing in higher productivity in the absence of a man also is questionable when women farmers are so often ignored by extension and marketing services. Of course very short-term male migration has little significant effect upon agricultural productivity if it occurs during the dry season when there is relatively little field work to be done.

THE IMPACT OF CHANGE

This section examines some of the effects on women of the widespread changes that are taking place in farming technologies; crop, livestock, forestry and fishery production systems; marketing institutions; and agrarian structures. These changes often entail the major transformation--sometimes rapid and other times gradual--of traditional farming systems into modernized units requiring more funds, inputs, specialized skills and a more commercial orientation than before. The competition for scarce land and water often increases. Local work opportunities and needs may or may not increase, depending on what happens with respect to mechanization, the intensification of farming practices, production levels and migration patterns.

Women have significant contributions to make to these processes of agricultural development and commercialization. But they must be provided with the means to contribute and with appropriate rewards for doing so. These changes can be very burdensome on women and can have negative effects on household nutrition, health and economic security. The planning of rural modernization should strive to avoid such effects by giving greater consideration to women's roles. Furthermore, with increased emphasis on food security, the traditional role of woman as a provider of food for the household must not be overlooked by those seeking to accelerate agricultural change and modernization.

Intensification of Agriculture

This is the most fundamental process of change. The introduction of a more modern agriculture has profound effects on the male/female division of labour; the length and rhythm of productivity of women's farm work; and the form and level of the rewards of their labour. As yields rise, agriculture becomes more market-oriented in terms of both the purchase of inputs and the use of output. In this respect, food production increasingly resembles cash cropping and can represent both food security at the household level and a valuable supplement to women's income.

Unfortunately, information on these complex issues is sparse and often inconclusive. The ensuing discussion draws on those studies and regional examples that are available on the effects of food and cash crop intensificaton on women's employment and income opportunities, as well as on household food security. It shows the gaps in knowledge which agricultural and rural planners face. It also underlines the importance of learning more about rural women's lives and their contributions to agriculture if the negative effects of change are to be avoided and positive ones enhanced.

Impact of Intensification on Women's Employment and Incomes

Hardly any studies provide the facts needed to compare labour inputs before and after agricultural intensification. But it is known which cultivation practices require more labour and a greater use of irrigation, fertilizer and high-yielding varieties (HYV). In an earlier section it was noted that men do nearly all the land preparation and usually share in the harvest, while women do transplanting, weeding, harvesting and post-harvest work. Some observers have commented that production intensification frequently causes women's employment workloads to increase when the task is manual, and men's roles to increase when the task is mechanized. This seems broadly true, but the impact of new methods varies between food and cash crops in particular. The distinction between the two groups of

crops is useful for several reasons. Thus, in the case of cash crops: 1) there is no conflict between how much is to be retained for household consumption and how much is to be sold; 2) the way cash crops are introduced often leads to their being considered men's crops; 3) when they are grown on plantations or large-scale commercial farms, the division of labour between hired male and female workers is of interest; 4) their production methods are subject to rapid change; and 5) they compete with food crops for land.

Competition between food and cash crops

The two main issues for women in cash cropping are: a) the competition it presents for labour and land they would otherwise use to produce food, and b) women's ability to ensure that returns from cash cropping are as committed to satisfying basic household needs as would be the returns from food crop production only. The new male/female division of control over cash income may not match the traditional obligations of household members to meet household maintenance requirements. Monetization of the economy can cause profound cultural changes since the returns from labour are increasingly in the form of cash. Urban products entering rural areas present a great temptation and a mismatch between the production and consumption requirements of the household may follow.

Where women have strong economic authority in the household, the potential problem is not so acute. This authority can stem from having secured separate land for food production or from absent husbands leaving the management of cash crops in the hands of their wives. For example, in the coffee growing Embu district of Kenya both these factors are present in some measure with the result that a great deal of hired labour, rather than family labour, is used. But where there is a mix of cash crops, such as tea, coffee and pyrethrum in other highland areas of Kenya, the timing of field tasks can draw household women more into family(or male) cash crop enterprises.

An example of the effect of cash crop competition for land and labour is seen in the cocoa growing Southern Volta region of Ghana where there is also a complex food production system. Before the introduction of cocoa, men were the main producers of the staple food, yams, with their wives assisting during weeding and harvesting. When cocoa was introduced, it was planted on the best land and food production moved to less fertile land. Women have become much more responsible for food production, working on their own fields, and also doing a great deal of planting, weeding and harvesting in their husbands' food-producing fields. The effect of this greater work burden is that yams have been replaced as the staple by the less labour-intensive and less nutritious cassava root (Bukh 1979).

However, it may not be assumed that since women have traditionally been committed to food agriculture, they are not interested in having their own cash crops. If a cash crop yields a higher return than a subsistence food crop, African women will seek access to control of cash cropping.

A clear example of women's efforts to obtain their own cash crop comes from a part of Ghana where women own a minor portion of the cocoa acreage, acquired mostly as gifts from their parents or husbands after years of working for them. Therefore there is a preference for working in the cocoa fields of husbands or relatives, rather than in the fields used for food crops since land may be acquired as a result. When women finally acquire land of their own, cocoa and not food is grown on it (Okala and Mabey 1975).

DECISION-MAKING RESPONSIBILITIES FOR FAMILY MAINTENANCE

It has been frequently observed that women in landless families have a strong voice in the way wages are spent. Their contributions to household income are self-evident and poverty forces a rationalization of expenditure. There is some evidence that, where women contribute cash income from off-farm employment, their economic standing in the household is higher than if they do not. But it is less clear whether women have stronger decision-making roles in farm matters and the disposal of income on large holdings compared to small ones.

In a study of six Nepalese villages it was concluded that, in villages where women were much involved in the local market economy, they shared more equally with men in decision-making than in villages where they were less involved in this sector (Acharya and Bennett 1981). Another study, of two villages in Java, sought to distinguish between individual and joint decisions in the family. In the village where HYV of rice and more intensified cultivation practices were adopted, 'men only' production decisions occurred more frequently, particularly in the middle socio-economic household category (Sajogyo 1980).

Decisions by men or women on expenditure on basic needs varied widely by class and between the two villages. In all cases expenditure on food was predominantly in women's hands. Within each village women's authority over expenditure tended to be greatest in the poorest households and least in the middle socio-economic households. Women in this latter category were more involved in family production and least involved in wage employment and trading.

The widely held norm in Africa that women provide the food does not appear to have offered any guidelines as to who should provide other items now considered essential in a monetized economy. Men are often credited with paying the major share of school fees, and house repairs tend also to be their responsibility. Responsibility for the purchases of clothes, for household utensils and for medical expenses varies greatly. For instance, in Embu (Kenya) women purchase most of the clothes and household utensils from the cash surpluses obtained from the staple crop of maize. But amongst the coffee-growing Baganda (Uganda), school fees, wages, clothes, household utensils, sugar and meat are paid from men's coffee revenues as well as from earnings from the surpluses of women's food crops and home-based industry (Hanger and Moris 1973).

Where women are well established in a local trade, husbands seem to contribute least. Kongstad and Monsted (1980) report that husbands of women traders in western Kenya do not perceive daily expenditures as their responsibility and make only occasional purchases, or none at all.

In southern Cameroon husbands conventionally bear most of the cost of clothes, school fees, house building, and brideprice for their sons' wives. Yet there is now a tendency for women to contribute more because they are earning more. Conflicts emerge when some men claim a traditional right to appropriate their wives' earnings, but local public opinion has moved in favour of women holding rights over their cash income. If necessary, women can use strategies to protect their income: they may not report how much they have sold; they may keep their money in a friend's house or spend it as quickly as possible. Guyer (1977) commented that as women earn more money, they spend more on items that 'culturally' the men are supposed to cover. Where inflation erodes the real value of men's crops, this tendency would be heightened.

Men's and women's contributions to essential goods for family maintenance are in a fluid state, and are likely to remain so. There is a high expectation, however, that women will make important contributions from their own incomes as well as in kind. The design and effects of development policies and programmes can inhibit the realization of this expectation or further it to the benefit of families as well as rural women.

In Latin America there has been a dramatic shift to cash crops in the last three or four decades. Agro-businesses have penetrated production relations and determined the choice of cash crops to a greater extent than in other regions. The concurrent transformation from a peasant-based economy to large-scale commercial farming has engendered widespread landlessness and a plentiful supply of wage labour.

Family cash crop production can be weakened by lower cost production on larger farms, encouraging the migration of men from the area and more seasonal work for women. Change can be sudden, or come gradually. In the São Paulo area of Brazil, for instance, only a decade or so ago tenants on large holdings were inter-cropping coffee with food crops. Over a few years the inter-cropping disappeared and some mechanization was introduced. Both men and women from the former tenant households then worked as wage labourers on the single crop of coffee. More recently, coffee has given way to soybeans, which today utilizes a small and permanent labour force of males and a large, unskilled casual female labour force.

Another example from Latin America is an area in Mexico where sorghum production has undergone a phenomenal expansion since the early 1960s. Various multinational companies supply hybrid seeds, chemicals and tractors on a contract basis to the larger farms, but rely on local firms to promote sorghum production on ejidos. 2/ In some cases the population increase has caused landlessness, but a compensatory enlargement of the extended-family crop has also occurred. Extended families can comprise six to eight nuclear families under one family head. On average, the man-woman ratio in the family is 2:1. Sorghum requires large amounts of labour at some periods of the year for which extra labour must be hired. Women do not work in the fields. Males over 15 years are retained by the family, although the family head may direct them to seek seasonal wage employment elsewhere. Females over 15 years are quite simply expelled from the group and actively encouraged to seek permanent wage employment in towns (Gonzales 1978). This unusual situation is based on the particular labour requirements of the sorghum crop which resulted in women being expelled entirely from agriculture production. The women who remain are engaged in the domestic maintenance of the male labour force. Research is needed to ascertain why women leave agriculture first in this society, while the norm elsewhere is for men to migrate first.

This is another example of how a dominant crop can threaten women's employment in agriculture. But care is needed to distinguish the underlying causes in a case such as that found in Mexico, from the causes that reduce women's wage employment in the case of intensified rice production in Asia, namely mechanization and a shift to the employment of male labour.

2/ Ejidos comprise the types of farms instituted as part of the land reform programme in Mexico where land is collectively owned but individually exploited.

Intensification on food crop production: the case of Asia

In the last two decades, the wider use of HYV, chemical inputs and some mechanization in Asia has brought about substantial increases in yields. At the outset of the green revolution it was assumed that new methods of cereal production would create more employment since the tractorization of land preparation and irrigation would facilitate double, and even triple, cropping in some rice growing areas. The reality has been more complex, however, especially for women. In some areas, landless women have benefited in terms of increased employment. In the Philippines, the shift to hired labour for traditionally female harvest and post-harvest tasks amongst successful HYV adopters has been marked.

For Java there is some evidence that in the late 1960s the adoption of HYV led to significant increases in labour input and that virtually all of this was hired labour. Given the male/female division of labour and the past prominence of female hired labour, this meant more employment for women (Palmer 1977). But since the 1970s it has become apparent that there has generally been a dramatic decline--in the case of Java, of between 25% and 40%--in total labour input, and that this decline has occurred principally for hired female labour. As a result, male hired labour has assumed greater significance.

Harvesting has traditionally been performed by large numbers of women and girls in Java. However, before the introduction of HYV, there already existed a system whereby a trader would buy a farmers' standing crop and introduce a male labour gang of his own to harvest the crop. This practice has spread rapidly since the mid-1970s. The teams use sickles, which are more efficient than the flat ani-ani knife traditionally used by women. The number of harvesters has been reduced, from an average of 184 to 80 per hectare (Collier et al. 1973). In this way a large female harvest labour force has been transformed into a smaller male labour force. Once the potential for a much larger output and greater profits from improved technology is recognized by landowners, it is inevitable that the search to cut costs will focus on reducing labour costs.

Weeding technology provides a third example of how mechanization can lead to a loss of female employment. In Indonesia hand-weeding is being replaced by rotary or tooth-bed weeders. This change has reinforced the reduction of women's harvesting opportunities. The ngepak-ngedok system provides women with jobs in transplanting and weeding in exchange for a meal and later rights to harvest. But whereas the system was previously used by the farmer to ensure a timely supply of harvesters, today it increasingly causes the farmer to limit the number of harvesters and women are thus being turned away (Collier 1978). In parts of India the use of herbicides is also having a similar effect on female hired labour.

These reductions in hiring women in farming may not seem serious when each new production or harvesting practice is viewed separately. However, if all the practices were to be widely adopted, very little female wage employment would remain in the rice-growing areas of Asia. This is not a matter for complacency given the extent to which poor families depend on women's income as well as men's. Farm management and project feasibility analyses could well give special attention to the cumulative effects on female employment of the alternative combinations of farm enterprises and locally feasible practices.

There is some evidence that new technology also has a varied effect on the utilization of unpaid family labour. As might be expected, additional labour needs have been met mainly by household labour on small farms, whereas large farms tend to hire labour, according to studies in several Asian locations--Uttar Pradesh, India (Sharma 1975), West Malaysia (bin Tamin and Mustapha 1975), and the rainfed area of the Philippines (Tan 1975) and Java (Collier 1979).

A detailed comparative study of two Javanese villages (Sukabumi and Sumedang) showed that increases in female household labour input were greater in the more technically advanced village (Table 2-5). Sumedang village farmers grow HYV rice and use the more efficient sickle for harvesting, but Sukabumi villages do neither.

TABLE 2-5. AVERAGE HOURS WORKED PER YEAR BY SEX IN DIFFERENT ACTIVITIES IN AGRICULTURE, 1977-78: TWO VILLAGES IN JAVA (INDONESIA)

	SUKABUMI						SUMEDANG					
	poor households		middle households		rich households		poor households		middle households		rich households	
	M	W	M	W	M	W	M	W	M	W	M	W
	.....hrs per year.....											
Paddy field	191	92	538	307	802	260	645	247	694	385	1 063	400
Dryland crops	74	-	162	66	130	31	409	251	261	216	490	277
Garden crops	21	-	-	-	10	6	9	9	6	18	21	23
Ponds	-	-	9	-	8	-	267	149	262	178	370	153
Animal husbandry	22	-	88	26	13	-	-	-	4	21	73	8
Total	308	92	797	399	963	297	1 330	656	1 227	818	2 017	861

Source: Sajogyo et al. 1980: III-14.

The tentative picture that emerges of traditional Southeast Asia rice production is that of a low-yielding, food production activity worked by cheap, hired female labour. This allowed landed women to devote their assets and time to the more congenial and remunerative activity of trading. Intensification has turned rice production into a sufficiently high-yielding activity to induce women back onto the family farm and, perhaps, displace some of their landless sisters in the process. In doing so, women would be surrendering some of their autonomous activities.

Although the better off women in these Southeast Asian situations return to the fields as a result of agricultural intensification, in at least some places in India, women from larger, more prosperous farms withdraw their labour from the fields (Table 2-6). This may explain why landless women in some irrigated areas in India are finding more employment. Another reason may be that the value of women's home-based fertilizer production, crop processing and dairy production enables the returns from land to be higher than the prevailing wage rate. This could make it reasonable for households to hire labour to work on the farm instead of using their own female family members.

These examples from Southeast Asia and India demonstrate the usefulness of studies on farm household decision-making processes and the opportunity costs of the women involved. Such studies can be helpful in particular to project planners in predicting the differential effects of farming innovations on the employment of rural women in various economic circumstances.

How the intensification of food production affects economic authority over the household budget is an important issue since it can influence cooperation in production on the family farm. Extension, credit and other

TABLE 2-6. PERCENTAGE CONTRIBUTION OF FAMILY AND HIRED LABOUR IN TOTAL LABOUR USE BY FARM-SIZE GROUP AND WAGE RATES IN SIX VILLAGES IN INDIA

District/ Village	Wages men	Wages women	Farm-size	Family Labour men	Family Labour women	Hired Labour men	Hired Labour women	Comments
	Rs per day			%				
Mahbubhagar								
- Dokur (irrigated)	2.59	1.93	small	47	13	8	32	Rice, sorghum, castor, pigeon peas, groundnuts. Seasonal labour demand more peaked on large farms. On small farms children account for 10% of family labour.
			medium	43	17	4	36	
			large	40	6	6	48	
- Aurepalle (partly irrigated)	2.50	1.49	small	43	21	19	7	
			medium	56	20	14	10	
			large	51	2	11	37	
Akola								
- Kanzara (irrigated)	3.72	1.83	small	14	18	33	35	Cotton, sorghum, groundnuts, wheat, pigeon peas. Seasonal labour demand more peaked on small farms. Caste farmers avoid manual work.
			medium	20	14	34	32	
			large	20	2	40	37	
- Kinkheda (irrigated)	2.86	1.55	small	30	14	45	23	
			medium	25	10	36	22	
			large	7	1	9	44	
Sholapur								
- Kalman	2.72	1.40	small	33	24	27	16	Food grains: sorghum, chickpeas, safflower. Seasonal labour demand peaks very peaked on small farms in Shirapur.
			medium	22	10	36	32	
			large	39	9	23	30	
- Shirapur (drought-prone)	2.57	1.39	small	41	19	16	24	
			medium	34	26	13	25	
			large	38	16	17	28	

Source: Ghodake et al. 1978 and Ryan and Ghodake 1980.

agricultural services associated with the introduction of high-yielding farming practices are often directed at the male family head. This approach augments his authority in the household in deciding how family land and labour will be used. At the same time, yield increases result in more output being sold. Since the male family head is normally responsible for repaying credit and purchasing inputs, he increasingly becomes the custodian of the returns from these sales. This places women in an uncertain position. Some wage employment or own-account trading, bringing an independently controlled income, may be needed if they are to have a voice in household decision-making.

Effects of cash crops on wage employment

As mentioned earlier, the impact of intensification on women's employment and income presents specific features in the case of cash crops--those crops that are entirely exported to urban areas or overseas.

The expansion of the large-scale production of crops such as tea, cotton and coffee usually provides women with preferential access to seasonal wage employment. Plucking leaves seems to be viewed as a particularly female skill, especially in Asia, possibly because women provide a cheaper labour force than men for this highly labour intensive task. Using women for the similarly labour intensive tasks of transplanting and weeding rice is usual on large commercial farms as well.

Two circumstances can alter this utilization of women's labour for particular crops or field tasks. They are the annual rotation of cash crops and the demand of landless men for wage employment. An example comes from the area of El Espinal in Colombia, where since the 1950s, the largest farms grow cotton one year and rice, sesame and sorghum the next and where there is a large pool of male wage labour. This crop rotation means that the total demand for labour changes from year to year with the result that there are permanent jobs for only a relatively small number of men. Extra seasonal and casual labour requirements are met by women. Cotton is the more labour-intensive of the major crops and women are mainly employed on this crop as well as men. Few women work on the rice crop, however, which is partly mechanized. The prevailing ideology that 'water harms women' causes women to be excluded from rice transplanting. The overall rates of men's participation in agriculture are much higher than women's, but the highest participation rates for men are accompanied by the highest for women, which suggests that women are employed seasonally when men approach full employment. This form of matching demand and supply in the labour market questions notions of culturally fixed male/female division of tasks, despite the lingering effect of myths invoked to protect men's jobs (Deere and de Leal 1982).

In the neighbouring area of Sincelejo, cotton and rice production was also started in the 1950s and 1960s. The active land market broke up the haciendas and released the labour of small tenant households into the wage market. But the labour force in cotton production in this region is almost entirely male and women do not enter the agricultural wage labour market in significant numbers (Deere and de Leal 1979). Instead, some find work in semi-processing and artisanal activities in the villages. The reason for the lower employment of female labour in agriculture and the exclusion of women from cotton production in Sincelejo is because of the larger surplus of resident male labour than in El Espinal.

A comparison of these two similar and neighbouring areas demonstrates how division of labour on the same crops can be locality-specific and dependent on the sex ratio of available labour. But a common characteristic of landlessness and unemployment is the emergence of a small, regularly

employed male labour force and seasonal and casual employment for a larger female labour force.

Earlier it was pointed out that because of factors which are not endogenous to the locality, it is not possible to claim that women are being widely marginalized in Latin American agriculture so far as employment itself is concerned. Indeed the more that men migrate to more remunerative jobs, the greater is women's local agricultural wage employment. The cheapness of female labour also may lead to their preferential employment even where there is a supply of male labour and in contradiction to local cultural norms. This conclusion is not a recommendation for a differential wage, however.

For example, strawberries are cultivated on large farms in the Zamora Valley 300 miles northwest of Mexico City for a transnational company. The strawberry farms prefer to employ women as they are considered to be better at the labour intensive work of harvesting. They are also cheaper than men. In 1974 the daily earnings in the area were 35 pesos for men and 25 pesos for women (Fedu 1977). Traditionally women in this area did not do the field tasks of agriculture, but now they constitute the main labour force owing to the particular labour needs of the strawberry crop and the company marketing it.

The processing of crops

In Asia the labour force was predominantly male in the tea and coffee processing factories of the colonial period. This practice has tended to continue in the region. But in Latin America where factory-based processing of agricultural products began in the 1950s, female labour has been overwhelmingly utilized. The sorting and packing of vegetables and fruit employs a nearly all-female labour force. This was the case in the Mexican strawberry-growing area quoted above where 18 packing and freezing plants were operating in 1980. In Sincelajo, Colombia, large investments in tobacco cultivation led to the opening of a local processing plant, employing women who formerly made cigars in a home-based industry.

In the El Espinal area, cotton processing and rice milling enterprises employ both men and women. But in this case the division of labour in the plants has created a dual wage structure for men and women.

As with agricultural workers, the reasons for preferring women workers in factories are not difficult to find. Besides being cheaper to employ than men, they are available on a casual and piece-working basis, and can be turned away at the factory gate when there is not enough fresh produce that day to employ all those waiting. They constitute an extremely flexible reserve army of labour.

Another innovation--one that negatively affects the employment of women--has been the mechanization of rice processing, especially in Bangladesh and Java. Handpounding has traditionally been women's labour, including significant numbers of landless women. Both village hulling machines and larger custom mills spread rapidly in the 1970s and have caused a large reduction in the employment of landless women.

Both the ownership and use of the custom mills are highly profitable in Bangladesh, despite the low cost of female labour (Harriss 1978). Were the entire rice crop to be processed manually, Harriss has estimated, there would be work for all rural women for 50 days of the year. However, in the small mills only one woman is employed to winnow the grain, and girls under the age of puberty are employed to carry paddy to the mill. Since women in Bangladesh do not accept visible employment easily, work by

THE IMPACT OF CHANGE ON WOMEN'S SEASONAL WORKLOADS

It has been pointed out that it is important that agricultural intensification programmes do not exacerbate seasonal peaks of agricultural work because of women's domestic workload of water and fuelwood collection, household work and child care. But two illustrations show how difficult this is to avoid. Both male and female participants in Sierra Leone rice projects experienced sharp increases of work in peak months compared to non-participants. While men had the greatest increase in agricultural work, women clearly faced very long total hours per day in some months if (as seen from other studies) another 6-7 hours a day had to be added for all their non-agricultural work.

The second illustration comes from a speculative analysis of likely changes in the division of farm labour, by month, for a project in central Nigeria which is aimed at improving yields on a variety of food crops (Burfisher and Horenstein 1982). The biggest increase in work would fall to women in harvesting and post-harvest activities. Whereas under existing conditions women do farm work for more than 25 days a month during 3 months of the year, the project's success would oblige them to do that amount of work for 7 months. On the other hand men do not, and would not in future, work more than 15 days in any month. The analysis assumed no change in the division of labour on each field task, but locally there is much economic exchange between men and women--which encourages flexibility in the division of labour--hence this prediction may not come true. Nevertheless, the situation merits close monitoring.

	Non-participants		Participants	
	Men	Women	Men	Women
	... hours/month in agriculture ...			
May	67	46	167	139
June	147	140	162	156
July	114	145	232	143
August	141	164	201	211
September	93	114	137	143
Year's average	85	84	119	92

Source: Compiled from Spencer, 1976.

landless women on crop processing in the compounds of other households is the only socially acceptable means of gainful employment. With increasing landlessness and the declining real wages of both men and women (Begum and Greeley 1980), the loss of this female component of the poorest households' income sources can be disastrous. It is especially critical for widows and deserted women.

Expanding income earning opportunities for women

A contrasting example is how women can improve the returns from their labour through their own enterprises. It comes from a study made in southern Cameroon, which compared women's activities in two similarly endowed villages (Guyer 1977). In the village located near an all-weather road to Yaoundé, the women spend little time working in their husbands' cocoa fields. Instead, they have greatly increased the output of cassava and groundnuts from their own fields and are selling surpluses for the Yaoundé market.

In the other village there are poor market prospects for food production. The women spend many days per month on the cocoa crop, receiving a quantity of low grade cocoa for sale or being paid in cash by their husbands. The returns for assisting their husbands are higher than the returns from producing a surplus from their own fields. When hired labourers arrive for the cocoa harvest, the women can increase their cash income by almost half by selling the labourers beer, cigarettes and cooked food. Of course women near the all-weather road have this option too, but they have found an expansion of food production more profitable and, they claim, less risky. Some of them, in fact, earn more money than their husbands.

Similarly, the development of a network of roads and some irrigation in northeast Thailand in the last decade have transformed women's dry season activities. This is because vegetables and watermelons can now be grown for the regional capital and for Bangkok. Good roads are crucial for such female entrepreneurs because, unlike export crops and cereals, most secondary food crops for which women are responsible are perishable. That women often grow food crops to supply urban markets is also frequently overlooked.

A different example of women's entrepreneurship in food production is found in irrigated rice schemes in The Gambia. When the men became reluctant to cultivate their own irrigated rice fields in the wet season because poor drainage made them less profitable than their groundnut fields, some wives obtained the use of the land in exchange for helping their husbands with the dry season rice crop. The women's interest in this transaction arose from the fact that despite poor drainage the irrigated land produced higher rice yields than their own swamp rice (Dey 1980).

Intensification of Agriculture and Household Food Security

The intensification of agriculture can have spin-off effects on food security at the household level in contrasting ways. As discussed earlier, intensification may result in labour displacement affecting more particularly women's employment. Such displacements may have immediate food security repercussions for many poor households that are paid in kind, the direct supply of non-perishable food being generally under the control of women. The consequences of women losing rights to harvest rice can be illustrated by an example from Java. In the 1973 wet and dry seasons a sample of 15 landless households, supplying to land-owners an average of 2.5 harvesters, earned the equivalent of 180 kg of rice per household (Stoler 1977). Assuming an average rice consumption of 1/3 kg/day/adult, the annual harvesting work of these landless households provided rice for 540 adult person-days, or a significant portion of their total annual rice consumption.

On the positive side, just as the modernization of agriculture can raise the local availability of food, so can improved techniques be applied to reduce post-harvest losses and thereby improve food security at

the household level. This area of improvement is gaining particular importance in countries where the production potential of land is being reached. It is precisely in drying, threshing, dehusking, winnowing, sorting out contaminated grains, and cleaning storage vessels that women traditionally have an almost exclusive role. With proper training and incentives to modernize these methods, much food loss can be prevented. Moreover, women's role in food preservation and storage, along with food preparation and cooking, is all-important in preventing nutritional loss before the final consumption of food. It is because of these factors that the approach of project planners to post-harvest processes needs to be particularly sensitive to women's capabilities and interests.

Projects designed to improve on-farm storage need to take into account the many possible combinations of technologies, credit (which may not be available to women), additional female labour requirements and individual incentives. Some projects are incorporating a farming systems approach to introduce refinements before errors are replicated, but in many cases these trials relate improvements more to technical questions and aggregate cost-benefit assessments. Although some of these projects initially accept that women are important in post-harvest activities and that women extension workers should be in the field, the design or implementation of the actual project often fails to incorporate these points.

Structural Changes

Land shortages or maldistribution can lead to measures--settlement and land reform--that dramatically affect the household. While the measures themselves are well intentioned, their beneficial effects on women are not guaranteed.

Settlement schemes

The purpose of resettling people is to give them land, usually in combination with introducing better methods of production, raising incomes, ensuring environmental conservation, and concentrating populations to facilitate their access to health and educational services.

The experience of women in settlements has frequently been unsatisfactory. Explanations for this include: a change in the composition of food production between subsistence and market needs which reduces women's rights to the disposal of the returns from their labour (Hanger and Moris 1973); women's loss of their right to cultivate part of the land as they wish (Chambers 1967); their lack of access to raw materials for home-based industry (Chambers 1967); and the greater difficulty of women in obtaining firewood, if obtainable at all (Hanger and Moris 1973). The first three of these explanations refer to changes in land use and land rights. If we add the fact that resettlement usually entails modern cultivation methods, then another possible adverse effect on women is a longer total working day and harsher seasonal demands for their labour.

In the Mwea irrigated settlement scheme in Kenya, rice was introduced as a new crop with the intention that, after household requirements were met, there would be a large surplus for urban markets. The rice fields were given to men as life-long tenancies.3/ Women, as the resident wives

3/ The original tenants were so-called rehabilitated and landless Mau Mau detainees who at first worked as labourers building the scheme and then were leased 4-acre plots of irrigated land.

of tenants, were allocated small plots to raise supplementary traditional foods. In the early years of the scheme there were serious problems which were traced to the discontent of women (Hanger and Moris 1973).

Many women exercised a form of passive resistance to working in the rice fields for their husbands because this competed with work on the food plots they controlled. Although the food plots were too small to supply the household with food--as indeed the scheme's planners knew having assumed that rice would be eaten as well--women wanted to work their own plots as carefully as possible since they had full disposal rights over the produce. They needed rice or cash with which to purchase additional food. However, the husbands did not give them enough cash to meet food requirements nor to purchase firewood made necessary by the lack of nearby forest reserves.

More work and a feeling of isolation have been the effects on women whose families have recently settled on parts of the Mahaweli irrigation schemes in Sri Lanka. In their former homes, women cared for livestock, but as on the Mwea scheme, there is less room for ruminating animals following settlement. New settlers tend to be composed of young nuclear families in which the mother is the only adult female. The upheaval, the additional work and the seeking of new relationships may come at the most difficult time in the life cycle of women (Lund 1978).

But there have been some gains. As on other irrigation settlements, domestic water supplies are closer at hand. Also, for the part of the Mahaweli scheme surveyed, firewood is closer to the homesteads than in the former village. However, in the longer established and more densely populated areas of Mahaweli, firewood is much scarcer and collection can involve excursions lasting half a day. An informal network of women, established after long residence, has led to organized teams of women for firewood collection. Households are also larger and consist of three generations, so that the conflict between agricultural work and child care is less of a problem than for the young pioneer mother.

Moving to a settlement also leads to a modified food system and a revised role for women. The stress this has caused women at Mwea has been shown. In the village from which the Mahaweli women sampled originally came, their agricultural work consisted of caring for their gardens and the chenas in which vegetables and maize were grown. At Mahaweli chena cultivation is not possible because of a different land use. Subsidiary crops are grown on a small homestead plot of 0.5 acre, but these are often left uncultivated in the first few years after settlement because of work pressures. Together with the loss of some livestock, this reduction in secondary food crop production takes from women their independent source of produce and income.

Land reform

Where land reform entails the privatization of land in separate family holdings, the usual practice is to bestow title deeds or life-long tenancies on male heads of household. The new landowner has ultimate legal authority over land use and its utilization as collateral for credit. Following this, services such as marketing, input delivery systems, and extension information are directed to him. In his absence, a wife may experience great difficulty in gaining access to them. As the owner of land and the capital invested in it, the male head of household is given the opportunity to operate as a private entrepreneur, with a primary labour force (his family) that is free to him in monetary terms. He also has ultimate authority over the disposal of produce and income. The main practical effect of land reform on women has been their con-

firmation in a structured and possibly economically subordinate position in the family.

In reviewing land reform programmes in various countries, it was found that--regardless of whether the sex of the beneficiaries is specified in the law--women heads of household seldom receive land. Women who are not the heads of household have less opportunity to receive land, even when their productive activities call for it.

For example, Ethiopian agrarian reforms unwittingly failed to incorporate women as farm-holders in their own right, although for a different reason. It was postulated that individuals, regardless of sex, should be allowed to acquire land 'sufficient to sustain himself and family'. The obstacle to women being beneficiaries in their own right arose because land was allocated only to members of the peasants association, who had to be legal heads of household--which could include widows or co-wives who had independent household units, but not women who shared households with husbands. By these means land reform was actually directed to household units, rather than to individuals. Even with a declared intention to award individual rights in land reform, the institutional means and criteria adopted in the programme constituted a strong bias against women.

Land adjudication, which is aimed at privatizing lineage land so that land may be used as collateral for credit, has meant a norm of conferring title deeds on men. For example, analysis shows that very few women have benefited from land adjudication in Kenya and that most of these have been better-off women with urban interests. Some women complain that their husbands are selling land without consulting them.

With access to land, credit, cooperative membership and the extension services of settlement schemes typically biased in favour of men, it is difficult to see how women can have a role in decision-making. But it was observed at Mahaweli that the longer established women settlers, particularly those who take off-farm employment, have assumed greater authority in financial management.

The importance of independent access to land for women is illustrated by the relative success of a settlement scheme on the Turkwell River in Kenya. Famine, following a drought, caused a loss of herds, destitution, and some abandonment of women amongst the Turkana pastoralists. Many women who had traditionally cultivated foods while their husbands herded, received plots of land on the scheme in their own right on which maize, cotton and secondary crops are grown. Women have done so well on their plots that those who were abandoned have often been rejoined by their husbands. Surpluses from these plots are sold and the money set aside for food and investment in livestock (Brown 1980).

The benefits to women can be gauged by their preference to marry within the scheme (where they will continue to have access to land). The women have also expressed an interest in learning to read and write, and ask to be shown better methods of crop cultivation and storage. Where husbands are present and children are not in school, the women have help in the fields. But settlement has terminated practices of reciprocal work parties both because social relations have been disrupted and because the farming system makes everyone plant or harvest at the same times. There is also a lack of community cohesion since the settlers are strangers to each other and traditonal leadership--which regulates behaviour--is lacking. Nevertheless, it can be seen that women's assured access to land is an important component of the success of this settlement scheme. This point is frequently overlooked when establishing programmes of land reform.

That land reform does not always lead to the privatization of land is shown by the producer cooperatives and the collectivized ejidos in Latin America. In both, land is worked collectively although in the latter there are often parcels of land that are also cultivated by individual households.

Members working on collective land receive wages according to their labour input on an individual basis. Large-scale production also provides an opportunity to organize consumer services such as shops, medical, educational and child care facilities, with great advantages for women. In addition, producer cooperatives have the advantage of offering more full-time employment through specialization and division of labour by allocating their land resources over diversified production. In some cases this has benefited women. One example is a milk cooperative in Peru (Deere 1976). Since the women had milked their landlords' cows before land reform, the cooperative made milking a specialized women's task. For technical reasons this occupation cannot provide a full day's work, so the women are given first access to temporary or casual work (the sorting of agricultural products, some field work, buying cooperative vegetables and selling them in the market). The result is that they can now earn a full day's wage from a range of activities. However, their improved economic status is not reflected in their civic status within the cooperative. Men dominate administrative and elected positions, and meetings are often held at times when women have difficulty in attending.

These kinds of benefits for women from cooperatives are not, however, typical of new settlements created in Latin America through agrarian reform. In Honduras, for example, where agrarian reform specifies that female heads of household have equal rights to land and where the new settlements vary with respect to the degree of collectivization, women have benefited little from land reform. Female heads of household have rarely had access to land. Only when they had sons aged 12 or older who could perform a share of agricultural work, were they eligible for land. Otherwise, even when a group of landless female heads of household grouped themselves into a farmer organization and officially requested land, they were turned down (Safilios-Rothschild 1983c).

It seems, therefore, that although it is important that land reform laws specify women who are the head of the household or the major agricultural producer in a family as equal beneficiaries as male heads, this is by no means sufficient. Because of a variety of stereotyped beliefs concerning women's inability to function effectively as producers, beliefs that may intensify in view of increasing land shortages, the implementation of land reform needs to be carefully monitored so that landless female heads of household can benefit as much as landless males.

Interactions with Other Agricultural Activities

Thus far in this discussion, women's roles in agricultural activities other than crop production, processing and marketing have received only passing reference. The following section attempts to fill this gap by referring specifically to the livestock, fishery and forestry sub-sectors and to women's involvement in them.

Livestock

Although it has long been recognized that women have an important role in livestock care and in the processing and sale of livestock products, the significance of reaching women directly in development projects has not always been understood. Even when it has been done, convention-

ally viewing women's livestock activities as an extension of domestic work has encouraged the assumption that there is no economic opportunity cost attached to this work, and that there is no need to provide economic incentives for women to make the effort required to introduce improvements. Part of the problem may lie in a view of livestock production as being very largely for subsistence, something women can fit into their other work 'around the house'. Even where projects aim at producing a surplus for sale, there may remain an implicit assumption that the activity merely takes up a slack in women's labour time.

Although men generally own cattle, women are usually responsible for dairy production and for the processing of dung for fuel and fertilizer. There are instances where women own cattle. The wives of non-Arabic farmers do so in some countries of the Sahel and Sudan. Also, female heads of rural households own cattle. Such households represent from one-third to one-half of all rural households in many Latin American and African countries. It is therefore important that the prevailing pattern of cattle ownership is empirically assessed as part of project formulation and preparation.

Decision-making and disposal rights usually correspond to work responsibilities rather than to the ownership of cattle. However, where commercial milk production is encouraged, as in Kenya, these rights and the income derived from them are eroded because the payment for milk is usually paid to the owner of the cattle.

Another example--a project to reconstitute herds after the drought in Western Sahel--illustrates the need to adequately integrate women's activities in agriculture and livestock at the different stages of project implementation. In the project area, all women traditionally owned cattle, sheep and goats and were responsible for supplying the household needs in beans, onions, vegetables and peppers. Their own grain production was at their personal disposal and mostly sold. While men's livestock activities in the project were organized from the beginning through herdsmen's associations, the activities of women were added to the project in a later component that also promoted vegetable cultivation, crafts, basic literacy, and introduced appropriate household technology.

However, initial baseline data failed to pick up conflicts in the demands on women's time. Women's livestock activities were planned to promote livestock reproduction and produce surplus milk for cheese-making during the rainy season for later consumption and sale. This strategy failed to take into account the already heavy workload of women in planting, weeding and harvesting crops in one short rainy season. Moreover, concentrating animal births, and therefore increased milk supply, in one season lessened milk availability for consumption and sale at other times of the year when agricultural production was lower. It was only later, when a second baseline study was undertaken, that these contradictions were brought to light and it was realized that the incentives to women to follow the proposed strategy were far from clear.

This case study reveals that project plannng for women's production activities must be done at the same time as planning for men's activities, and must be given the same status. But compared to another project to reconstitute herds in Mauritania, and another to improve animal breeds in Benin (for which women were not even mentioned in the project documents), the Western Sahel project did make great efforts to integrate women, although without an established methodology to guide it. A priority therefore must be to establish such a methodology for project planning and implementation.

The rehabilitation of livestock herds, such as following a drought, also affects women because they may obtain cattle through inheritance, dowry, or bride-wealth. In some societies, the ownership of cattle is important to women in the event of divorce and for women's standing in the household. But programmes for the post-drought rebuilding of Fulani and Tuareg herds gave cattle only to men (Cloud 1977). Although women would continue to enjoy traditional rights of disposal of the milk and milk products from the cows they care for, their position in the household could be weakened by such an oversight for a generation or two until they acquire ownership of cattle through their use for dowries and bride-wealth.

Small livestock such as goats, sheep and poultry are usually predominantly the concern of women and are much more frequently owned by women than cattle. Poultry is almost universally owned and disposed of by women except when it becomes a commercial enterprise in which case most often it is owned and controlled by men. With regard to goats and sheep, although available data are scarce, it seems that in many Sub-Saharan African countries and in the Latin American altiplano women often own sheep and/or goats (Henderson 1980, Josserand and Ariza-Nino 1982). Women's ownership of small ruminants does not, however, imply that women can freely dispose of the animals even when they care for them. Either the husband's permission is needed before they can sell them, as is often true in Sub-Saharan Africa, or only men can sell them, as is true among poor farmers in the Peruvian altiplano (Deere and Leon de Leal 1982). Women, however, can usually dispose freely of chickens and eggs and such products as milk, skins and wool.

Small ruminants and goats especially represent an important security to women in the case of divorce or other misfortune, and as a source of cash to pay school fees, health care costs and general family expenses (Noble and Nolan 1983). Despite the fact that women see goats as well as sheep and poultry as a source of income they can control, animal production specialists and policy-makers persist in promoting, for example, goat projects that involve women only in order to improve family nutrition from goat's milk and meat, and neglect women's need for cash income (Safilios-Rothschild 1983b).

Poultry projects often include a vaccination component which is expensive because whole village populations of birds have to be vaccinated. But a problem of reaching the birds has emerged in the case of secluded women for whom poultry-raising is one of the few economic activities available. For instance, a project in Pakistan to improve backyard poultry-raising, included demonstration centres, the distribution of improved breeds, and a vaccination campaign. Women and girls, who are generally restricted to the home compound, care for poultry. It was found that custom forbade the male vaccinators to do their work if husbands were absent. This discovery was made after the institutional structures of the project were in place. The solution required training women livestock assistants in poultry development and removing them from other work.

Fisheries

Fishing activities are often an important adjunct to other agricultural activities, particularly in the Far East. There the development of fish farming or aquaculture enables crop and animal wastes to be more fully utilized. In some cases taking up fishing can be the sole means of livelihood for the landless.

In spite of abundant micro-studies on maritime cultures and industries, the role that women play in fisheries is even less reported at the national level than their role in agriculture. This is true even of coun-

tries such as Ghana and the Philippines, where there are as many women as men involved in the fish industry. This is because women seldom fish on the open sea owing to the length of absence required which would interfere with family obligations, the physical strength demanded by commercial fishing and the many taboos associated with having women on board a boat. However, women engage in fishing in shallow waters in coastal lagoons or protected tidal areas, they harvest molluscs or seaweeds, and fish with traps or headlines from canoes.

In addition to these important primary fishing activities, women living in fishing communities are very active from the moment the boats are landed, sorting and grading the catch, drying, smoking or curing the fish, making fish paste, and taking the product to local wholesale or retail markets. Some of these activities, such as unloading or sorting fish, are often unremunerated as they are part of family duties or comprise part of traditional systems of cooperatives.

Women's main commercial role in marine and freshwater fisheries is to be found essentially in processing and trading. All over the world where traditional methods of preserving fish are still in practice women often constitute the majority of processors. Moreover, marketing is the sector in which women's work is heavily concentrated all over the world, though with variation from place to place. In West Africa for instance there may be as many as five intermediaries, all of them women, between the landing of fish and the consumer. In the Caribbean, on the other hand, women are mainly involved in retail trading only. The effect of the modernization of fish catching can have a dramatic effect on this trade. When large sums are invested in larger or motorized boats, commercial relations for both production and distribution emerge. The boat owner may sell the entire catch himself to a large distant market. This withdrawal of the fresh fish catch from the village means a loss of opportunities for women to earn income through fish processing and trading. Nevertheless, there is a need to find appropriate methods of distributing an increased fish catch. In one case in Africa a project which successfully increased the fish catch found that much of the incremental catch was wasted because the women's head-loading capacity was limited and alternative means of taking it to markets had not been planned.

Catch improvements coupled with an adequate planning of the distribution system can provide larger fish supplies and income opportunities to local households. Although fish marketing is often reported to be a good source of revenue--the traditional competitiveness and entrepreneurial capabilities of West African women fish traders/boat owners support this--a woman fish trader will usually operate on a very small scale.

Many development projects have adversely affected the traditional processing and marketing systems of women. Increased catches, the introduction of refrigerated transport and mechanized processing have had the effect of depriving many women of a source of income. Similarly, the fabrication of ropes, nets and traps, has also been commercialized and women's labour in these activities made redundant.

Often modernization shifts employment from one group of women to another. In the case of modern fish processing, the reports available suggest that the factory owners prefer to employ women. Even in Pakistan where women are not very visible in the wage labour force, fish processing plants in Karachi occasionally hire women for peeling, sorting and packing shrimp. In many cases there is a preference to employ young unmarried women in that work, which is often seasonal. Thus the modernization of fish processing has meant that the employment of many village women has passed to a much smaller number of young women in other areas.

The division of labour in aquaculture depends on the scale and method of production. In small-scale aquaculture women are involved in all stages of fish production, processing and distribution. Animal waste may be used to feed the fish, and this task is usually done by women. Yap (1980) states that a wife will look after the pond, feed the fish and prepare the feed, but that her involvement declines with larger sized ponds when male labour is hired. An ESCAP Report (1981) states that women in the Philippines spend from 5-100% of their working time on pond cultivation, depending upon the scale of the operation.

Forests

Forests are a store of many raw materials and foods, such as medicinal plants, fruits, honey, basketry materials and fuelwood. Women collect these for direct household manufacture and for domestic use or sale. Hence a depletion of forest reserves affects women's contribution to household maintenance much more than men's, obliging them to spend more energy and time on fuel supplies, and in all likelihood foregoing other forest products. In extreme situations, fuel in the form of charcoal or wood has to be purchased, presenting something of a crisis in disposable cash income. Also, there may well be a loss of economic opportunities for women.

It is not surprising, therefore, that foresters have been amongst the first planners to approach women directly to win their cooperation for the protection of seedling trees, and to consult them on priorities. But agreement between women and foresters does not always come easily. Particular environmental considerations and the prevailing relation between women's dependence on forests and their other agricultural activities demand that solutions be location specific. Standardized reforestation can run into opposition or passive resistance from women. Also, the time horizons of women and foresters, and therefore their views on optimal solutions, may differ. Women need fuel today, not next year, and the micro-economy they manage cannot tolerate sudden dislocation. All solutions involve at least a temporary contribution by local people of some combination of land and labour (and sometimes money) which bear economic opportunity costs. The problem of deforestation falls primarily on women, but its solution sometimes imposes even greater burdens on them.

Other proposed solutions to the fuel crisis include more efficient stoves and growing foods that do not require fertilizer and therefore do not compete for supplies of manure from the household's cattle for fuel manufacture. Improved stoves may be introduced and their cost has been estimated (in one case) to be the equivalent of the value of wood saved. But it is important to specify whether this is a saving in terms of cash or of women's time spent in collecting wood.

The introduction of nitrogen-fixing legumes is seen as a nutrition-benefiting as well as a manure-saving innovation. But legumes require more labour and have a long cooking time. Whether the introduction of legumes is really a labour and fuel-saving idea, as well as being a nutritional improvement, provides an excellent illustration of trading off gains and losses amongst women's multiple and interrelated activities concerning the environment, agriculture, and domestic welfare.

Women's understanding of what is at stake, however, is such that their willingness to cooperate with foresters, even at the cost of more work, should not be underestimated. When the Cameroon forestry service decided to plant woodlots, local men distrusted the project and destroyed the fences. But the women understood the value of the project and helped the foresters to repair the fences and plant the trees.

The issue of land allocation for new woodlots remains a serious one and cannot always be dismissed by suggestions for inter-cropping trees and crops, or planting trees along the edges of fields. In Niger most of the reforestation projects involve land belonging to men and consists of work traditionally seen as men's responsibility. They have not been successful. On the other hand, 'operation baobab' won the support of women because the person who plants this tree retains ownership of its products --leaves and fruits used in sauces, as well as woodfuel (Barres 1976).

SPECIFIC DELIVERY SERVICES IMPORTANT TO WOMEN

Where women do gain some control over land use, the benefits to them can be greatly enhanced in many instances by their having direct access to at least three services:

- Extension information about land use, improved husbandry and the economics of alternative production and marketing possibilities.
- Credit to help meet both seasonal production and longer-term investment needs, with adequate provision for covering emergency setbacks.
- Group institutions such as marketing cooperatives to enable women save costs and have adequate bargaining power when buying inputs and selling produce, as well as to organize additional services of their own that are not locally available.

When making these services accessible to women, it becomes particularly important that they be attuned to the special needs of those products which women are most likely to produce, are readily available in or near isolated communities, and have flexibility to include special components (such as child care) that enable as many women as possible to participate. Equally important is the identification of existing women's groups, or formation of new groups, to serve as vehicles for reaching women directly and affording feedback about needed improvements in services as experience is gained.

Extension Services

Rural women generally have poor access to agricultural information and services. For example, a study in Tsito, a village in southern Ghana, showed that until 1977 none of the women interviewed had ever been visited on their farms by extension officers (Bukh 1979). Another study conducted in Africa found that farms with an adult male present were four times more likely than farms without an adult male to have had a household member trained at the farmer training centre, and 14 times more likely to have received information about agricultural credit (FAO, 1982).

Some countries, such as the Philippines, Thailand, Lesotho and Egypt, have made great strides in training female extension workers as a means of reaching female farmers. Most training programmes for women still emphasize home economics rather than agricultural skills even though both are relevant and can be combined. But when women are trained in agriculture and placed in the field, several types of difficulties must be overcome --such as transportation, housing and continuity of service. Since increasing the supply of female extension workers is a long-term prospect, other alternatives tried include training female paraprofessionals (Mali), training village women to start their own demonstration plots (Zaire), and channelling extension through women's groups (Bangladesh).

To channel extension information and guidance as well as improved inputs and credit through women's groups, especially women's cooperatives, is a particularly promising alternative with many advantages for women's integration in rural development. It is also a practical and low-cost alternative based on development, collaboration and communication between women and the group, thus helping to strengthen and organize the group better. The problem remains of helping men to recognise that reaching women in agriculture is vital so far as production and equality are concerned, and to find culturally acceptable ways for men to work with women at field level. This is more likely to be by working with groups of women rather than with individuals.

Credit

As already noted, there is evidence that women farmers have much less access to bank loans than men. In another example--rice farmers in the north of Ghana--only 7% of the women compared to 27% of the men had access to bank loans (Gbedemah 1978). The inferior access of women to bank loans in this example could not be explained only by women's lack of land ownership since many of them have quite sizeable farms. It seems that banks tend to underestimate women's potential agricultural productivity and to mistrust women's ability to repay loans. Evidence shows, however, that repayment rates by women's groups are excellent.

In general women farmers have to rely mainly on money-lenders who often charge high interest rates--annual rates of 50% or more are quoted --or on their husbands and other relatives. Clearly bank loan services for women farmers are needed.

It has been recognized that group loans have the advantage of reaching the poorest women, who are otherwise ineligible, reducing borrowers' and lenders' costs, lessening loan default through joint liability, and facilitating technical assistance. Some examples of international efforts to design institutional credit schemes to facilitate greater access to credit by rural women are: the United National Voluntary Fund for Women, which considers applications for revolving funds for women's groups; the Women's World Banking which has developed a fund to be used to secure bank loans to local groups; and the African Regional Credit Association (AFRACA) which is cooperating with FAO to develop and implement a series of sub-regional projects for women's agricultural credit and banking. Within the scope of the latter projects FAO has assigned women agricultural credit officers in a number of west African (Gambia, Ghana, Sierra Leone and Liberia) and east African countries (Ethiopia, Kenya and Tanzania). The objectives of these projects are to identify agricultural crop production and income-generating projects for women, and to promote women's marketing activities, through which credit can be made available for implementing women's projects.

What yet has to be worked out is how to cut down the transaction cost of credit by simplifying procedures; how to help women organize and train other women to form groups that qualify for credit available to all farmers rather than the limited credit available only to women; and how to help women enhance their productivity and income with the credit they receive and establish a good credit record which is helpful for future loans. Once existing institutions adopt new practices appropriate to women's situation, great progress will have been made.

Women's groups and cooperatives

The establishment of such institutions can greatly facilitate women's access to all productive services. Some examples have been shown above. Rural women, especially low-income rural women, generally prefer to form

their own groups and cooperatives apart from men in order to be able to make their own decisions and to manage and control profits. In mixed-sex cooperatives in Bangladesh and India as well as in a number of African countries, decision-making is dominated by men; women have no control over their activities and profits. Furthermore--where information is available--when mixed-sex cooperatives are the only alternative, women's participation remains low; women organize themselves in informal groups without official status and are not usually involved in the development process. While some countries, such as Bangladesh and India, have now opted for sex-segregated cooperatives for rural women, and west African countries have a tradition of women's cooperatives, the solution is not yet widely endorsed or adopted. It is, however, increasingly acknowledged that it is not sufficient for only one household member, the man, to join a cooperative.

Although women's informal groups may have some advantages over cooperatives in terms of flexibility, they also lack visibility and hence fail to gain access to productive resources, services and training. Without these they cannot effectively participate in or benefit from mainstream development efforts. Thus, while it is true that there are many organizational problems with existing cooperatives and that innovative solutions must be found, the transformation of grass-roots women's groups into cooperatives may be a helpful strategy.

In many developing countries the majority of rural women are still illiterate and most of them have little or no spare time. Training efforts directed to women need to devise and use an innovative methodology that takes these constraints into consideration. Already teaching techniques and materials have been developed based primarily on practical applications and visual aids, but more efforts in this direction are necessary.

Another approach has been tried with the marketing and credit activities of FAO which emphasize training and motivating rural women by making use of success stories available from within the country. Training workshops are held for the leaders of rural women in local market places to establish small-scale projects in the leader's respective village or market place. For this purpose FAO is planning to publish a manual on how to make use of village-level success stories.

While rural women's time constraints need to be taken into account in setting up training or various production-promoting projects, it is also true that economic incentives that directly benefit women can be effective in changing intra-family priorities in time allocation, as can time-saving technologies in both the home and on the farm.

CONCLUSION

Women comprise a large part of the agricultural labour force in Asia and Sub-Saharan Africa. They perform many key agricultural tasks in all regions of the world. The extent of their participation has been greatly underestimated. Since greater support for women's activities constitutes a crucial step towards increased production as well as improved equity, it is important that women's present contributions to the agricultural labour force be fully recognized. This involves deriving statistics from national and small-scale censuses and surveys; redefining, in many countries, livestock care as an agricultural activity; and documenting the many roles of women on farms that heretofore have been unrecorded.

Methods of modernizing agricultural systems, from one continent to another, have often considered neither women's existing contributions nor their potential roles. This failure has jeopardized many agricultural and rural development programmes when, for example:

a) women's excessive loads, especially during periods of peak labour demand, have not been considered or reduced by introducing labour-saving technology;

b) it has been assumed that an important developmental goal is to increase family income without considering how the added income is divided between the husband and wife;

c) the limited access to institutional credit and the time constraints of women, as wives, small-scale farmers and heads of household, have been neglected.

Trends in mechanization, intensification of agriculture and pricing policies have equally burdensome implications for women. Furthermore, women often have been excluded from agrarian reform de facto, if not in expressed terms. Some programmes intended to diminish land tenure inequalities have actually harmed rural households headed by women in terms of access to land and opportunities to earn income. Increased cultivation of cash crops has forced women in some areas to abandon food crops altogether.

Since 1975, when the World Conference on Women in Mexico City inaugurated the UN Decade for Women, there have been many important international and national meetings to encourage closer attention to the needs and contributions of women in development. The results of this decade of work will be assessed at Nairobi in 1985 and strategies to follow set for the year 2000.

As a consequence of these deliberations and studies related to them, the place of rural women has received more attention. Various attempts have been made to direct domestic investment and development assistance towards rural women in the form of literacy training, employment-generating projects, agricultural production and marketing help and strengthening of women's organizational skills. In addition and particularly following the 1975 and 1979 conferences on women, many national governments established women's units to promote and guide women's integration in development.

Yet rural women have received only modest gains from these efforts for the following reasons:

a) In most cases, development activities directed especially at rural women have been unsuccessful because they have taken the form of small and poorly funded projects isolated from mainstream development efforts. They have received little, if any, infrastructural or policy support. Alternatively they have taken the form of small components for women added onto, but not necessarily integrated into, larger agricultural and rural development projects. Scarcity of skilled personnel, finance and expertise has led to inadequate analysis of potential ways for women to earn more income; to project design, implementation and monitoring problems; and to less impact on subsequent plans, policies and attitudes than had been hoped.

b) In some countries newly created women's units have been located in ministries of social affairs. Only a few are to be found in planning ministries. They have often been poorly funded, have not

included technical staff knowledgeable in agricultural and/or rural development matters, and have had little if any capacity to implement projects. This has resulted in rural development plans and strategies which do not always take rural women's constraints, needs and potentials adequately into account.

c) Existing macro- and micro-level statistics on women in agriculture in each country have not been fully assembled and analysed.

d) Development planners and finance sources are still reluctant to channel assistance which is beyond the traditional sphere of home economics to women rather than to families or their male heads.

e) There are a number of problems associated with the local delivery of agricultural services such as extension and credit which still place women at a disadvantage.

Recognizing these weaknesses, the World Conference on Agrarian Reform and Rural Development (WCARRD), held by FAO in Rome in 1979, was the first major international meeting to highlight the situation of rural women. It also spelt out what governments and the international community could do. Participating governments agreed to a Plan of Action which included strong recommendations on behalf of rural women (see Annex 1). Meaningful progress in implementing this Plan of Action can be achieved only through linking efforts at policy, institutional and field levels, augmented by supportive research and improvements in basic statistics.

As part of the follow-up to WCARRD, FAO has undertaken policy missions to assist governments in their efforts to strengthen policies and practices regarding women's integration in agricultural development. The Organization has initiated projects that attempt to engage women at local levels more fully in ways to improve food production, income and the quality of rural life. FAO has also launched a series of studies to help document rural women's situations and to act as a catalyst in devising new methods of assistance. In addition, FAO is making a film on the subject of women and food security, illustrating with two countries from each developing region.

As part of these efforts of FAO, an Expert Consultation on Women and Food Production was held in Rome in 1983. It provided 17 background documents on women's diverse roles (Annex 2). Related meetings were held in Bogota, Colombia, and in Amman, Jordan, in late 1983, to discuss regional aspects of the contributions that women make to agricultural development and what can be done to promote them.

Another meeting of 38 African governments has taken place in Zimbabwe in mid-1984 on "Women in Food Production and Security". It strongly recommends that, in the interest of food security on a continent beleaguered by shortages of food, more assistance be given to expansion of the food crops for which women have major responsibility. A strong field programme is called for that will intensify existing efforts to bring integrated services to women farmers near their homes. Specific actions are recommended, covering extension and training, credit and marketing, allocation of resources, land reform and food security.

As a result of activities like these, the importance of consulting and assisting rural women is gradually becoming recognized. It is now considered appropriate for preinvestment studies and technical projects to include a preliminary survey in which information is collected on the male-female division of labour, and for the results to be used in project design and implementation.

The extent of the variation in the participation of women in agricultural and rural development - which this chapter has illustrated - calls for careful analyses that were not thought to be necessary before the Women's Decade attracted international attention to the subject. The difficulties are not past once information is in hand, however. In many instances, even projects that would be expected to have taken women's needs and roles into account, such components are modified or omitted during actual implementation. However, UN agencies are making efforts to strengthen project monitoring and evaluation regarding the integration of women. Checklists and guidelines of what to include in project preparation and how this can be done most effectively, along with case studies and training courses, are part of the lengthy process of reeducation within the development community.

Proposals for enhancing roles and wellbeing of women in agriculture include:

- creating and funding large-scale agricultural training projects attuned especially to the needs of women;

- reducing women's work load, thereby not only making agricultural projects more successful, but also improving women's health and their children's attendance at school;

- fostering women's abilities to earn their own income, an important economic incentive in the context of agricultural modernization;

- increasing access of women small-scale farmers to extension services, production credit, farming inputs, membership in cooperatives, and produce markets;

- recognizing women's involvement and/or interest in cash crops, which can promote both women's autonomy and crop production.

There is need for prompt action along the above lines if rural women are to share and contribute fully in undertakings to alleviate poverty, increase agricultural productivity and reduce food insecurity. At the same time, there is companion need that attention be given to important information gaps if progress is to be sustained, lessons not lost and efforts not wasted. A number of research subjects related to women in developing agriculture that could usefully be addressed at local levels are suggested by this chapter, among others:

- documentation and analysis of women's use of time and how new alternatives in food production, cash cropping and non-farm employment affect their opportunity costs;

- development and assessment of techniques and equipment especially suited for women's use and for saving their time in the home as well as in agriculture;

- analysis and documentation on women's situations and activities in terms of differences in socio-economic status, as the basis for orienting programmes to each group;

- studies of how households divide responsibilities, resources and income among family members; how decisions are made; and the differential effects of new agricultural opportunities on men and women in the family;

- studies on how best to make contact with rural women and what forms of organizations aimed at facilitating such contact are the most acceptable in any particular setting.

Such research need not be complex or costly. Some could be done as part of the training of future agricultural specialists, planners, and change-agents. Such inquiry and analysis based on facts drawn from farming communities themselves would represent an important step towards building agricultural development efforts around more accurate understanding and assumptions about women's situations and potentials.

Until there is more research, agricultural development has to proceed on the basis of facts already at hand, as incomplete as they may be. Certainly the evidence is already clear that a developing country must pay attention to the important place of women in developing agriculture, and that international agencies such as FAO must place priority on helping national leaders to strengthen this attention. It is hoped that this chapter--by generating greater awareness of the pivotal questions that should be addressed when embarking on projects, programmes and policies--will promote careful consideration of women's roles, access and wellbeing as an integral part of the planning and implementation process.

ANNEX 1

THE DECLARATION OF PRINCIPLES AND PROGRAMME OF OF ACTION, WCARRD, 1979

INTEGRATION OF WOMEN IN RURAL DEVELOPMENT

Recognition of the vital role of women in socio-economic life in both agricultural and non-agricultural activities, in accordance with the goals of the United Nations Decade for Women, is a prerequisite for successful rural development planning and programme implementation. Rural development based on growth with equity will require full integration of women, including equitable access to land, water, other natural resources, inputs and services and equal opportunity to develop and employ their skills. There is also an urgent need to expand knowledge and statistical data on all aspects of women's roles in rural activities and to disseminate this information in order to promote greater awareness of women's role in society.

Governments should consider action to:

A. Equality of Legal Status

(i) Repeal those laws which discriminate against women in respect of rights of inheritance, ownership and control of property, and promote understanding of the need for such measures.

(ii) Promote ownership rights for women, including joint ownership and co-ownership of land in entirety, to give women producers with absentee husbands effective legal rights to take decisions on the land they manage.

(iii) Adopt measures to ensure women equitable access to land, livestock and other productive assets.

(iv) Repeal laws and regulations which inhibit effective participation by women in economic transactions and in the planning, implementation and evaluation of rural development programmes.

(v) Ensure full membership and equal voting rights for women in people's organizations such as tenants' associations, labour unions, cooperatives, credit unions and organizations of the beneficiaries of land reform and other rural development programmes.

B. Women's Access to Rural Services

(i) Provide agricultural inputs and social and economic services to women through non-discriminatory access to existing delivery systems.

(ii) Establish special recruitment and training schemes to increase the number of women in the training and extension programmes of development agencies at all levels, including professional fields from which women have been traditionally excluded.

(iii) Broaden the range of agricultural training and extension programmes to support women's roles in activities of agricultural production, processing, preservation and marketing.

C. Women's Organization and Participation

(i) Promote collective action and organization by rural women to facilitate their participation in the full range of public services and to enhance their opportunities to participate in economic, political and social activities on an equal footing with men.

(ii) With the involvement of women's organizations, establish systems to identify and evaluate obstacles to women's participation and to monitor progress and coordinate action, especially with regard to agricultural services, educational services and school enrolment, employment wages, health and other social services.

(iii) Revise procedures for the collection and presentation of statistical data for the identification, recognition and appreciation of the participation of women in productive activities.

(iv) Promote research and exchange of information as well as establish and strengthen programmes to facilitate and ease the burden of women's household work (such as day care centres) in order to permit their greater participation in economic, educational and political activities. Also promote understanding of men's responsibilities to share household duties.

D. Education and and Employment Opportunities

(i) Ensure educational opportunities of similar quality and content for both sexes and provide special incentives such as reduced fees for increased enrolment of girls and women in schools and training programmes.

(ii) Promote income-generating opportunities for women and guarantee equal wage rates for men and women for work of equal value.

(iii) Establish and strengthen non-formal educational opportunities for rural women, including leadership training, instruction in agricultural as well as non-farm activities, health care, upbringing of children, family planning and nutrition.

(iv) Evaluate and take steps to minimize the possible negative effects on women's employment and income arising from changes in traditional economic patterns and the introduction of new technology.

Source: FAO, "The Peasants' Charter, The Declaration of Principles and Programme of Action", WCARRD, Rome 1981, pp. 15-17.

ANNEX 2

FAO PUBLICATIONS ON WOMEN IN AGRICULTURE

1. New Publications Series on 'Women in Agriculture'

1.1 Women in Agricultural Production (paper initially prepared as FAO, 1982).

1.2 Women in Rice Farming Systems with a Focus on Africa (Paper initially prepared for an International conference organized by IRRI, the Philippines, October 1983.)

1.3 Women in Food Production and Food Security (Paper initially prepared by J. Dey for Governmental Regional Consultation on Women in Food Production and Food Security, Harare, Zimbabwe, July 1984.)

1.4 Some Considerations for Future Action Regarding Women in Food Production and Food Security (Paper prepared for the Governmental Regional Consultation on Women in Food Production and Food Security, Harare, Zimbabwe, July 1984.)

1.5 Chapter on Women in Agriculture prepared by Safilios-Rothschild, part of the World Survey on the Role of Women in Development.

2. Other Publications

2.1 Report of the Expert Consultation on Women in Food Production, Rome, 7-14 December 1983.

2.2 Background papers prepared for the above Expert Consultation:

2.2.1 The Role of Women in Agricultual Production (Paper prepared for the Committee on Agriculture (COAG), 1983.)

2.2.2 Women in Coarse Grain Production

2.2.3 Women in Roots and Tuber Production

2.2.4 Women in Horticulture Production

2.2.5 Women in Rice Farming Systems with a Focus on Africa (Paper prepared for IFPRI conference, 1983.)

2.2.6 Women in Sheep and Goat Production and Marketing

2.2.7 Women in Small Animal Production (Ruminants)

2.2.8 Women in Livestock Production with Particular Reference to Dairy Production

2.2.9 Work Patterns of Women in Food Production

2.2.10 Appropriate Technology for Women in Food Production

2.2.11 Agricultural Extension and Training for Rural Women

2.2.12 Promoting the Participation of Women in Food Marketing and Credit

2.2.13 Women in Statistics

2.3 Integrating Women in Agricultural Projects: Case Studies of ten FAO-Assisted Field Projects, prepared by Alice Carloni.

2.4 An Assessment of Rural Women's Existing and Potential Involvement in FAO-Assisted Field Projects in Nepal, prepared by Bina Pradhan.

2.5 Women in Agricultural Cooperatives, Constraints and Limitations to Full Participation, prepared by G.N. Lamming.

2.6 Social Impact Analysis: A Model and Strategy for Implementation in Development Assistance, by Constantina Safilios-Rothschild.

2.7 Information Note on Women in Agriculture.

2.8 Women Food Chains and Agrarian Reform by I. Palmer.

2.9 Background papers prepared for the consultations held in Colombia and Jordan in 1983 (see FAO 1983a and FAO 1983b in Reference List).

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ANNEX TABLES

ANNEX TABLE 1. VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
WORLD												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	1272077	1380844	1341932	1374554	1481232	1471720	1602760	1555661	1566247	1651020	1707006	2.74
WHEAT	348305	376205	364218	360222	425752	387580	451296	429276	446448	453753	485715	3.17
RICE PADDY	308001	335977	332971	358692	350415	371555	387298	376968	399324	410972	424420	2.91
BARLEY	135489	151040	152691	137900	172168	160272	179666	158201	159769	154274	160114	1.26
MAIZE	309019	326873	310131	344886	351420	371617	394215	419775	396638	450648	452663	4.12
MILLET AND SORGHUM	80494	96003	86835	89926	91069	94508	96409	92983	83501	101891	98639	1.15
ROOT CROPS	526312	566689	551049	542516	546814	568419	596062	584124	530702	551516	554893	.25
POTATOES	261916	293915	273155	260831	264195	268250	278900	288432	230367	258225	255829	- .81
CASSAVA	99867	100479	103480	108215	110782	115235	122094	116792	120574	127270	129614	2.73
TOTAL PULSES	41678	42155	42358	39736	44656	42367	44164	40547	40360	42471	43875	.16
CITRUS FRUIT	41754	45201	46090	47869	48627	51084	49673	50960	56066	56048	54224	2.67
BANANAS	31819	32492	33065	32881	34984	36559	37346	37190	39589	40691	40743	2.75
APPLES	25596	29805	28323	31920	32215	30563	32429	36363	33739	33381	40197	3.24
VEGETABLE OILS,OIL EQUIV	156944	170239	163819	180807	171776	195487	201901	217298	209442	224445	238016	4.13
SOYBEANS	47788	58191	52572	64418	57361	73793	75328	88934	80800	88516	93122	6.78
GROUNDNUTS IN SHELL	15728	16615	17051	18856	17056	17303	18228	18155	16927	21111	18912	1.69
SUNFLOWER SEED	9607	12080	10992	9628	10300	12163	13184	15344	13506	14253	16311	4.75
RAPESEED	6767	7204	7171	8644	7606	7915	10570	10544	10606	12035	15073	7.50
COTTONSEED	24614	25696	26136	22658	22075	25655	24363	26409	26590	28679	28114	1.43
COPRA	4552	3886	3481	4563	5285	4743	4885	4281	4505	4719	4879	1.55
PALM KERNELS	1221	1189	1368	1394	1420	1495	1426	1695	1826	1883	2228	5.71
SUGAR (CENTRIFUGAL,RAW)	71718	76443	75762	79213	83558	89758	90487	88580	83904	92754	101523	2.88
COFFEE GREEN	4572	4199	4754	4601	3552	4416	4812	5028	4777	6080	4885	2.12
COCOA BEANS	1512	1403	1553	1556	1347	1438	1475	1669	1616	1676	1586	1.19
TEA	1395	1454	1489	1552	1589	1747	1793	1820	1860	1863	1938	3.46
COTTON LINT	13429	14015	13982	12336	11950	13978	13252	13944	13936	15288	14916	1.11
JUTE AND SIMILAR FIBRES	3495	3852	3041	3127	3379	3741	4529	4466	4039	4082	4025	2.57
SISAL	672	639	693	618	425	457	405	426	449	429	434	- 5.20
TOBACCO	4859	4952	5291	5422	5701	5552	5982	5416	5283	5961	6856	2.30
NATURAL RUBBER	3052	3469	3443	3566	3801	3642	3713	3887	3752	3749	3743	1.59
TOTAL MEAT	111526	112694	119141	121388	124831	129624	133676	137435	140961	143232	144611	2.84
TOTAL MILK	409664	416483	425116	430160	438758	451676	459187	465444	471380	473533	484405	1.71
TOTAL EGGS	22789	22951	23618	24360	24795	25780	27046	27948	28853	29773	30435	3.19
WOOL GREASY	2801	2651	2624	2722	2676	2655	2648	2705	2775	2828	2857	.46
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	7007	7312	7292	7492	7293	7508	7460	7729	8061	8683	8870	2.07
MARINE FISH	48980	48956	52797	51872	55060	53220	54772	55034	55383	57297	57362	1.54
CRUST+ MOLLUS+ CEPHALOP	5966	6128	6267	6660	7013	7566	7839	8151	8597	8670	8762	4.44
AQUATIC MAMMALS	17	11	11	12	13	11	11	20	20	17	17	4.03
AQUATIC ANIMALS	154	257	139	138	143	231	215	207	148	167	198	.87
AQUATIC PLANTS	2268	2311	2625	2479	2534	3093	3196	3149	3243	2582		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	565000	589834	566038	542507	597321	612635	629067	635273	609298	577119	557052	.39
SAWLOGS NONCONIFEROUS	222391	240505	229414	213855	232463	241246	251514	250653	256680	241942	225782	.76
PULPWOOD+PARTICLES	303542	326171	358182	322668	323349	315612	332012	356501	371629	382395	368483	1.78
FUELWOOD	1192690	1204078	1235970	1260265	1292145	1303123	1340594	1392216	1446825	1486395	1512200	2.52
SAWNWOOD CONIFEROUS	332485	339047	321529	306781	329481	338981	342371	338765	324763	304632	295104	- .67
SAWNWOOD NONCONIFEROUS	97953	101853	100742	96876	103180	103174	105847	109455	113408	109964	101189	1.00
WOOD-BASED PANELS	87481	95268	88064	84484	95357	101613	104336	106135	101279	99428	94118	1.38
PULP FOR PAPER	103001	109310	112434	98104	110521	111992	116632	118654	121316	122021	116193	1.56
PAPER+PAPERBOARD	137582	147118	149356	130709	147265	151895	158178	170447	172301	172471	165360	2.38
WESTERN EUROPE												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	147969	150821	158844	146859	142300	153341	168161	164316	176792	165625	180298	1.90
WHEAT	56002	55535	62735	52959	57132	53568	63903	60251	69854	65174	73340	2.47
RICE PADDY	1411	1784	1729	1703	1533	1322	1650	1834	1706	1586	1669	.50
BARLEY	44117	45046	47514	45665	42575	51206	55362	52811	56842	50518	53326	2.30
MAIZE	25442	28940	26299	27412	24098	29598	28202	32360	31092	32254	35389	2.83
MILLET AND SORGHUM	453	523	497	498	475	602	761	642	613	599	512	2.55
ROOT CROPS	56449	56385	58565	47536	45123	55026	53123	51945	49103	48537	48426	- 1.40
POTATOES	56302	56245	58421	47397	44972	54875	52979	51800	48953	48387	48281	- 1.41
TOTAL PULSES	2035	1958	2054	1899	1568	1672	1786	1791	1875	1751	1919	- .91
CITRUS FRUIT	6480	6537	6666	6737	6802	6670	6213	6402	6454	6716	6522	- .14
BANANAS	406	480	426	385	362	422	430	435	512	516	489	2.00
APPLES	8959	11591	9908	11473	10200	7695	10637	10636	10651	8514	12541	.51
VEGETABLE OILS,OIL EQUIV	8586	9344	8594	10310	8131	10260	10445	10061	12212	10612	13231	3.63

1/ NOMINAL CATCH (LIVE WEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 1. VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
SOYBEANS	9	26	59	47	58	78	85	102	66	118	237	25.36
GROUNDNUTS IN SHELL	16	18	16	19	17	19	20	21	19	15	16	.06
SUNFLOWER SEED	666	842	692	858	774	1011	1150	1276	1124	1138	1601	7.77
RAPESEED	1462	1456	1611	1338	1388	1329	1729	1696	2536	2524	3255	7.80
COTTONSEED	379	333	365	335	303	341	329	271	307	345	292	- 1.83
SUGAR (CENTRIFUGAL,RAW)	11606	12262	11181	12918	13802	15428	15583	15738	15733	19054	17962	5.12
COTTON LINT	192	171	187	169	152	178	170	142	176	196	161	- .68
TOBACCO	333	350	329	401	446	391	409	440	401	428	438	2.64
TOTAL MEAT	22680	23260	25205	25159	25656	26320	27225	28472	29364	29630	29811	2.86
TOTAL MILK	122551	124312	125486	126660	129261	132259	136902	139060	143011	143735	147345	1.96
TOTAL EGGS	4956	4857	4891	5019	5081	5154	5270	5321	5379	5479	5613	1.41
WOOL GREASY	160	163	167	150	154	152	157	156	159	157	162	- .14
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	162	169	178	181	182	182	197	205	256	251	248	4.78
MARINE FISH	10026	10161	10142	9777	10880	10931	10261	10027	9949	10001	9316	- .45
CRUST+ MOLLUS+ CEPHALOP	961	1013	970	1034	960	967	975	931	1036	1042	1067	.58
AQUATIC MAMMALS	7	6	5	7	7	8	8	17	18	17	17	13.36
AQUATIC ANIMALS	2	5	5	2	4	3	5	2	1	1	2	-11.30
AQUATIC PLANTS	251	230	262	226	210	274	280	272	245	206	161	- 1.97
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	85502	96406	93756	74687	83972	87161	89561	96073	97381	89723	87610	.47
SAWLOGS NONCONIFEROUS	22507	24973	23341	20797	20736	21885	24084	23882	24240	23828	20821	- .09
PULPWOOD+PARTICLES	77170	78597	88077	86604	79816	73403	75913	83932	83788	86571	84089	.50
FUELWOOD	42338	38605	37713	36264	36247	34687	33285	34739	36353	37839	38021	- .81
SAWNWOOD CONIFEROUS	49779	53441	51772	42943	47397	49022	48776	53617	54880	50554	49979	.41
SAWNWOOD NONCONIFEROUS	12499	13173	12323	10525	11656	12385	12568	12724	12437	11528	11315	- .50
WOOD-BASED PANELS	22404	25370	24365	22713	25170	25157	25546	26585	26759	25704	24240	.97
PULP FOR PAPER	23914	25780	26389	22255	23147	22437	24214	26038	26022	25977	24465	.42
PAPER+PAPERBOARD	36686	40032	41271	33366	38628	39230	41472	45174	44736	44743	43384	2.02
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	235182	287585	263337	208405	293809	266074	312702	250985	264190	234652	261323	-.14
WHEAT	111857	136681	111876	90542	126017	121253	151590	113566	127692	106347	116700	.22
RICE PADDY	1826	1961	2092	2228	2126	2381	2269	2584	2937	2579	2690	4.09
BARLEY	47886	66993	68374	49605	83290	67038	78108	62927	59219	54313	57382	.04
MAIZE	29089	29998	28246	27736	30909	30955	29062	32920	30695	30435	37399	1.69
MILLET AND SORGHUM	2229	4573	3180	1330	3514	2231	2408	1744	2077	1685	2209	- 4.58
ROOT CROPS	149907	181029	153757	151145	152736	145232	154405	163116	111272	135404	130596	- 2.39
POTATOES	149904	181025	153754	151141	152734	145229	154403	163113	111270	135400	130591	- 2.39
TOTAL PULSES	7917	9202	9588	6149	9328	8231	8620	5052	7132	6456	7328	- 2.84
CITRUS FRUIT	56	58	127	160	134	234	204	340	160	314	284	17.23
APPLES	6934	8196	7348	8744	10436	10946	8967	11301	8565	9998	12753	4.33
VEGETABLE OILS,OIL EQUIV	13113	16067	15597	14316	14837	15552	15050	15083	15309	15055	15781	.66
SOYBEANS	457	711	710	1111	834	862	1012	1042	1118	907	1101	6.37
GROUNDNUTS IN SHELL	3	3	3	5	4	4	5	6	7	9	8	11.88
SUNFLOWER SEED	6546	8768	7983	6340	6665	7393	6793	7208	6333	6643	7347	- .86
RAPESEED	834	966	983	1312	1531	1285	1306	574	1226	1097	1084	.61
COTTONSEED	4495	4714	5170	4863	5066	5366	5210	5615	6100	5903	5689	2.66
SUGAR (CENTRIFUGAL,RAW)	12746	13758	11817	12112	11597	13881	13641	12406	10974	10956	11816	- 1.18
TEA	71	75	81	86	92	106	111	118	130	137	140	7.57
COTTON LINT	2382	2496	2497	2667	2597	2709	2744	2514	2816	2907	2801	1.57
JUTE AND SIMILAR FIBRES	56	45	39	36	49	47	44	48	52	45	50	.68
TOBACCO	611	616	606	646	712	608	567	627	546	576	624	- .70
TOTAL MEAT	21182	21487	23278	24095	22257	23820	25036	25240	25091	24840	24967	1.68
TOTAL MILK	119030	125537	129963	128588	127514	134505	135208	133855	131396	127763	130212	.63
TOTAL EGGS	4105	4341	4642	4825	4769	5174	5397	5486	5605	5808	5829	3.58
WOOL GREASY	513	527	558	566	534	567	578	573	559	574	567	.87
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	1177	1201	1072	1339	1068	1089	1037	1137	1078	1122	1183	- .53
MARINE FISH	7597	8505	9393	9997	10333	9226	8723	8621	9062	9117	9289	.65
CRUST+ MOLLUS+ CEPHALOP	102	105	131	158	109	248	218	437	565	540	732	23.86
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	167416	164877	163360	171306	166669	164533	158643	154849	155724	155698	155820	- .89
SAWLOGS NONCONIFEROUS	35650	35065	34896	36349	35247	35079	34599	33545	33594	33619	33678	- .68
PULPWOOD+PARTICLES	47240	59446	62358	58856	57328	57068	55829	55277	55992	55666	57243	.20
FUELWOOD	101333	98240	98601	95793	96373	94107	91309	90531	91647	95725	96072	- .69

1/ NOMINAL CATCH (LIVE WEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 1. VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	.....	.....	.....	.....	....THOUSAND METRIC TONS....	.....	.....	.....	.....	.....	.....	PERCENT
SAWNWOOD CONIFEROUS	119356	117331	116371	117612	114640	110966	108612	102829	101494	100809	98602	- 2.06
SAWNWOOD NONCONIFEROUS	20772	20524	20382	20492	20031	19551	19365	18638	18260	18269	17906	- 1.59
WOOD-BASED PANELS	11242	12474	13690	14853	15523	16518	17095	17005	17464	17544	17820	4.43
PULP FOR PAPER	9048	9456	10192	10546	11129	11348	11654	11041	11192	11340	11490	2.15
PAPER+PAPERBOARD	11648	12287	12814	13495	14079	14428	14520	13989	14293	14418	14479	1.98
NORTH AMERICA DEVELOPED												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	263644	274332	235557	286555	303112	308372	318611	339036	311293	384633	392835	4.24
WHEAT	56596	62720	61800	74967	82068	75529	69459	75277	83911	100972	103233	5.29
RICE PADDY	3875	4208	5098	5826	5246	4501	6040	5985	6629	8289	6995	6.23
BARLEY	20466	19312	15293	17765	18852	21115	20298	16813	19253	24160	25447	2.43
MAIZE	144262	146845	122040	152006	163511	169484	189093	206931	174540	215004	219814	5.10
MILLET AND SORGHUM	20355	23451	15817	19161	18055	19837	18575	20546	14712	22333	21364	
ROOT CROPS	15869	16220	18652	17398	19176	19186	19728	18897	16708	18622	19409	1.30
POTATOES	15312	15665	18042	16810	18570	18642	19129	18288	16208	18041	18757	1.33
TOTAL PULSES	1115	1015	1303	1146	1115	948	1303	1294	1659	1924	1623	5.18
CITRUS FRUIT	11031	12604	12167	13237	13415	13827	12932	12092	14954	13703	10888	.61
BANANAS	3	3	3	3	2	3	3	3	2	3	3	- 1.95
APPLES	3059	3216	3391	3876	3345	3468	3898	4129	4557	3934	4156	3.24
VEGETABLE OILS,OIL EQUIV	44210	51539	41664	50736	42721	60074	63695	77915	59870	67698	73614	5.59
SOYBEANS	34956	42514	33383	42507	35293	48678	51382	62383	49385	55043	61535	5.78
GROUNDNUTS IN SHELL	1485	1576	1664	1745	1696	1690	1793	1800	1044	1806	1560	- .44
SUNFLOWER SEED	411	394	298	574	487	1409	1937	3627	1916	2263	2583	27.62
RAPESEED	1300	1207	1164	1840	838	1974	3498	3412	2484	1838	2247	8.87
COTTONSEED	4892	4550	4091	2919	3739	5009	3873	5242	4056	5803	4304	1.38
SUGAR (CENTRIFUGAL,RAW)	5898	5329	5048	6443	6170	5403	5482	5167	5438	5784	5366	- .44
COFFEE GREEN	1	1	1	1	1	1	1	1	1	1		- 6.60
COTTON LINT	2984	2825	2513	1807	2304	3133	2364	3185	2422	3406	2605	1.02
TOBACCO	878	907	1019	1096	1051	973	1034	771	918	1047	967	.02
TOTAL MEAT	23987	23011	24493	23878	25825	26018	25867	26137	26990	27391	26835	1.59
TOTAL MILK	62468	60052	60062	60095	62205	63384	62716	63530	66153	68339	69854	1.36
TOTAL EGGS	4404	4214	4191	4128	4115	4125	4276	4417	4448	4473	4456	.59
WOOL GREASY	81	73	65	55	51	50	48	49	49	51	49	- 4.56
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	319	338	309	264	328	356	396	433	476	502	486	5.78
MARINE FISH	2488	2485	2449	2491	2685	2507	2964	3040	3075	3104	3503	3.50
CRUST+ MOLLUS+ CEPHALOP	1022	1013	1057	1075	1130	1272	1347	1376	1350	1558	1378	4.30
AQUATIC ANIMALS	2	4	6	6	9	9	11	10	2	2	10	3.99
AQUATIC PLANTS	182	180	224	198	189	195	196	195	191	78	103	- 5.84
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	239166	255365	237683	222108	267372	278553	299879	298266	260961	242780	224700	.43
SAWLOGS NONCONIFEROUS	41002	41472	37932	32125	34953	36846	40908	42727	43206	40240	30195	- .48
PULPWOOD+PARTICLES	142366	149291	165000	132931	139779	136788	146956	157282	166323	175915	163620	1.62
FUELWOOD	18693	19551	20419	21790	22842	34520	49985	69950	93881	104445	104445	23.25
SAWNWOOD CONIFEROUS	104867	109561	96191	87609	106334	113629	116369	113841	100326	92422	85682	- .86
SAWNWOOD NONCONIFEROUS	17346	17896	17626	14831	16373	16614	17282	18432	18650	17087	12391	- 1.09
WOOD-BASED PANELS	34656	36275	31038	28739	33860	37274	37288	36649	31026	30937	26284	- 1.30
PULP FOR PAPER	55448	58004	59139	49977	59449	60716	63280	63106	64443	65289	60800	1.58
PAPER+PAPERBOARD	62859	64974	64617	54963	62913	64946	66682	72393	72847	74066	67471	1.69
OCEANIA DEVELOPED												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	11672	17795	16974	18419	18374	15312	26084	24140	17132	24528	15034	3.20
WHEAT	6979	12363	11572	12162	12213	9724	18415	16483	11162	16686	9222	3.24
RICE PADDY	248	309	409	388	417	530	490	692	613	760	857	11.86
BARLEY	2062	2655	2755	3442	3132	2655	4265	3967	2910	3721	2205	2.24
MAIZE	330	257	194	291	316	355	305	348	307	325	427	3.64
MILLET AND SORGHUM	1254	1044	1096	923	1151	975	747	1162	936	1231	1350	.53
ROOT CROPS	1074	1003	870	977	953	1008	1027	1012	1091	1089	1151	1.37
POTATOES	1064	991	857	967	945	999	1010	1001	1071	1075	1132	1.31
TOTAL PULSES	129	93	127	157	189	106	120	175	209	225	321	8.87
CITRUS FRUIT	435	401	434	458	428	461	496	510	566	506	544	2.96
BANANAS	124	125	118	103	115	98	113	125	124	129	145	1.33
APPLES	510	574	487	527	447	447	444	525	510	529	522	- .07
VEGETABLE OILS,OIL EQUIV	355	278	308	332	246	289	455	522	437	464	493	5.85
SOYBEANS	34	38	64	74	45	55	77	99	82	73	79	8.30
GROUNDNUTS IN SHELL	46	38	29	32	35	32	39	62	39	43	57	3.51

1/ NOMINAL CATCH (LIVE WEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 1. VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	.....	.....	.....	.....	THOUSAND METRIC TONS	.....	.....	.....	.....	.....	.....	PERCENT
SUNFLOWER SEED	148	102	84	113	80	75	158	186	142	139	120	3.15
RAPESEED	25	11	9	12	9	16	24	41	18	15	6	- .23
COTTONSEED	73	53	50	54	41	46	72	79	136	161	219	13.90
SUGAR (CENTRIFUGAL,RAW)	2835	2526	2848	2855	3296	3318	2902	2963	3329	3434	3535	2.53
COTTON LINT	44	31	31	33	25	28	44	53	83	99	134	14.34
TOBACCO	19	20	20	18	18	19	19	18	18	17	15	- 2.07
TOTAL MEAT	3568	3646	3189	3522	4032	4091	4302	4098	3802	3855	3898	1.43
TOTAL MILK	13540	13237	12654	12773	12984	12582	11724	12202	12248	11885	11989	- 1.20
TOTAL EGGS	267	265	259	268	263	264	274	268	269	288	270	.51
WOOL GREASY	1202	1044	986	1088	1066	1005	988	1025	1066	1082	1080	- .32
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	4	4	4	5	4	5	5	5	4	3	1	- 6.51
MARINE FISH	93	116	122	97	110	131	146	152	150	149	136	4.37
CRUST+ MOLLUS+ CEPHALOP	79	70	77	70	72	74	72	83	77	85	88	1.48
AQUATIC PLANTS	6	6	4		1							
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	7912	8339	6537	6356	7595	7178	6913	7021	8443	8607	8363	1.17
SAWLOGS NONCONIFEROUS	6984	6902	7240	6490	6631	6518	6336	5846	5881	6077	5721	- 2.14
PULPWOOD+PARTICLES	3640	5374	5006	7613	7191	8596	8335	8330	9890	10177	9499	9.24
FUELWOOD	1420	1171	1490	1501	1496	1505	1501	1312	1323	1677	1978	2.27
SAWNWOOD CONIFEROUS	2515	2836	2882	2821	3067	2917	2559	2743	3101	3370	3414	2.02
SAWNWOOD NONCONIFEROUS	2497	2482	2533	2505	2430	2340	2063	1986	4096	2145	2013	- .77
WOOD-BASED PANELS	748	933	988	920	1054	1043	1059	1073	1166	1215	1240	4.08
PULP FOR PAPER	1127	1326	1505	1524	1660	1712	1695	1693	1819	1908	1887	4.49
PAPER+PAPERBOARD	1546	1686	1732	1697	1761	1890	1867	1942	2104	2151	2197	3.37
AFRICA DEVELOPING												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	45607	39811	45831	47216	49300	44648	48403	46372	48511	47820	49236	1.13
WHEAT	5878	4672	4944	5555	5695	3821	4726	4600	5283	4254	5279	- 1.15
RICE PADDY	4806	4977	5376	5553	5504	5492	5608	5779	6082	6133	6195	2.37
BARLEY	4133	2634	3669	3324	4699	2468	3894	3752	4486	2914	4393	1.25
MAIZE	14135	12095	14417	15546	15849	15499	15694	13980	13801	15268	14853	.75
MILLET AND SORGHUM	15293	13974	16015	16105	16211	16173	17194	16867	17069	17667	17090	1.68
ROOT CROPS	68183	70361	73216	75572	76036	75879	77141	78399	80753	81645	84798	1.90
POTATOES	2080	2211	2357	2541	2709	2697	2974	2974	3129	2842	3345	4.31
CASSAVA	39237	39964	41341	43333	43467	43768	44231	45035	46808	47748	49494	2.15
TOTAL PULSES	4308	4108	4502	4773	5037	4402	4790	4961	4763	4825	5168	1.60
CITRUS FRUIT	2427	2613	2634	2415	2392	2484	2694	2488	2609	2525	2485	.12
BANANAS	3334	3502	3805	3743	3968	3949	3996	4001	4045	4122	4114	1.86
APPLES	46	50	52	59	56	61	61	64	73	79	77	5.26
VEGETABLE OILS,OIL EQUIV	10424	10163	10817	11410	11062	9904	10179	10214	10530	10623	10991	.05
SOYBEANS	95	98	99	112	132	147	151	182	198	215	208	9.76
GROUNDNUTS IN SHELL	4113	3464	4083	4255	4492	3274	3749	3458	3249	3875	3989	- .89
SUNFLOWER SEED	79	78	84	100	124	148	156	149	135	132	136	6.84
RAPESEED	21	21	21	21	22	22	22	21	22	22	22	.37
COTTONSEED	1047	1014	977	866	929	944	926	906	950	889	895	- 1.18
COPRA	143	152	149	145	165	157	159	167	168	172	174	1.89
PALM KERNELS	691	637	744	730	706	701	600	707	743	749	754	.78
SUGAR (CENTRIFUGAL,RAW)	2890	2913	2945	2842	3108	3083	3336	3533	3540	3746	3999	3.41
COFFEE GREEN	1296	1385	1253	1302	1187	1238	1084	1172	1146	1307	1227	- .97
COCOA BEANS	1037	965	1021	998	854	917	890	1025	981	1052	870	- .51
TEA	150	155	151	152	157	192	202	202	191	193	218	3.97
COTTON LINT	543	535	520	467	503	510	503	490	524	485	489	- .73
JUTE AND SIMILAR FIBRES	12	12	11	11	8	7	8	8	8	8	9	- 4.11
SISAL	332	330	350	260	223	204	175	169	180	163	157	- 8.42
TOBACCO	186	189	195	221	249	229	226	259	274	214	251	2.99
NATURAL RUBBER	222	229	234	222	204	206	196	198	191	190	187	- 2.23
TOTAL MEAT	3710	3698	3702	3818	3963	4174	4361	4489	4615	4693	4727	2.99
TOTAL MILK	6369	6248	6220	6561	6780	7049	7361	7578	7502	7653	8042	2.68
TOTAL EGGS	408	419	438	465	502	530	555	593	627	662	713	5.87
WOOL GREASY	69	75	72	72	76	67	69	70	73	74	73	.11
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	1219	1259	1249	1288	1342	1406	1363	1343	1302	1289	1256	.42
MARINE FISH	1954	1982	1841	1586	1547	1569	1623	1525	1551	1662	1475	- 2.38
CRUST+ MOLLUS+ CEPHALOP	45	46	56	56	62	56	66	66	89	83	75	6.23
AQUATIC ANIMALS	1	1	1	1	1	1	1	1	1	1		- 8.77
AQUATIC PLANTS	6	7	5	6	51	5	5	5	5	5		

1/ NOMINAL CATCH (LIVE WEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 1. VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	1014	1042	1087	1030	1137	1292	1260	1032	1336	1376	1548	3.66
SAWLOGS NONCONIFEROUS	14982	16703	14409	13707	15513	16474	17240	17974	19448	18398	18158	2.67
PULPWOOD+PARTICLES	1428	1375	1498	2137	2213	2255	2642	2171	2002	2018	2055	4.11
FUELWOOD	247045	254628	261458	268785	276424	286380	294657	303424	312787	321682	330659	2.99
SAWNWOOD CONIFEROUS	409	403	429	445	506	543	475	510	527	591	622	4.13
SAWNWOOD NONCONIFEROUS	2585	3047	3390	3533	3461	3667	4410	4547	5401	5343	5436	7.65
WOOD-BASED PANELS	695	776	796	648	740	824	846	868	900	836	871	2.31
PULP FOR PAPER	211	244	251	262	292	278	300	354	645	678	682	12.98
PAPER+PAPERBOARD	184	186	195	218	219	265	283	346	352	356	359	8.42
LATIN AMERICA												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	67915	74845	78410	80552	86258	86095	85152	83983	88588	104311	108060	3.78
WHEAT	12433	12094	13474	14971	19336	11540	14969	15083	14842	14965	22807	3.64
RICE PADDY	10928	11803	12242	14041	15416	15104	13427	14427	16400	15656	17632	4.00
BARLEY	1778	1665	1249	1556	1883	1376	1716	1330	1395	1275	1227	- 2.69
MAIZE	35134	37821	39580	38274	37389	43730	40152	40047	45255	55415	50301	3.60
MILLET AND SORGHUM	6035	9891	10780	10510	10984	13216	13568	11887	9626	16005	14885	6.14
ROOT CROPS	48857	45131	45111	45725	45182	46006	46296	45444	43801	46584	45835	- .24
POTATOES	8385	8585	9969	9260	9741	10103	10903	10987	10351	11846	11505	3.17
CASSAVA	35528	31988	30928	32106	31325	31965	31579	30935	29905	31148	30598	- .92
TOTAL PULSES	4891	4547	4642	4712	3913	4609	4722	4571	4466	5565	5783	1.52
CITRUS FRUIT	9317	10597	11272	11886	12793	13421	13823	14536	17148	17940	18335	6.79
BANANAS	17451	17337	17404	17029	17657	18394	18138	17404	18626	18889	19248	1.01
APPLES	978	680	1297	1090	1198	1319	1449	1671	1648	1734	1720	7.87
VEGETABLE OILS,OIL EQUIV	13525	15716	18971	20293	21507	25277	23648	26445	30299	29920	28934	7.94
SOYBEANS	3886	6100	9180	11410	12643	14960	12927	15458	19804	20332	18517	15.19
GROUNDNUTS IN SHELL	1445	1244	979	1049	1058	1157	1012	1385	1055	897	873	- 2.77
SUNFLOWER SEED	923	970	1033	804	1192	955	1717	1550	1777	1358	2095	8.28
RAPESEED	85	46	41	68	111	91	61	75	96	64	32	- 1.29
COTTONSEED	2953	3246	3428	2771	2352	3369	3220	3123	2924	2822	2547	- 1.10
COPRA	236	232	220	224	229	232	236	214	235	232	189	- .90
PALM KERNELS	279	277	289	275	297	311	298	324	326	329	319	1.86
SUGAR (CENTRIFUGAL,RAW)	21032	23281	24488	23793	25947	27256	26933	26337	26411	27121	29036	2.48
COFFEE GREEN	2909	2446	3136	2858	1914	2676	3100	3256	2953	4090	2949	2.47
COCOA BEANS	431	397	476	497	433	459	519	573	552	530	615	3.57
TEA	41	40	44	51	44	52	39	44	51	39	50	.86
COTTON LINT	1661	1839	1954	1565	1341	1894	1809	1731	1611	1572	1387	- 1.45
JUTE AND SIMILAR FIBRES	81	113	90	108	127	114	100	108	107	123	89	1.00
SISAL	328	293	324	341	187	241	218	246	257	259	269	- 2.40
TOBACCO	573	567	670	676	727	740	768	797	715	683	740	2.39
NATURAL RUBBER	32	28	24	25	26	30	31	33	36	38	41	4.06
TOTAL MEAT	10625	10831	11120	11738	12529	13168	13685	13785	14203	14782	14945	3.79
TOTAL MILK	27081	27241	28915	31112	32893	32225	33233	34348	34221	34983	35517	2.83
TOTAL EGGS	1572	1621	1657	1792	1889	1997	2204	2401	2597	2731	2732	6.51
WOOL GREASY	309	303	300	300	298	315	300	303	308	314	318	.34
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	199	200	254	269	243	267	295	262	325	393	391	6.53
MARINE FISH	6843	4558	6801	5932	7521	6079	7990	9108	8668	9480	9790	5.96
CRUST+ MOLLUS+ CEPHALOP	455	436	418	425	486	472	575	633	534	517	472	2.35
AQUATIC ANIMALS	60	49	38	51	25	61	52	54	66	49	36	- .06
AQUATIC PLANTS	79	81	90	80	92	112	90	128	124	162	30	- .22
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	16815	16359	16315	19171	21677	23841	22869	25673	31933	26207	25727	6.24
SAWLOGS NONCONIFEROUS	18706	19522	19933	21948	23044	23700	23913	26290	29194	28173	27518	4.59
PULPWOOD+PARTICLES	9056	9080	9866	11556	12913	13667	19804	26631	29264	29076	28697	15.43
FUELWOOD	164844	169335	173797	178202	182806	187105	192217	198676	202727	207105	212043	2.57
SAWNWOOD CONIFEROUS	7692	7063	7430	9059	9748	10541	11289	12149	11538	11486	10618	5.23
SAWNWOOD NONCONIFEROUS	8110	8477	8807	9747	10854	11725	11770	12339	13737	14497	13841	6.29
WOOD-BASED PANELS	2400	2536	2629	2795	3132	3377	3521	3748	4398	4511	4549	7.30
PULP FOR PAPER	1977	2185	2423	2310	2713	3081	3535	3710	4605	4469	4527	9.66
PAPER+PAPERBOARD	4246	4700	5229	4818	5300	5536	6247	6994	7727	7434	7697	6.46
NEAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	46860	40613	44469	51483	56109	51499	53952	55903	56367	59275	56803	3.06
WHEAT	25961	21230	24353	28386	31318	29210	30514	31442	31435	32343	32419	3.46
RICE PADDY	4583	4447	4304	4602	4741	4564	4554	5030	4548	4799	4921	.88
BARLEY	7244	5171	6192	7832	8910	7403	7921	8189	9469	9965	9730	4.98
MAIZE	4225	4476	4772	4946	5341	5097	5563	5390	5631	5614	5193	2.44

1/ NOMINAL CATCH (LIVE WEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 1. VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
MILLET AND SORGHUM	3403	3950	3674	4318	4416	3936	4190	4651	4210	5516	3611	1.96
ROOT CROPS	4372	4634	4628	4855	5683	5820	5645	6222	6666	6748	6644	4.82
POTATOES	3956	4250	4252	4426	5276	5428	5238	5734	6205	6286	6180	5.07
CASSAVA	134	140	92	130	99	95	103	127	122	125	125	.04
TOTAL PULSES	1794	1488	1718	1604	1853	1872	1707	1668	1845	1826	2113	1.69
CITRUS FRUIT	2750	2884	3123	3104	3176	3328	3448	3745	3668	3632	3713	3.11
BANANAS	275	276	296	296	290	314	292	290	321	320	345	1.76
APPLES	1286	1245	1335	1393	1626	1585	1850	2162	2227	2234	2457	7.66
VEGETABLE OILS,OIL EQUIV	6261	5181	6406	5607	6081	5613	6276	5417	6591	5699	6593	.63
SOYBEANS	24	30	47	82	123	119	199	195	145	267	306	27.90
GROUNDNUTS IN SHELL	684	655	984	1040	870	1145	923	976	815	1236	910	3.08
SUNFLOWER SEED	613	616	487	541	612	506	524	628	786	618	644	1.69
RAPESEED	1	1	1		6	14	13	43	12	6	2	27.62
COTTONSEED	2942	2779	3036	2523	2341	2592	2423	2300	2249	2212	2269	- 2.92
SUGAR (CENTRIFUGAL,RAW)	2193	2221	2323	2455	2846	2667	2592	2566	2212	2878	3418	2.86
COFFEE GREEN	5	5	5	4	4	4	5	5	5	5	5	- .29
TEA	69	66	67	77	82	98	113	130	115	65	86	3.75
COTTON LINT	1699	1608	1763	1453	1364	1520	1446	1376	1352	1326	1371	- 2.42
JUTE AND SIMILAR FIBRES	15	15	12	14	14	13	13	13	13	13	13	- 1.07
TOBACCO	242	215	240	245	379	300	345	273	294	241	277	1.69
TOTAL MEAT	2469	2579	2703	2848	2966	3143	3248	3332	3439	3686	3798	4.37
TOTAL MILK	12030	12451	12886	13410	13676	13848	14590	15143	15500	16127	16637	3.25
TOTAL EGGS	383	401	469	543	595	679	726	686	724	793	842	8.16
WOOL GREASY	143	148	158	163	165	167	169	175	179	177	185	2.31
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	130	130	128	135	134	132	140	161	175	176	158	3.28
MARINE FISH	523	490	675	625	608	489	559	701	783	809	762	4.15
CRUST+ MOLLUS+ CEPHALOP	29	35	28	27	42	41	28	37	41	38	31	1.91
AQUATIC MAMMALS	3	3	2	2	2	2	2	2	2			
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	3624	4259	4569	4770	4796	5265	5216	4718	4964	5218	5217	2.71
SAWLOGS NONCONIFEROUS	1775	1626	1805	1287	1314	1442	1859	1523	1315	1366	1371	- 2.03
PULPWOOD+PARTICLES	960	1133	1363	869	907	984	1003	1063	672	714	714	- 4.43
FUELWOOD	59325	54000	61474	63582	69303	45722	46009	49119	50574	50106	51026	- 2.30
SAWNWOOD CONIFEROUS	2163	2297	2281	2278	2916	2932	4094	4103	4117	2963	3254	5.94
SAWNWOOD NONCONIFEROUS	711	750	733	693	646	871	1141	1139	1133	1115	906	5.29
WOOD-BASED PANELS	391	409	430	512	615	761	796	843	731	723	721	7.72
PULP FOR PAPER	234	311	268	247	228	252	165	276	273	273	273	.17
PAPER+PAPERBOARD	515	595	606	675	587	629	560	737	600	685	649	1.67
FAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	199875	224940	211252	238596	233521	251737	266818	250210	273705	288386	276917	3.35
WHEAT	33832	32734	29942	32405	38298	38914	41023	46471	44153	49551	50283	5.22
RICE PADDY	132623	150725	143459	162660	152730	171297	181125	162288	187082	192640	185244	3.34
BARLEY	4334	3979	3947	5021	5131	3324	3824	3824	2599	3372	2943	- 4.17
MAIZE	13698	15465	15175	17374	16163	15461	17667	16892	19134	19537	17743	2.72
MILLET AND SORGHUM	15320	21779	18479	21054	21131	22689	23114	20674	20675	23225	20629	1.96
ROOT CROPS	38193	41163	43755	46839	49996	51909	58568	55228	55274	60690	63364	4.91
POTATOES	6836	6530	6925	8667	9751	9436	10323	12448	10910	12314	13018	7.45
CASSAVA	21497	24734	27411	28811	31281	33942	39784	34162	36587	40548	42718	6.43
TOTAL PULSES	12750	12746	11505	12455	14640	13793	13925	13664	11022	12787	13176	.17
CITRUS FRUIT	2206	2332	2446	2603	2674	3526	3019	3027	3246	3583	3681	5.17
BANANAS	8262	8707	9001	9445	10616	11292	12271	12687	13572	14268	13729	6.07
APPLES	676	763	805	827	889	987	1068	1206	1177	1489	1542	8.40
VEGETABLE OILS,OIL EQUIV	40998	41131	39905	46646	48061	47966	49245	47681	47546	52696	54695	2.79
SOYBEANS	843	931	1107	1158	1077	1119	1317	1419	1450	1575	1389	5.63
GROUNDNUTS IN SHELL	5240	7127	6407	8124	6570	7485	7704	7160	6455	8828	7207	2.19
SUNFLOWER SEED	1	1	1	1	1	3	13	55	45	103	235	77.01
RAPESEED	1869	2222	2131	2651	2351	1997	2043	2274	1823	2400	2764	1.23
COTTONSEED	3814	3781	3933	3406	3075	3711	3747	4232	4208	4355	4474	2.02
COPRA	3863	3203	2788	3849	4566	4000	4121	3498	3718	3910	4141	1.57
PALM KERNELS	212	234	293	341	365	431	472	602	693	739	1071	16.38
SUGAR (CENTRIFUGAL,RAW)	7199	8596	9585	10539	11177	12443	13562	12863	9676	12019	17900	6.10
COFFEE GREEN	321	314	312	385	387	436	563	531	605	605	626	8.50
COCOA BEANS	12	16	20	22	25	30	34	40	48	60	66	17.73
TEA	767	790	807	813	827	891	897	890	906	923	881	1.76
COTTON LINT	1907	1890	1966	1703	1538	1856	1874	2116	2104	2178	2237	2.02
JUTE AND SIMILAR FIBRES	2896	3143	2295	2267	2414	2666	3240	3169	2725	2593	2763	.43

1/ NOMINAL CATCH (LIVE WEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 1. VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
TOBACCO	922	872	961	886	849	1000	1059	1003	945	989	1084	1.59
NATURAL RUBBER	2705	3115	3092	3211	3443	3253	3317	3490	3357	3344	3323	1.55
TOTAL MEAT	3690	3778	3881	4047	4195	4315	4585	4981	5232	5443	5618	4.62
TOTAL MILK	32824	33428	35021	36565	38350	39801	40824	42106	43332	44658	45800	3.52
TOTAL EGGS	1054	1131	1259	1355	1436	1547	1715	1806	2022	2120	2246	8.00
WOOL GREASY	60	60	62	65	69	73	75	79	83	88	93	4.80
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	2342	2389	2474	2304	2311	2362	2365	2402	2537	2834	2860	1.71
MARINE FISH	5664	6219	6761	6916	7027	7815	7932	7844	7776	8231	8153	3.45
CRUST+ MOLLUS+ CEPHALOP	1133	1241	1219	1437	1681	1809	1815	1986	2098	2150	2098	7.19
AQUATIC MAMMALS	26	89	28	25	50	106	91	82	29	60	90	7.30
AQUATIC PLANTS	147	245	376	282	317	379	354	372	381	93		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	2707	2096	2771	3116	3091	4035	2975	3960	4191	4172	4172	6.18
SAWLOGS NONCONIFEROUS	63461	76599	71210	63440	76064	80003	82626	78174	78733	69740	67882	-.70
PULPWOOD+PARTICLES	1847	2623	3058	2810	2851	3033	3027	2957	2988	2719	2826	2.17
FUELWOOD	383822	392609	401710	411495	420538	429593	438713	447935	457317	466847	476457	2.18
SAWNWOOD CONIFEROUS	1638	1547	1972	1857	1953	2810	3006	3454	3148	3704	3698	10.16
SAWNWOOD NONCONIFEROUS	15641	16404	16817	17990	20634	22073	22791	22330	23793	24623	22534	4.67
WOOD-BASED PANELS	3554	4027	3372	3864	4424	5340	5868	5994	5787	6026	6707	7.12
PULP FOR PAPER	291	470	503	457	543	588	650	720	691	781	833	8.85
PAPER+PAPERBOARD	1899	2062	2160	2185	2335	2915	3285	3769	3866	3998	3977	9.04
ASIAN CENT PLANNED ECON												
AGRICULTURAL PRODUCTS												
TOTAL CEREALS	224864	246882	256796	266970	272388	264803	293700	313622	303095	309903	341125	3.60
WHEAT	36436	35861	41421	45999	51006	41704	54471	63343	55810	60318	69247	6.46
RICE PADDY	132227	139964	142276	144566	147385	149330	156372	163368	161102	165672	185347	2.80
BARLEY	3078	3319	3385	3395	3404	3391	3809	4035	3122	3531	2946	-.22
MAIZE	33182	46582	48272	52127	50501	51803	58522	62644	65434	62109	63167	5.41
MILLET AND SORGHUM	15580	16544	16558	15572	14820	14434	15218	14412	12860	13055	16686	- 1.35
ROOT CROPS	134814	142920	145170	144801	143867	160197	172312	155886	158121	144261	146013	-.93
POTATOES	13717	14264	14829	15481	14890	16343	17695	17792	17982	17828	18046	3.04
CASSAVA	3273	3451	3503	3626	4398	5250	6178	6313	6925	7469	6444	9.49
TOTAL PULSES	6358	6668	6572	6574	6757	6436	6908	7131	7169	6879	6176	-.39
CITRUS FRUIT	781	847	876	828	889	895	964	1192	1359	1489	1668	7.71
BANANAS	1001	1063	999	837	923	1019	1015	1128	1235	1281	1479	3.73
APPLES	1803	2159	2494	2579	2671	2711	2723	3331	2843	3501	2941	4.94
VEGETABLE OILS,OIL EQUIV	16465	18047	18083	18017	16158	17073	19142	20414	22967	27729	30340	5.52
SOYBEANS	7353	7620	7771	7771	7029	7636	7952	7834	8339	9748	9503	2.41
GROUNDNUTS IN SHELL	2136	2172	2196	2224	2067	2147	2568	2994	3788	3992	4088	7.67
SUNFLOWER SEED	65	70	70	80	100	170	279	340	910	1332	1286	41.68
RAPESEED	1152	1262	1201	1394	1345	1183	1871	2404	2386	4067	5657	15.78
COTTONSEED	3927	5135	4933	4772	4120	4112	4347	4424	5423	5946	7215	3.53
COPRA	30	32	31	30	32	40	46	61	58	63	64	9.73
PALM KERNELS	37	38	39	39	41	40	42	46	48	46	48	2.80
SUGAR (CENTRIFUGAL,RAW)	2420	2843	2877	2678	2675	3154	3303	3690	3763	4301	4779	6.29
COFFEE GREEN	9	12	12	13	18	21	14	14	16	19	22	6.53
TEA	197	221	237	259	277	295	313	325	350	391	450	7.70
COTTON LINT	1963	2567	2466	2386	2060	2056	2173	2212	2712	2973	3604	3.52
JUTE AND SIMILAR FIBRES	433	523	594	690	766	893	1122	1118	1133	1299	1100	11.11
SISAL	8	8	10	9	9	8	9	8	8	3	4	- 7.38
TOBACCO	918	1027	1064	1039	1060	1077	1338	1026	995	1597	2285	5.93
NATURAL RUBBER	88	91	87	103	123	149	166	162	164	172	188	8.95
TOTAL MEAT	16552	17271	18172	18873	19940	20785	21297	22554	23806	24546	25493	4.46
TOTAL MILK	5359	5639	5900	6254	6511	6959	7240	7812	8112	8389	8825	5.21
TOTAL EGGS	3633	3687	3788	3906	4042	4162	4401	4718	4930	5140	5350	4.19
WOOL GREASY	144	148	151	154	155	156	157	174	196	210	224	4.29
FISHERY PRODUCTS 1/												
FRESHWATER + DIADROMOUS	1205	1343	1347	1387	1391	1422	1376	1461	1601	1780	1966	3.88
MARINE FISH	4353	4280	4525	4630	4667	4790	4786	4607	4762	4831	5142	1.36
CRUST+ MOLLUS+ CEPHALOP	711	872	926	989	1052	1182	1259	1145	1169	1180	1305	5.05
AQUATIC MAMMALS		1	1	1	2	2	2	2				
AQUATIC ANIMALS	17	59	22	17	16	13	14	14	10	19	22	- 5.54
AQUATIC PLANTS	992	849	915	1013	965	1434	1606	1519	1590	1387		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	16133	16725	18340	19145	19993	20768	21717	22706	23744	23744	23744	4.21
SAWLOGS NONCONIFEROUS	10160	10531	11702	12088	12999	13546	14108	14708	15308	15308	15308	4.48
PULPWOOD+PARTICLES	2810	2930	4000	4291	4476	4671	4876	5089	5313	5313	5313	6.42
FUELWOOD	160725	163226	166564	170065	173335	176659	180054	183541	187102	187683	188231	1.73

1/ NOMINAL CATCH (LIVE WEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 1. VOLUME OF PRODUCTION OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
SAWNWOOD CONIFEROUS	10354	10604	11074	11166	11697	12256	12814	13400	14016	11089	11089	1.54
SAWNWOOD NONCONIFEROUS	6571	6753	6734	6739	7039	7354	7685	8032	8396	8396	8396	2.95
WOOD-BASED PANELS	1529	1549	1266	1254	1407	1494	2001	2138	2281	2363	2363	6.62
PULP FOR PAPER	1348	1403	1649	1691	1795	1926	2047	2199	2364	2364	2364	6.22
PAPER+PAPERBOARD	3517	3679	4079	4762	5039	5259	5631	6004	6452	6467	6467	6.82

1/ NOMINAL CATCH (LIVE WEIGHT) EXCLUDING WHALES
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 2. INDICES OF FOOD PRODUCTION

	TOTAL						PER CAPUT					
	1978	1979	1980	1981	1982	CHANGE 1981 TO 1982	1978	1979	1980	1981	1982	CHANGE 1981 TO 1982
	1974-76=100					PERCENT	1974-76=100					PERCENT
FOOD PRODUCTION												
WORLD	109	110	110	114	117	2.84	104	103	101	103	104	1.12
DEVELOPED COUNTRIES	108	108	106	109	112	2.72	105	105	102	104	106	1.99
WESTERN EUROPE	105	107	111	110	114	4.03	104	106	109	107	111	3.69
EUROPEAN ECON COMMUNITY	105	108	112	112	115	2.70	104	107	111	110	113	2.49
BELGIUM-LUXEMBOURG	100	107	105	108	103	- 4.77	99	106	105	108	102	- 4.82
DENMARK	106	111	111	112	124	10.37	105	110	110	111	123	10.43
FRANCE	105	111	115	114	119	3.87	104	110	112	111	115	3.37
GERMANY FED.REP. OF	105	104	106	106	114	8.00	105	105	107	106	115	8.08
GREECE	105	100	116	111	115	3.69	100	95	109	104	107	3.05
IRELAND	118	105	117	105	105	- .27	114	100	111	98	97	- 1.39
ITALY	102	107	113	111	108	- 3.53	100	105	111	109	105	- 3.81
NETHERLANDS	103	106	107	117	116	- .28	101	103	104	112	111	- .72
UNITED KINGDOM	108	111	117	116	121	3.70	108	111	117	116	120	3.60
OTHER WESTERN EUROPE	105	107	109	103	112	8.31	103	104	105	99	107	7.62
AUSTRIA	102	104	110	104	121	16.25	103	104	110	104	121	16.06
FINLAND	99	104	103	97	108	11.90	98	103	101	95	106	11.29
ICELAND	106	104	105	104	102	- 2.78	102	99	99	98	94	- 4.01
MALTA	149	114	125	129	147	13.87	146	110	120	122	138	12.90
NORWAY	111	106	109	114	120	4.82	109	105	107	112	117	4.42
PORTUGAL	87	93	87	77	91	18.02	85	90	83	73	85	17.17
SPAIN	112	111	117	105	112	7.12	109	106	111	99	105	6.20
SWEDEN	103	101	98	102	101	- 1.45	102	100	97	101	99	- 1.49
SWITZERLAND	104	112	110	107	116	8.81	105	112	111	106	115	8.79
YUGOSLAVIA	101	108	110	111	120	8.47	98	104	105	105	113	7.55
USSR AND EASTERN EUROPE	110	104	101	101	106	4.55	107	101	97	96	100	3.81
EASTERN EUROPE	107	108	105	105	110	4.87	105	105	102	101	105	4.32
ALBANIA	117	125	126	125	126	1.01	109	113	112	109	107	- 1.21
BULGARIA	108	116	111	116	128	9.67	107	115	110	114	125	9.31
CZECHOSLOVAKIA	112	101	110	108	112	3.72	109	98	106	104	107	3.39
GERMAN DEMOCRATIC REP.	103	106	106	112	108	- 3.05	104	107	106	112	109	- 2.93
HUNGARY	108	107	116	113	124	9.77	107	106	113	111	122	9.86
POLAND	104	105	93	90	94	4.75	101	101	89	85	88	3.81
ROMANIA	116	121	118	115	127	10.43	112	117	113	109	120	9.66
USSR	111	103	99	99	104	4.41	109	99	95	95	98	3.59
NORTH AMERICA DEVELOPED	109	116	112	125	125	.47	106	111	106	117	117	- .51
CANADA	118	106	115	127	133	4.85	114	101	109	118	122	3.60
UNITED STATES	108	117	112	125	125		105	112	106	117	116	- .94
OCEANIA DEVELOPED	119	116	103	114	102	- 10.65	115	111	98	107	94	- 11.67
AUSTRALIA	124	120	102	116	98	- 15.46	119	114	96	107	90	- 16.43
NEW ZEALAND	105	104	106	109	115	5.25	103	103	105	107	111	4.15
DEVELOPING COUNTRIES	111	113	116	121	124	3.00	104	104	105	106	107	.91
AFRICA DEVELOPING	104	106	109	110	115	3.78	95	94	95	93	93	.65
NORTH WESTERN AFRICA	102	103	112	97	110	12.97	93	91	95	80	88	9.35
ALGERIA	90	94	109	102	97	- 4.69	81	82	93	83	77	- 7.99
MOROCCO	110	112	113	93	118	27.48	100	99	97	77	94	23.38
TUNISIA	97	93	111	102	106	3.62	90	84	98	88	89	1.15
WESTERN AFRICA	105	109	112	115	119	3.37	96	96	96	96	96	.16
BENIN	117	122	117	116	129	11.50	107	108	101	97	105	8.10
GAMBIA	93	76	68	89	91	1.27	86	68	59	76	75	- 1.29
GHANA	83	89	82	80	82	2.55	75	79	70	66	66	- .74
GUINEA	104	101	105	107	114	5.95	96	91	93	92	95	3.19
IVORY COAST	118	128	139	147	141	- 3.69	106	111	116	119	111	- 6.72
LIBERIA	107	109	109	115	116	.78	97	95	92	93	91	- 2.79
MALI	116	115	106	121	114	- 5.63	107	103	93	103	95	- 8.24
MAURITANIA	119	121	125	132	126	- 4.62	110	109	109	112	103	- 7.31
NIGER	137	142	147	147	150	1.97	126	127	127	124	122	- 1.05
NIGERIA	106	111	117	120	124	4.09	97	98	100	99	99	.66
SENEGAL	103	75	69	96	102	6.06	96	68	61	82	85	3.28
SIERRA LEONE	107	99	102	102	113	10.15	99	89	89	87	93	7.12
TOGO	111	112	115	114	118	4.03	102	101	100	96	97	.92
UPPER VOLTA	111	116	111	120	121	.62	103	105	97	103	101	- 2.01
CENTRAL AFRICA	100	103	106	108	111	2.23	93	93	94	93	93	- .44
ANGOLA	99	100	102	102	103	.86	92	91	91	88	86	- 1.71
CAMEROON	98	101	102	104	106	1.95	91	92	91	90	90	- .51
CENTRAL AFRICAN REP	103	105	107	109	113	3.74	96	96	96	95	97	1.33
CHAD	113	117	117	116	118	1.43	106	108	106	103	102	- .66
CONGO	103	107	112	115	118	2.73	95	97	98	98	98	
GABON	106	108	109	110	111	1.17	103	104	103	103	103	- .28
ZAIRE	100	102	106	109	112	2.38	92	91	93	92	92	- .50
EASTERN AFRICA	106	105	107	111	112	1.36	97	94	92	93	91	- 1.71
BURUNDI	104	105	108	120	120	- .13	97	96	96	105	102	- 2.63
ETHIOPIA	104	113	117	115	115	- .41	99	106	107	103	100	- 2.73
KENYA	108	106	105	106	116	9.59	96	91	87	84	88	5.18
MADAGASCAR	95	96	101	101	104	3.18	88	87	89	86	86	.38
MALAWI	118	108	116	121	128	5.80	107	95	99	100	102	2.33
MAURITIUS	111	112	84	97	119	21.93	106	105	78	88	106	19.96

ANNEX TABLE 2. INDICES OF FOOD PRODUCTION

	TOTAL						PER CAPUT					
	1978	1979	1980	1981	1982	CHANGE 1981 TO 1982	1978	1979	1980	1981	1982	CHANGE 1981 TO 1982
	1974-76=100					PERCENT	1974-76=100					PERCENT
FOOD PRODUCTION												
MOZAMBIQUE	93	93	95	96	96	- .77	86	84	84	82	80	- 3.40
RWANDA	113	124	123	126	131	4.11	104	110	106	105	106	.87
SOMALIA	108	104	109	111	113	2.14	86	76	75	72	70	- 2.28
TANZANIA	112	116	118	118	120	1.38	102	103	102	99	97	- 1.82
UGANDA	113	105	105	110	115	4.51	104	93	90	92	93	1.25
ZAMBIA	98	85	90	94	88	- 5.99	90	75	77	78	71	- 9.07
ZIMBABWE	104	88	89	122	101	- 17.21	94	77	75	99	79	- 20.03
SOUTHERN AFRICA	96	96	97	108	110	1.29	89	86	84	92	91	- 1.54
BOTSWANA	78	91	71	86	92	7.73	72	82	62	72	75	4.34
LESOTHO	111	97	90	94	90	- 3.81	103	88	80	81	76	- 6.19
SWAZILAND	111	108	124	138	137	- .85	102	97	108	116	112	- 3.70
SOUTH AFRICA	110	108	111	125	108	- 13.91	101	97	96	106	89	- 16.34
LATIN AMERICA	112	115	118	123	127	3.34	104	104	104	106	107	.89
CENTRAL AMERICA	121	116	122	130	128	- 1.59	110	103	105	109	104	- 4.40
COSTA RICA	110	112	108	110	104	- 4.67	102	102	96	95	89	- 6.86
EL SALVADOR	118	119	113	107	109	1.87	108	106	98	90	89	- 1.02
GUATEMALA	111	119	123	129	130	1.17	101	106	106	107	106	- 1.77
HONDURAS	121	117	125	134	138	3.06	109	101	105	109	108	- .46
MEXICO	123	117	126	134	132	- 2.10	112	104	108	112	107	- 4.89
NICARAGUA	118	108	83	91	93	1.98	107	95	70	75	74	- 1.31
PANAMA	112	110	110	119	119	.39	105	100	98	104	102	- 1.85
BARBADOS	109	118	133	130	122	- 6.15	105	112	124	120	112	- 7.20
CUBA	123	132	120	129	134	4.22	120	128	115	122	127	3.65
DOMINICAN REPUBLIC	110	109	109	111	118	6.94	101	98	95	95	99	4.34
HAITI	105	108	101	103	106	2.27	97	98	89	90	89	- .21
JAMAICA	113	101	97	97	101	4.13	109	96	91	89	92	2.61
SOUTH AMERICA	109	114	118	122	128	5.10	101	104	105	106	109	2.73
ARGENTINA	116	122	114	122	129	5.82	112	116	107	113	118	4.55
BOLIVIA	100	100	106	111	115	3.20	93	91	94	95	96	.50
BRAZIL	107	113	125	126	134	6.32	99	102	111	109	113	3.89
CHILE	100	106	106	114	114	.02	95	99	97	103	101	- 1.66
COLOMBIA	116	121	119	127	130	2.77	109	111	107	112	112	.57
ECUADOR	101	105	114	119	124	4.59	92	93	98	99	100	1.39
GUYANA	111	101	101	109	110	.88	104	92	91	95	94	- 1.22
PARAGUAY	113	128	132	132	139	4.77	102	112	112	109	111	1.63
PERU	98	99	92	101	104	2.93	90	89	80	86	86	.10
URUGUAY	91	89	94	110	106	- 3.98	89	87	92	107	102	- 4.66
VENEZUELA	112	119	115	106	109	2.79	101	103	96	86	85	- .58
NEAR EAST DEVELOPING	108	111	113	116	118	1.42	100	99	98	98	97	- 1.41
NEAR EAST IN AFRICA	103	107	107	113	107	- 5.25	95	96	93	97	89	- 7.69
EGYPT	103	105	106	108	107	- .96	95	95	93	93	90	- 3.32
LIBYA	80	109	105	105	107	2.19	71	93	86	82	81	- 1.72
SUDAN	107	110	109	127	109	- 14.52	99	99	95	108	90	- 16.93
NEAR EAST IN ASIA	110	111	114	117	120	2.92	100	99	99	98	98	- .05
AFGHANISTAN	99	101	105	109	109	- .08	92	91	93	93	91	- 2.57
CYPRUS	106	109	119	115	124	7.46	105	107	117	113	120	6.78
IRAN	109	110	106	117	115	- 1.59	99	98	91	98	93	- 4.58
IRAQ	109	122	125	128	136	6.69	98	107	106	104	108	3.13
JORDAN	115	89	137	123	125	1.69	103	77	114	99	97	- 1.97
LEBANON	103	103	133	106	137	29.79	105	106	137	108	137	27.22
SAUDI ARABIA	109	94	57	23			96	79	46	17		
SYRIA	124	117	160	160	167	4.36	111	101	133	128	128	.41
TURKEY	111	114	115	118	125	5.44	103	103	102	102	105	2.89
YEMEN ARAB REPUBLIC	97	101	103	99	97	- 1.52	92	94	93	88	85	- 3.74
YEMEN DEMOCRATIC	98	100	102	99	95	- 4.39	92	91	91	86	80	- 6.88
ISRAEL	107	105	103	101	112	11.09	100	96	92	88	96	8.75
FAR EAST DEVELOPING	116	113	117	125	124	- .75	108	104	105	110	107	- 2.81
SOUTH ASIA	115	110	116	122	119	- 2.22	108	101	104	107	102	- 4.28
BANGLADESH	112	111	119	119	123	3.70	103	99	103	100	101	.82
INDIA	117	109	114	122	117	- 4.06	110	101	103	108	102	- 5.91
NEPAL	100	93	102	98	101	3.55	93	84	91	85	86	1.24
PAKISTAN	110	115	117	124	127	2.35	101	103	102	105	104	- .53
SRI LANKA	115	142	158	141	146	3.87	110	132	145	127	129	1.75
EAST SOUTH-EAST ASIA	116	118	120	130	133	1.87	109	109	108	115	115	- .14
BURMA	113	114	122	133	144	8.04	104	103	108	115	121	5.42
INDONESIA	113	115	127	139	137	- 1.94	107	107	116	126	121	- 3.55
KOREA REP	127	131	107	119	121	2.19	120	122	98	107	108	.49
LAO	101	116	134	145	152	4.62	94	106	119	126	129	2.17
MALAYSIA	102	118	125	130	141	7.96	95	107	110	112	118	5.41
PHILIPPINES	119	115	122	127	129	2.05	110	104	107	108	108	- .59
THAILAND	122	114	118	128	132	3.00	113	104	105	111	112	.74
JAPAN	102	102	93	95	99	4.09	99	98	89	90	93	3.39
ASIAN CENT PLANNED ECON	111	117	118	121	130	6.88	106	110	109	111	117	5.45
CHINA	111	117	117	121	130	7.58	106	110	109	111	118	6.23
KAMPUCHEA, DEMOCRATIC	94	61	86	80	91	13.23	98	64	90	83	92	10.75
KOREA DPR	120	123	126	127	128	1.04	111	112	112	110	109	- 1.28
MONGOLIA	104	103	96	102	112	9.88	95	92	83	86	92	6.89
VIET NAM	114	119	126	127	130	2.24	106	109	112	111	111	- .01
OTHER DEVELOPING MRKT	108	114	113	118	121	2.69	100	104	100	102	103	.22

ANNEX TABLE 3. INDICES OF AGRICULTURAL PRODUCTION

	TOTAL						PER CAPUT					
	1978	1979	1980	1981	1982	CHANGE 1981 TO 1982	1978	1979	1980	1981	1982	CHANGE 1981 TO 1982
	1974-76=100					PERCENT	1974-76=100					PERCENT
AGRICULTURAL PRODUCTION												
WORLD	109	110	110	114	117	2.52	103	102	101	103	103	.79
DEVELOPED COUNTRIES	108	108	106	109	112	2.36	105	104	102	104	106	1.63
WESTERN EUROPE	105	107	111	110	114	4.01	104	106	109	107	111	3.66
EUROPEAN ECON COMMUNITY	105	107	112	112	115	2.72	104	106	111	110	113	2.49
BELGIUM-LUXEMBOURG	99	106	105	108	103	- 4.85	99	106	104	107	102	- 4.91
DENMARK	106	111	111	112	124	10.43	105	110	110	111	123	10.49
FRANCE	105	111	114	114	118	3.85	104	110	112	111	115	3.35
GERMANY FED.REP. OF	104	104	106	106	114	8.02	105	105	107	106	115	8.10
GREECE	105	100	114	111	114	2.89	101	95	107	103	105	2.27
IRELAND	117	105	117	105	105	- .25	113	100	110	98	97	- 1.36
ITALY	102	107	113	112	108	- 3.36	100	105	111	109	105	- 3.64
NETHERLANDS	103	106	107	117	117	- .03	101	103	103	112	111	- .48
UNITED KINGDOM	108	111	117	116	120	3.75	108	111	117	116	120	3.65
OTHER WESTERN EUROPE	105	107	109	104	112	8.16	103	104	105	99	107	7.46
AUSTRIA	102	104	110	104	121	16.25	103	104	110	104	121	16.06
FINLAND	99	104	103	97	108	11.89	98	103	101	95	106	11.29
ICELAND	106	104	105	105	102	- 2.62	102	100	99	98	94	- 3.86
MALTA	149	114	125	129	147	13.87	145	110	120	122	138	12.90
NORWAY	111	107	109	114	120	4.91	109	105	107	112	117	4.50
PORTUGAL	88	93	87	77	91	17.78	85	90	83	73	86	16.92
SPAIN	112	110	117	105	112	6.61	109	106	111	99	105	5.69
SWEDEN	103	101	98	102	101	- 1.45	102	100	97	101	99	- 1.50
SWITZERLAND	103	111	110	106	116	8.79	104	112	111	106	115	8.77
YUGOSLAVIA	101	108	109	110	120	8.77	98	104	104	105	113	7.86
USSR AND EASTERN EUROPE	109	104	101	101	105	4.34	107	100	97	96	100	3.60
EASTERN EUROPE	107	108	104	104	109	4.94	105	105	101	100	105	4.41
ALBANIA	116	126	126	126	128	1.23	108	114	112	110	109	- 1.00
BULGARIA	104	113	106	111	121	9.61	103	112	104	109	119	9.25
CZECHOSLOVAKIA	112	102	110	108	112	3.77	110	99	106	104	108	3.44
GERMAN DEMOCRATIC REP.	103	107	106	112	109	- 2.89	104	107	107	113	110	- 2.79
HUNGARY	108	108	115	113	124	9.63	107	106	113	111	122	9.73
POLAND	104	105	93	90	94	4.76	101	101	89	85	88	3.83
ROMANIA	115	121	117	114	126	10.43	112	116	112	108	119	9.67
USSR	111	102	99	100	104	4.09	108	98	95	95	98	3.27
NORTH AMERICA DEVELOPED	109	116	111	125	124	- .56	106	111	105	117	115	- 1.51
CANADA	119	107	115	126	132	4.63	115	102	109	118	122	3.40
UNITED STATES	108	116	111	125	123	- 1.09	105	112	105	117	115	- 2.02
OCEANIA DEVELOPED	114	113	103	112	103	- 8.29	111	108	98	105	96	- 9.34
AUSTRALIA	117	115	102	112	99	- 11.86	113	110	96	104	91	- 12.88
NEW ZEALAND	105	104	109	112	116	2.98	103	103	108	110	112	1.91
DEVELOPING COUNTRIES	111	113	115	120	124	2.70	104	104	104	106	107	.62
AFRICA DEVELOPING	103	106	109	110	114	3.46	95	94	94	92	92	.35
NORTH WESTERN AFRICA	101	103	112	97	110	12.86	93	91	95	80	88	9.26
ALGERIA	90	94	109	102	97	- 4.70	82	83	93	84	77	- 8.00
MOROCCO	109	112	113	93	118	27.30	100	98	96	76	94	23.20
TUNISIA	98	94	111	102	106	3.63	91	85	98	88	89	1.15
WESTERN AFRICA	104	108	111	115	118	2.77	95	96	96	96	95	- .44
BENIN	116	121	115	115	129	11.74	106	108	100	96	104	8.34
GAMBIA	93	77	68	90	91	1.34	86	68	59	76	75	- 1.21
GHANA	83	89	82	80	82	2.50	75	79	70	66	66	- .78
GUINEA	104	101	105	107	114	5.80	96	92	93	92	95	3.04
IVORY COAST	110	125	132	147	133	- 9.09	99	108	111	119	105	- 11.95
LIBERIA	105	107	109	112	111	- .63	94	93	92	91	87	- 4.15
MALI	118	117	110	123	115	- 5.94	109	106	96	104	95	- 8.54
MAURITANIA	119	121	125	132	126	- 4.62	110	109	109	112	103	- 7.31
NIGER	135	141	145	145	149	2.75	124	126	126	122	122	- .29
NIGERIA	106	111	116	119	124	4.02	97	98	99	98	99	.59
SENEGAL	103	75	69	96	101	5.06	95	68	61	82	84	2.29
SIERRA LEONE	107	101	103	104	115	10.72	99	91	90	88	95	7.69
TOGO	109	111	115	114	119	3.68	101	100	101	97	97	.59
UPPER VOLTA	111	117	113	122	122	.35	103	106	99	104	102	- 2.28
CENTRAL AFRICA	99	101	105	107	110	2.39	92	92	92	92	92	- .28
ANGOLA	82	85	84	82	83	1.67	76	77	74	70	70	- .91
CAMEROON	100	102	105	108	110	1.93	93	93	93	94	94	- .54
CENTRAL AFRICAN REP	102	103	105	105	111	5.81	95	95	94	92	95	3.34
CHAD	110	111	110	109	113	4.41	104	102	100	96	99	2.23
CONGO	104	108	112	115	118	2.76	96	97	99	98	98	.03
GABON	106	107	109	110	111	1.26	103	103	103	103	103	- .18
ZAIRE	100	102	106	109	111	2.34	92	91	93	92	92	- .55
EASTERN AFRICA	105	105	107	110	112	1.49	97	94	92	92	91	- 1.58
BURUNDI	104	106	107	124	118	- 4.87	98	97	95	109	101	- 7.26
ETHIOPIA	105	113	117	116	116	- .34	100	106	107	104	101	- 2.67
KENYA	111	109	112	112	120	7.45	99	93	92	88	91	3.14
MADAGASCAR	95	96	100	100	103	2.88	88	87	88	85	85	.09
MALAWI	120	113	118	123	133	7.88	109	100	100	101	106	4.32
MAURITIUS	111	112	85	98	119	20.99	106	105	79	89	106	19.06

ANNEX TABLE 3. INDICES OF AGRICULTURAL PRODUCTION

	TOTAL						PER CAPUT					
	1978	1979	1980	1981	1982	CHANGE 1981 TO 1982	1978	1979	1980	1981	1982	CHANGE 1981 TO 1982
	1974-76=100					PERCENT	1974-76=100					PERCENT
AGRICULTURAL PRODUCTION												
MOZAMBIQUE	93	92	95	96	95	- .78	86	83	83	82	79	- 3.43
RWANDA	114	126	124	127	132	4.21	105	112	107	106	107	.97
SOMALIA	108	104	109	111	113	2.13	86	76	75	72	70	- 2.28
TANZANIA	107	110	111	112	110	- 1.63	98	97	95	93	89	- 4.72
UGANDA	108	100	99	102	111	8.60	99	88	85	85	90	5.23
ZAMBIA	98	87	92	95	88	- 6.60	90	77	78	78	71	- 9.66
ZIMBABWE	103	97	101	116	103	- 11.28	93	85	85	95	81	- 14.31
SOUTHERN AFRICA	98	97	98	110	111	.88	91	87	86	93	91	- 1.94
BOTSWANA	79	91	72	86	92	7.63	72	82	62	72	75	4.23
LESOTHO	110	97	92	95	92	- 3.49	102	88	81	83	78	- 5.89
SWAZILAND	116	108	129	141	140	- .77	107	97	112	119	114	- 3.62
SOUTH AFRICA	111	109	111	124	108	- 12.71	102	98	96	105	89	- 15.18
LATIN AMERICA	112	114	116	123	123	.51	104	104	103	106	104	- 1.88
CENTRAL AMERICA	119	115	119	126	122	- 3.37	109	102	102	106	99	- 6.13
COSTA RICA	112	114	113	117	109	- 6.54	104	103	100	102	93	- 8.68
EL SALVADOR	111	116	109	102	98	- 3.81	102	103	94	86	80	- 6.54
GUATEMALA	113	119	121	124	120	- 3.53	103	106	104	104	97	- 6.31
HONDURAS	124	124	128	138	140	1.06	112	108	107	112	109	- 2.39
MEXICO	121	115	123	131	126	- 3.62	111	102	106	110	103	- 6.36
NICARAGUA	117	106	77	91	91	.32	106	93	65	75	73	- 2.92
PANAMA	113	110	111	120	121	.97	105	101	99	105	103	- 1.29
BARBADOS	109	118	133	130	122	- 6.14	105	112	124	120	112	- 7.19
CUBA	121	130	117	128	132	3.63	118	126	112	121	125	3.05
DOMINICAN REPUBLIC	107	109	109	109	117	7.65	99	99	95	94	98	5.04
HAITI	102	108	99	102	106	4.47	95	98	88	88	90	1.91
JAMAICA	113	102	97	97	101	4.09	109	96	91	90	92	2.56
SOUTH AMERICA	109	114	116	123	125	1.60	102	104	103	107	106	- .69
ARGENTINA	116	120	112	118	127	7.91	112	114	105	109	116	6.61
BOLIVIA	100	100	104	109	112	2.70	93	91	92	94	94	.01
BRAZIL	107	113	121	130	128	- .95	99	102	107	112	109	- 3.22
CHILE	100	106	106	114	114	.04	95	99	98	103	102	- 1.64
COLOMBIA	117	121	121	129	130	1.24	110	112	109	113	112	- .91
ECUADOR	101	105	112	118	122	3.03	92	93	97	98	98	- .13
GUYANA	111	101	102	110	110	.81	104	93	91	96	95	- 1.26
PARAGUAY	115	127	130	131	134	2.04	104	111	111	108	107	- 1.03
PERU	100	103	96	103	104	1.06	92	92	84	88	86	- 1.72
URUGUAY	91	91	97	111	107	- 3.55	90	89	95	107	103	- 4.23
VENEZUELA	111	118	113	105	107	1.99	100	102	95	85	84	- 1.34
NEAR EAST DEVELOPING	108	109	111	113	115	1.70	99	97	96	96	95	- 1.13
NEAR EAST IN AFRICA	103	106	106	111	107	- 4.09	95	96	93	95	88	- 6.56
EGYPT	104	107	109	110	108	- 1.98	96	97	96	94	90	- 4.31
LIBYA	80	109	105	104	107	2.13	71	93	86	82	81	- 1.77
SUDAN	106	104	101	115	104	- 9.34	98	93	88	97	86	- 11.90
NEAR EAST IN ASIA	109	110	112	114	117	3.06	100	98	97	96	96	.10
AFGHANISTAN	98	99	100	105	104	- .74	91	90	89	90	87	- 3.21
CYPRUS	106	109	119	115	124	7.40	105	107	117	112	120	6.71
IRAN	107	108	103	114	113	- 1.16	98	96	89	95	91	- 4.16
IRAQ	108	121	125	127	135	6.53	98	106	105	104	107	2.95
JORDAN	115	89	136	123	125	1.64	103	77	113	99	97	- 2.01
LEBANON	100	101	129	103	132	28.35	102	104	133	105	132	25.82
SAUDI ARABIA	109	95	58	24			96	80	47	19		
SYRIA	121	113	151	151	160	5.55	108	98	125	121	123	1.55
TURKEY	110	112	114	115	121	5.32	103	101	101	99	102	2.78
YEMEN ARAB REPUBLIC	97	101	102	99	97	- 1.47	92	94	93	88	85	- 3.70
YEMEN DEMOCRATIC	99	99	99	97	93	- 4.02	92	90	88	84	79	- 6.53
ISRAEL	112	109	108	108	118	8.44	104	100	96	95	101	6.16
FAR EAST DEVELOPING	115	113	117	124	123	- .50	108	104	105	109	106	- 2.56
SOUTH ASIA	115	111	115	121	119	- 1.79	108	101	104	106	102	- 3.86
BANGLADESH	113	112	119	118	123	4.35	104	100	103	100	101	1.48
INDIA	117	109	114	121	117	- 3.56	110	101	103	108	102	- 5.41
NEPAL	100	94	103	98	101	3.25	93	85	91	85	86	.94
PAKISTAN	109	116	119	125	128	2.66	100	104	103	106	105	- .24
SRI LANKA	110	130	139	128	130	1.52	105	121	128	115	115	- .55
EAST SOUTH-EAST ASIA	116	118	119	129	131	1.78	109	108	108	114	113	- .25
BURMA	113	114	121	132	142	7.98	104	103	107	114	120	5.37
INDONESIA	113	115	126	138	135	- 2.55	107	108	115	124	119	- 4.13
KOREA REP	125	128	105	116	119	2.63	119	120	96	105	106	.92
LAO	100	116	133	145	152	4.72	93	106	118	126	129	2.29
MALAYSIA	103	115	120	124	132	6.80	95	104	106	106	111	4.27
PHILIPPINES	119	116	123	127	131	2.57	110	104	108	109	109	- .09
THAILAND	122	115	119	128	133	3.27	114	105	106	112	113	1.02
JAPAN	102	101	93	94	98	3.81	99	97	89	89	92	3.12
ASIAN CENT PLANNED ECON	111	116	118	122	131	7.49	106	110	109	112	119	6.06
CHINA	110	116	117	122	132	8.23	106	110	109	112	120	6.87
KAMPUCHEA, DEMOCRATIC	95	61	84	78	89	13.64	98	64	88	81	90	11.15
KOREA DPR	119	123	126	127	128	1.18	111	111	112	110	109	- 1.14
MONGOLIA	103	102	97	101	111	9.19	94	91	84	85	91	6.21
VIET NAM	114	119	126	128	131	2.36	106	109	113	111	112	.09
OTHER DEVELOPING MRKT	108	115	114	119	122	2.65	101	104	101	103	103	.18

ANNEX TABLE 4. VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
WORLD												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	63462	79879	63657	72054	67293	72328	82374	78792	96711	102503	102234	4.67
RICE MILLED	8652	8583	8349	7800	9124	11054	9778	11864	13096	13234	11986	5.24
BARLEY	13989	12445	11693	12604	13927	13112	14585	14106	16233	20263	18263	4.21
MAIZE	37582	48352	49753	52088	62377	57764	68792	76093	80302	79434	70001	6.95
MILLET	168	226	216	207	303	273	318	297	224	239	215	2.13
SORGHUM	6168	9050	10766	10155	11161	11936	10923	11365	11162	14445	13653	5.76
POTATOES	5128	3912	3877	3931	4409	4697	4035	4627	4931	4938	5135	1.74
SUGAR,TOTAL (RAW EQUIV.)	21730	22762	22969	21491	22680	28412	25536	25929	26735	28726	30475	3.30
PULSES	1930	2013	1655	1788	1906	1976	2120	2371	2793	3129	2820	5.51
SOYBEANS	13794	15629	17233	16479	19766	20025	24062	25489	26885	26218	28916	7.71
SOYBEAN OIL	1103	1053	1546	1365	1839	2106	2610	2953	3196	3487	3382	14.05
GROUNDNUTS SHELLED BASIS	958	986	882	924	1069	909	789	789	761	864	790	- 2.30
GROUNDNUT OIL	530	507	382	402	561	581	418	501	474	327	406	- 2.07
COPRA	1355	1043	527	1082	1147	941	686	433	453	399	439	-10.56
COCONUT OIL	867	737	667	1043	1374	1110	1337	1142	1215	1353	1257	5.84
PALM NUTS KERNELS	397	302	360	308	391	279	181	160	209	153	137	-10.15
PALM OIL	1382	1514	1691	2043	2188	2332	2401	2841	3606	3215	3763	10.56
OILSEED CAKE AND MEAL	13155	14573	14712	14466	18814	19106	21889	23279	25557	27476	27663	8.54
BANANAS	6749	6786	6626	6371	6343	6660	7047	6885	6957	6930	7224	.76
ORANGES+TANGER+CLEMEN	4639	5041	5003	5192	5206	5404	5215	4947	5131	4967	5015	.28
LEMONS AND LIMES	733	782	832	816	973	899	985	930	997	935	982	2.76
COFFEE GREEN+ROASTED	3579	3804	3410	3576	3659	2938	3440	3800	3728	3623	3785	.37
COCOA BEANS	1252	1111	1194	1161	1152	969	1088	1066	1086	1240	1186	- .31
TEA	776	789	804	813	852	904	881	921	952	960	905	2.15
COTTON LINT	4097	4728	3816	3994	4049	3929	4458	4362	4795	4281	4395	.83
JUTE AND SIMILAR FIBRES	757	906	890	590	670	569	516	573	489	593	535	- 4.93
TOBACCO UNMANUFACTURED	1218	1235	1399	1251	1307	1281	1430	1373	1356	1484	1412	1.52
NATURAL RUBBER	2849	3359	3197	3011	3249	3292	3317	3422	3329	3137	3088	.48
WOOL GREASY	1204	1119	834	853	1010	1103	890	937	908	954	887	- 1.67
BOVINE CATTLE 1/	7744	6855	5940	6831	6887	6766	7559	7163	6858	7231	7768	.77
SHEEP AND GOATS 1/	10999	10825	10397	11830	10775	12430	14775	15252	18370	17731	18528	6.68
PIGS 1/	6096	5927	6071	6428	6943	6940	7945	8415	10736	9836	9335	6.13
TOTAL MEAT	5455	5750	5286	5549	6264	6815	7104	7822	8116	8891	8710	5.78
MILK DRY	294	381	358	376	441	571	585	657	874	881	862	12.36
TOTAL EGGS IN SHELL	440	455	508	535	518	573	606	656	737	784	805	6.46
FISHERY PRODUCTS												
FISH FRESH FROZEN	2498	2855	2788	2965	3025	3465	3843	4234	4187	4294		
FISH CURED	529	507	441	434	441	427	417	439	446	468		
SHELLFISH	690	712	706	761	877	830	986	1111	933	944		
FISH CANNED AND PREPARED	677	739	747	721	831	799	844	884	985	1011		
SHELLFISH CANNED+PREPAR	91	93	89	88	94	108	107	108	104	95		
FISH BODY AND LIVER OIL	749	550	558	597	565	565	694	740	738	726		
FISH MEAL	3008	1631	1951	2188	2113	2052	2109	2453	2334	2033		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	25489	28793	26238	23898	28411	28657	29869	31839	27994	22889	26387	.07
SAWLOGS NONCONIFEROUS	42618	51864	44885	36366	45480	47174	48446	46055	42136	33908	33566	- 2.29
PULPWOOD+PARTICLE	23071	29208	32980	31876	33858	35121	32669	36416	41101	39939	34712	3.88
FUELWOOD	1049	1291	1286	1039	782	1066	632	721	887	589	559	- 7.31
SAWNWOOD CONIFEROUS	57094	60913	51822	43250	56294	61793	65962	68826	66021	60713	61562	2.60
SAWNWOOD NONCONIFEROUS	8415	10648	8928	7955	11461	11240	12048	13435	12616	11068	11001	3.36
WOOD-BASED PANELS	12700	14674	12963	12436	14383	14967	16397	16670	16273	16738	15254	2.62
PULP FOR PAPER	14580	16666	17192	13525	15309	15401	17311	18491	19575	18610	17101	2.18
PAPER AND PAPERBOARD	25247	27522	29962	25479	27092	28293	30326	33341	37500	35559	33767	3.52
WESTERN EUROPE												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	9457	11857	11587	13472	13635	11782	12485	14505	18221	22070	20824	7.40
RICE MILLED	525	405	616	625	670	751	850	889	968	1010	947	8.43
BARLEY	5311	5586	5966	5686	5075	4408	8634	7199	8057	10807	7548	5.90
MAIZE	4593	5613	6012	5666	5876	4458	4869	5050	5474	4820	5743	- .17
MILLET	5	9	7	15	11	12	12	13	14	19	20	10.78
SORGHUM	195	276	711	736	771	384	262	308	206	241	272	- 4.81
POTATOES	2763	2485	2358	2589	2337	2708	2798	3016	3455	3544	3670	4.15
SUGAR,TOTAL (RAW EQUIV.)	2604	2615	2439	2082	2839	3628	4124	4280	5210	5680	5978	10.87
PULSES	291	288	253	323	226	302	353	450	458	448	407	5.93
SOYBEANS	269	113	16	111	189	120	237	353	327	160	205	11.21

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 4. VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
SOYBEAN OIL	395	470	720	719	744	767	1099	1208	1204	1272	1380	12.76
GROUNDNUTS SHELLED BASIS	18	18	18	14	24	22	29	15	19	25	25	3.12
GROUNDNUT OIL	32	54	51	74	49	44	45	64	79	68	71	5.51
COPRA	7	6		1	17	3	4	1	2		1	-15.05
COCONUT OIL	143	117	78	203	269	163	119	61	43	57	85	- 9.06
PALM NUTS KERNELS	1	1	5	1	1	1	1	2	3	1	2	5.20
PALM OIL	77	80	68	86	98	111	97	92	123	114	94	4.01
OILSEED CAKE AND MEAL	2150	2710	2875	2257	2630	2518	3437	3957	4247	4919	5349	9.02
BANANAS	30	23	27	35	25	31	41	43	43	48	47	7.05
ORANGES+TANGER+CLEMEN	1837	1943	1933	1999	2056	2113	1921	1906	1799	1659	1808	- .99
LEMONS AND LIMES	424	384	444	461	525	464	505	483	512	430	530	1.88
COFFEE GREEN+ROASTED	47	62	76	86	92	78	102	124	106	122	126	9.04
COCOA BEANS	2	3	6	11	15	30	34	32	44	48	52	39.51
TEA	47	58	61	43	46	60	50	46	43	44	43	- 2.11
COTTON LINT	74	101	79	65	89	70	71	60	57	55	75	- 3.37
JUTE AND SIMILAR FIBRES	29	28	25	21	18	17	19	16	17	17	15	- 6.09
TOBACCO UNMANUFACTURED	148	141	196	177	179	153	223	234	197	210	247	4.59
NATURAL RUBBER	24	30	40	29	32	27	21	21	16	14	15	- 8.07
WOOL GREASY	66	55	43	55	64	57	60	65	69	61	59	1.44
BOVINE CATTLE 1/	3094	2566	2312	3416	3121	2979	3322	3340	3412	3620	3533	2.97
SHEEP AND GOATS 1/	790	619	575	1152	1183	1318	1732	1384	1418	927	872	5.20
PIGS 1/	2445	2552	2576	2596	3112	3106	3421	4004	4777	4749	4591	7.98
TOTAL MEAT	1823	1933	2215	2434	2394	2652	2625	3173	3673	3897	3787	8.20
MILK DRY	221	289	272	285	334	432	450	514	660	671	624	12.23
TOTAL EGGS IN SHELL	237	262	308	326	335	349	382	445	506	538	600	9.27
FISHERY PRODUCTS												
FISH FRESH FROZEN	1061	1095	1017	1054	1115	1150	1396	1686	1643	1785		
FISH CURED	349	327	283	278	288	265	255	276	285	310		
SHELLFISH	243	196	225	250	274	232	263	275	277	320		
FISH CANNED AND PREPARED	198	235	226	207	243	244	260	264	256	260		
SHELLFISH CANNED+PREPAR	26	28	24	27	32	34	36	38	42	47		
FISH BODY AND LIVER OIL	196	271	196	249	319	327	270	296	332	337		
FISH MEAL	840	797	803	864	948	1019	881	951	922	831		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	1380	2236	2784	1704	2428	2590	1899	2395	2937	2735	2082	3.19
SAWLOGS NONCONIFEROUS	1549	1850	1943	1665	1833	2077	2017	2055	2262	2156	1937	2.49
PULPWOOD+PARTICLE	6089	7114	7920	8627	8173	7575	6846	8462	10718	11164	9950	4.60
FUELWOOD	604	881	888	735	512	740	314	443	558	343	313	- 8.65
SAWNWOOD CONIFEROUS	17929	20295	17248	12640	17061	16554	18051	20349	19783	17142	18327	.78
SAWNWOOD NONCONIFEROUS	1766	2274	1858	1607	2801	2494	2756	2514	2395	2037	1963	1.58
WOOD-BASED PANELS	5270	6337	5854	5171	6151	6194	6737	7386	7047	6732	6256	2.26
PULP FOR PAPER	6623	8036	7436	5179	5670	5559	6689	6837	6635	6207	5536	- 1.40
PAPER AND PAPERBOARD	12032	13708	14964	10655	13098	13753	15658	17387	17427	18106	17875	4.37
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	5801	6852	8008	5109	3912	5179	3659	4691	3916	4131	4781	- 4.77
RICE MILLED	92	90	149	16	11	11	9	14	30	24	22	-14.93
BARLEY	847	570	1158	1040	943	1725	222	232	336	248	213	-15.41
MAIZE	946	1570	1727	983	1536	1318	1493	554	1325	1770	1130	- .55
POTATOES	1510	534	648	490	442	682	371	655	322	323	291	-10.29
SUGAR,TOTAL (RAW EQUIV.)	888	754	724	403	527	743	877	660	679	794	915	1.52
PULSES	127	118	115	119	112	117	135	145	122	120	114	.23
SOYBEANS	10	34	31	11	10	32	6	30	5	4	5	-13.42
SOYBEAN OIL	3	6	8	2	12	13	7	10	17	14	18	16.39
OILSEED CAKE AND MEAL	79	75	47	49	14	61	53	20	27	9	35	-12.58
TEA	12	13	14	17	15	22	17	17	20	18	17	3.94
COTTON LINT	662	734	740	801	887	976	865	807	863	921	956	2.95
TOBACCO UNMANUFACTURED	88	97	100	102	101	99	89	102	103	90	89	- .26
WOOL GREASY	1	1	1	1	1	1	2	3	3	1	2	13.27
BOVINE CATTLE 1/	817	783	630	686	498	540	544	676	577	460	646	- 3.14
SHEEP AND GOATS 1/	3183	3168	2875	3457	3025	3504	3800	4719	4597	3800	3816	3.60
PIGS 1/	787	412	628	944	720	720	1158	1152	1144	1713	1091	9.51
TOTAL MEAT	395	433	527	627	547	658	620	744	742	784	795	6.92
TOTAL EGGS IN SHELL	108	103	111	121	101	120	114	104	90	69	50	- 5.55

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 4. VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
FISHERY PRODUCTS												
FISH FRESH FROZEN	345	379	494	606	607	540	569	605	621	514	429	2.71
FISH CURED	16	15	13	19	12	11	15	21	17	11	6	- 4.50
SHELLFISH	4	7	3	1	1	1	2	1	2	1		
FISH CANNED AND PREPARED	29	31	32	45	47	48	40	36	39	39	34	1.47
SHELLFISH CANNED+PREPAR	3	2	2	3	2	1	1	1	2	1	2	- 6.49
FISH BODY AND LIVER OIL	17	6	6	4	2	1	1	1	1			
FISH MEAL	18	13	11	19	18	14	21	20	22	12	9	- 1.40
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	7982	10195	9829	8884	9534	9919	10281	8763	7428	7104	7183	- 2.48
SAWLOGS NONCONIFEROUS	290	334	397	354	201	315	296	404	384	285	304	.12
PULPWOOD+PARTICLE	8021	11019	12480	12146	12401	12155	11375	12066	12162	12396	10566	1.53
FUELWOOD	108	141	127	95	40	63	92	46	31	18	16	-18.51
SAWNWOOD CONIFEROUS	11059	11085	9865	10362	11009	10592	10782	9956	9513	9363	9724	- 1.38
SAWNWOOD NONCONIFEROUS	827	825	767	749	714	702	752	600	597	539	536	- 4.45
WOOD-BASED PANELS	1247	1476	1457	1588	1702	1791	1875	1842	1827	1683	1513	2.35
PULP FOR PAPER	599	618	592	601	728	754	851	753	889	894	982	5.39
PAPER AND PAPERBOARD	1180	1264	1304	3707	1480	1653	1779	1664	4092	1705	1700	4.69
NORTH AMERICA DEVELOPED												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR, WHEAT EQUIV.	36693	50900	36371	43188	38493	40151	50193	46586	54012	60799	60826	4.50
RICE MILLED	2038	1630	1726	2139	2107	2345	2342	2323	3065	3197	2574	5.47
BARLEY	5749	5168	3547	4068	5432	4343	4249	4654	4195	6853	7097	2.49
MAIZE	22409	33215	29875	33526	44692	40580	50550	59414	63923	56067	49658	9.14
SORGHUM	3858	5629	5722	5848	5797	6139	5184	5950	8050	8032	6051	4.29
POTATOES	300	313	356	369	857	503	282	289	344	395	477	1.42
SUGAR, TOTAL (RAW EQUIV.)	18	65	97	268	112	153	137	124	602	1092	142	26.26
PULSES	359	416	339	390	400	374	390	470	913	1141	854	11.21
SOYBEANS	12034	13250	13953	12506	15361	16234	20794	20951	21882	21980	25652	8.03
SOYBEAN OIL	618	439	766	355	506	768	916	1110	1081	809	911	7.82
GROUNDNUTS SHELLED BASIS	196	192	262	244	132	306	393	368	292	153	210	1.51
GROUNDNUT OIL	28	47	21	12	48	45	40	5	18	20	10	- 9.56
COCONUT OIL	6	11	5	8	26	17	9	5	19	14	13	6.40
OILSEED CAKE AND MEAL	4084	5075	5253	4105	5370	4740	6793	6845	8009	7471	6917	6.28
BANANAS	188	188	195	187	201	199	201	197	205	217	210	1.26
ORANGES+TANGER+CLEMEN	303	292	328	481	461	410	356	318	482	443	353	2.30
LEMONS AND LIMES	157	201	202	183	225	236	237	173	171	176	135	- 1.66
COFFEE GREEN+ROASTED	34	72	85	55	69	106	59	79	79	70	60	2.89
COCOA BEANS	4	9	23	9	10	14	9	9	7	14	14	3.66
TEA	3	3	3	4	3	4	5	5	5	4	4	4.49
COTTON LINT	701	1246	1172	871	779	1017	1347	1527	1823	1269	1392	6.08
JUTE AND SIMILAR FIBRES	1	1	1	1	1	2	1					
TOBACCO UNMANUFACTURED	314	313	335	293	293	314	364	299	293	300	290	- .64
NATURAL RUBBER	21	27	26	29	29	25	20	21	28	18	16	- 3.27
BOVINE CATTLE 1/	405	699	360	421	684	651	592	436	424	441	563	.20
SHEEP AND GOATS 1/	174	214	293	344	250	214	153	135	144	225	287	- 1.59
PIGS 1/	101	107	213	47	56	54	201	145	254	171	342	11.58
TOTAL MEAT	372	441	403	472	693	700	721	777	973	1073	987	11.65
MILK DRY	18	23	21	17	16	16	7	5	36	55	29	4.01
TOTAL EGGS IN SHELL	11	18	21	22	22	38	39	30	61	87	64	19.11
FISHERY PRODUCTS												
FISH FRESH FROZEN	234	264	200	236	250	352	383	414	418	499	546	10.06
FISH CURED	52	49	49	47	62	65	63	64	76	87	89	6.52
SHELLFISH	36	47	39	42	48	71	120	133	115	88	80	12.52
FISH CANNED AND PREPARED	43	52	39	36	46	51	63	65	81	93	68	7.79
SHELLFISH CANNED+PREPAR	9	10	8	8	9	9	11	11	11	11	11	2.30
FISH BODY AND LIVER OIL	95	121	101	93	91	60	110	101	137	117	98	1.21
FISH MEAL	42	63	85	35	63	61	82	40	108	75	42	1.84
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	14104	14248	12118	12196	14842	14362	15565	17865	15135	11676	15269	.99
SAWLOGS NONCONIFEROUS	497	567	622	328	470	481	522	630	784	751	506	3.07
PULPWOOD+PARTICLE	6768	7837	8402	6867	8337	8710	8216	9463	9887	8382	6605	1.15
FUELWOOD	15	19	18	34	27	33	28	16	11	18	14	- 3.22
SAWNWOOD CONIFEROUS	25705	27339	22944	18553	26379	32305	34492	35407	33612	31770	31423	4.00
SAWNWOOD NONCONIFEROUS	1006	1072	705	807	814	847	1341	1025	1190	1209	1083	3.13
WOOD-BASED PANELS	1225	1558	1518	1507	1567	1774	2061	2053	2312	2533	2045	6.24
PULP FOR PAPER	6578	7162	8011	6621	7603	7657	8051	8787	9704	9141	8436	3.16

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 4. VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
PAPER AND PAPERBOARD	10981	11255	12255	9726	10935	11232	11124	12326	13675	13134	11931	1.70
OCEANIA DEVELOPED												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR, WHEAT EQUIV.	8641	5592	5270	8105	7787	8130	11082	6903	14933	10642	10974	6.50
RICE MILLED	181	158	137	174	218	256	277	241	457	281	597	12.35
BARLEY	1828	844	808	1760	2022	2157	1375	1757	3047	1650	1599	5.23
MAIZE	38	19	3	1	88	79	32	75	37	52	24	16.12
MILLET	40	25	31	21	20	23	15	18	14	11	25	- 7.49
SORGHUM	993	736	748	856	815	829	385	516	580	463	1271	- 2.82
POTATOES	16	21	16	21	25	29	20	18	23	21	23	2.18
SUGAR, TOTAL (RAW EQUIV.)	2009	2085	1782	1996	2000	2556	2478	1840	2201	2561	2500	2.39
PULSES	37	44	42	36	33	40	36	45	72	64	80	7.05
SOYBEANS		1	2	4	32							
GROUNDNUTS SHELLED BASIS	1	7	7	2	2	4	2	2	12	6	5	8.62
OILSEED CAKE AND MEAL	2	1		1	3	2	1	1	1		1	- 5.87
ORANGES+TANGER+CLEMEN	34	32	24	15	18	11	22	25	38	32	28	1.69
LEMONS AND LIMES	1	1	1	1	1	1			4	1	2	9.46
COTTON LINT	2	22	3	8	16	6	10	24	49	59	79	32.98
WOOL GREASY	905	859	634	588	750	826	630	705	650	680	642	- 2.15
BOVINE CATTLE 1/	7	17	34	13	33	45	71	107	74	109	121	30.33
SHEEP AND GOATS 1/	891	1145	1159	1456	1847	3409	4143	3898	6172	5763	6097	24.24
PIGS 1/	2	1	1	1	1		1	1	2	1		- 9.95
TOTAL MEAT	1367	1542	1278	1183	1446	1643	1667	1814	1494	1601	1486	1.87
MILK DRY	37	48	51	56	53	100	109	123	161	137	177	17.50
TOTAL EGGS IN SHELL	4	4	2	2	2	1	1	1	1	1	1	-10.02
FISHERY PRODUCTS												
FISH FRESH FROZEN	14	14	13	12	19	28	32	54	38	35	42	15.51
SHELLFISH	18	17	16	16	14	17	20	32	23	24	28	5.99
FISH CANNED AND PREPARED		2		1	1			1			1	
SHELLFISH CANNED+PREPAR	4	3	2	2	2	2	2	2	2	2	2	- 3.80
FISH BODY AND LIVER OIL	6	8	8	4	8	5	4	3				
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	1844	1916	1302	534	958	1027	936	1236	971	529	479	- 9.61
SAWLOGS NONCONIFEROUS	14	9	12	3	1	3	2	1	4	4		-26.38
PULPWOOD+PARTICLE	1047	2199	2931	3061	3866	5326	5074	5357	7064	6676	6269	17.16
SAWNWOOD CONIFEROUS	266	248	245	160	232	295	367	509	617	546	515	11.55
SAWNWOOD NONCONIFEROUS	27	54	51	32	23	31	30	41	54	35	34	.39
WOOD-BASED PANELS	75	93	52	61	28	32	52	104	142	138	99	7.22
PULP FOR PAPER	114	142	232	335	375	452	435	464	475	518	421	14.25
PAPER AND PAPERBOARD	202	189	214	204	269	302	332	359	418	447	340	8.92
AFRICA DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR, WHEAT EQUIV.	74	66	36	22	17	17	35	25	15	11	11	-15.33
RICE MILLED	53	45	31	18	57	57	13	12	24	17	7	-14.26
BARLEY		65	2	5		1		2				
MAIZE	726	807	626	1009	472	434	652	364	69	249	359	-13.98
MILLET	10	29	59	10	79	13	31	78	56	41	30	9.62
SORGHUM	5	5	5	10	2			53	10	3	1	- 7.71
POTATOES	121	104	83	97	91	82	58	50	55	37	32	-11.80
SUGAR, TOTAL (RAW EQUIV.)	1476	1590	1466	1132	1355	1460	1302	1608	1614	1531	1716	1.42
PULSES	464	465	357	319	410	261	154	172	193	121	121	-13.69
SOYBEANS	8	9	2	21	3	13	36	1	1	1		
GROUNDNUTS SHELLED BASIS	375	384	198	169	296	197	66	84	91	44	51	-19.47
GROUNDNUT OIL	315	239	155	226	290	258	94	158	90	36	143	-12.74
COPRA	59	69	62	42	60	55	34	35	24	14	26	-12.12
COCONUT OIL	11	17	18	9	11	6	12	15	15	16	20	3.08
PALM NUTS KERNELS	334	254	320	269	353	239	152	123	148	121	109	-11.37
PALM OIL	151	135	196	209	157	117	93	63	138	83	97	- 7.14
OILSEED CAKE AND MEAL	909	725	617	677	754	709	461	670	488	371	541	- 5.73
BANANAS	462	438	465	354	320	312	347	295	246	201	189	- 8.49
ORANGES+TANGER+CLEMEN	794	914	729	592	664	744	873	672	844	697	715	- .57
LEMONS AND LIMES	4	6	3	1	1	1	2	1	1	1	1	-15.35
COFFEE GREEN+ROASTED	1087	1187	1177	1109	1151	880	925	1017	901	892	935	- 2.77

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 4. VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
COCOA BEANS	979	891	864	819	866	688	780	737	780	881	768	- 1.69
TEA	137	141	137	135	149	165	178	185	167	165	176	3.02
COTTON LINT	398	410	317	271	351	300	308	331	339	313	302	- 1.79
TOBACCO UNMANUFACTURED	114	131	131	113	141	129	139	132	174	189	144	3.51
NATURAL RUBBER	191	197	203	186	159	153	145	142	138	146	140	- 4.07
WOOL GREASY	5	5	6	4	3	4	4	3	4	2	3	- 7.74
BOVINE CATTLE 1/	1527	1405	1207	1022	1126	1106	1086	1148	1219	1342	1344	- .54
SHEEP AND GOATS 1/	3684	3368	3161	3515	2548	2461	3066	3075	3435	3427	3637	.16
PIGS 1/	22	17	13	13	15	4	1	3	1	1	1	-34.25
TOTAL MEAT	107	129	119	104	113	118	100	97	48	49	42	- 9.95
MILK DRY	2	3	1		1		2	2				
TOTAL EGGS IN SHELL	1	1	1	1	1	1			1			
FISHERY PRODUCTS												
FISH FRESH FROZEN	63	106	106	76	76	98	109	107	163	187		
FISH CURED	42	33	24	30	20	22	20	16	18	19		
SHELLFISH	19	23	29	39	43	43	48	34	35	50		
FISH CANNED AND PREPARED	61	83	80	59	75	70	62	77	80	93		
FISH BODY AND LIVER OIL	25	31	18	12	7	7	7	7	5	5		
FISH MEAL	150	142	95	83	43	19	39	23	26	27		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	13	14	14	15	11	2	2	2				
SAWLOGS NONCONIFEROUS	7174	8260	6580	5139	6435	6547	6416	6312	6143	4826	4705	- 3.62
PULPWOOD+PARTICLE	1	2	69	70	127	100	75	112	84	173	173	51.26
FUELWOOD	11	28	27	9	8	9	9	9	1			
SAWNWOOD CONIFEROUS	73	103	107	98	113	119	116	126	108	99	101	1.89
SAWNWOOD NONCONIFEROUS	738	933	813	662	701	749	750	719	679	589	622	- 2.69
WOOD-BASED PANELS	327	340	300	207	219	237	257	227	241	241	228	- 3.12
PULP FOR PAPER	187	201	219	155	255	190	233	259	259	249	246	3.39
PAPER AND PAPERBOARD	17	18	30	21	24	21	18	26	48	47	49	10.30
LATIN AMERICA												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	1771	3098	1836	2000	3304	5991	1765	4389	4592	3927	3976	8.22
RICE MILLED	195	330	348	439	536	1008	751	578	553	638	502	9.15
BARLEY	111	161	110	28	43	130	18	58	74	32	21	-13.12
MAIZE	3645	4113	6666	5088	4560	6864	5927	5990	3557	9193	5786	3.92
MILLET	81	118	78	94	124	172	196	139	63	136	101	2.09
SORGHUM	635	2108	3169	2180	3499	4295	4625	3899	1544	5053	5361	13.00
POTATOES	36	11	21	50	99	106	67	77	61	45	23	6.29
SUGAR,TOTAL (RAW EQUIV.)	10851	11942	12048	11028	10437	12923	12308	12609	11893	12535	13001	1.37
PULSES	157	166	175	233	312	424	464	395	345	281	255	7.57
SOYBEANS	1079	1841	2831	3435	3934	3441	2845	3814	4503	3909	2878	8.72
SOYBEAN OIL	60	116	42	285	562	544	570	609	840	1353	1010	36.75
GROUNDNUTS SHELLED BASIS	62	57	56	68	30	59	60	115	107	93	68	5.79
GROUNDNUT OIL	114	124	101	38	140	181	155	209	207	80	104	3.20
COPRA	2	1	2	2	2			2			5	
COCONUT OIL	11	9	5	5	5	5	9	8	4	4	3	- 7.52
PALM NUTS KERNELS	5	6	5	4	2	3	9	7	5		5	- 6.40
PALM OIL	3	6	6	3	5	3	4	5	2	4	10	.96
OILSEED CAKE AND MEAL	2698	2869	3130	4299	5798	7354	7676	7494	8891	10915	10666	16.44
BANANAS	5329	5345	5055	4779	4839	5232	5520	5302	5356	5411	5674	.80
ORANGES+TANGER+CLEMEN	216	218	210	190	173	224	269	314	308	319	334	5.86
LEMONS AND LIMES	8	11	14	22	25	29	47	74	53	51	31	20.36
COFFEE GREEN+ROASTED	2165	2232	1826	2055	2032	1547	1960	2188	2209	2113	2212	.50
COCOA BEANS	226	174	255	270	209	187	211	226	183	201	248	- .27
TEA	24	25	30	23	32	34	41	39	44	35	43	6.29
COTTON LINT	862	829	664	806	607	689	896	733	641	604	579	- 2.83
JUTE AND SIMILAR FIBRES	4	4	3	1	1		1	2	2			
TOBACCO UNMANUFACTURED	184	186	244	244	255	238	274	276	254	271	269	3.57
NATURAL RUBBER	9	8	5	6	7	5	6	4	4	2	3	-11.58
WOOL GREASY	78	81	64	108	92	108	107	80	105	129	107	4.15
BOVINE CATTLE 1/	1487	1026	1037	960	1103	1093	1625	1104	776	860	1090	- 2.21
SHEEP AND GOATS 1/	81	48	65	93	106	112	125	98	65	312	139	10.03
PIGS 1/	42	31	33	42	65	31	24	16	1			
TOTAL MEAT	1039	890	504	449	775	778	840	816	770	1028	1116	3.22
MILK DRY	12	15	9	14	34	18	10	4	3	9	19	- 5.79
TOTAL EGGS IN SHELL	1	1	1	1	3	3	2	4	11	15	6	29.50

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 4. VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
FISHERY PRODUCTS												
FISH FRESH FROZEN	64	107	131	145	196	302	361	407	397	383		
FISH CURED	3	7	9	5	4	9	3	12	6	7		
SHELLFISH	98	94	90	93	99	99	140	171	125	125		
FISH CANNED AND PREPARED	21	20	20	16	28	48	72	76	135	164		
SHELLFISH CANNED+PREPAR	2	1	1	3	3	5	2	5	3	4		
FISH BODY AND LIVER OIL	318	10	93	148	39	46	70	128	100	79		
FISH MEAL	1711	402	749	909	842	740	843	1147	1020	849		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	9	14	9	15	23	167	689	968	1029	384	913	76.83
SAWLOGS NONCONIFEROUS	217	524	202	55	86	49	60	86	114	51	45	-15.39
PULPWOOD+PARTICLE	382	284	183	107	115	53	53	53	53	53	53	-18.59
FUELWOOD	1	2	1	3	4	18	26	37	29	13	13	44.04
SAWNWOOD CONIFEROUS	1718	1530	1131	1134	1050	1429	1477	1678	1718	1268	991	- 1.02
SAWNWOOD NONCONIFEROUS	622	870	835	590	629	838	727	1121	1130	844	655	2.28
WOOD-BASED PANELS	266	295	265	252	326	374	487	438	606	607	574	10.46
PULP FOR PAPER	262	296	314	328	377	433	706	1014	1306	1362	1287	21.29
PAPER AND PAPERBOARD	110	186	213	146	199	222	268	391	410	575	476	15.72
NEAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	616	599	23	12	21	627	2079	825	485	555	547	21.30
RICE MILLED	518	341	181	130	256	276	223	211	259	159	72	- 9.51
BARLEY	142	17	7	12	366	302	50	88	229	424	1024	37.72
MAIZE	7	3	2	1	14	8	43	111	155	40	12	38.71
MILLET	7	9	4	4	6	3	4	2	2			
SORGHUM	61	104	98	48	75	137	66	196	286	256	370	18.30
POTATOES	284	326	299	208	380	437	289	311	462	371	430	4.11
SUGAR,TOTAL (RAW EQUIV.)	147	50	54	54	43	59	51	34	41	66	207	1.08
PULSES	143	170	106	109	121	176	256	303	299	500	586	17.01
GROUNDNUTS SHELLED BASIS	149	166	145	223	321	184	120	56	59	117	120	- 7.76
OILSEED CAKE AND MEAL	751	545	401	452	368	252	225	214	259	138	171	-13.69
BANANAS	16	10	6	10	9	4	2	5	17	18	7	- 1.12
ORANGES+TANGER+CLEMEN	527	766	722	724	720	754	645	608	632	760	748	.78
LEMONS AND LIMES	108	150	138	122	168	136	153	152	201	204	220	5.86
COFFEE GREEN+ROASTED	10	8	6	4	3	3	4	3	2	5	3	-10.94
TEA	19	26	19	4	8	7	10	16	15	17	10	- 1.92
COTTON LINT	1049	1097	706	856	1004	710	765	665	587	530	595	- 6.23
TOBACCO UNMANUFACTURED	137	120	123	75	86	71	84	77	94	137	111	- 1.16
WOOL GREASY	21	25	10	8	7	12	9	8	7	3	4	-14.73
BOVINE CATTLE 1/	92	52	77	18	11	16	12	21	9	60	122	- 3.66
SHEEP AND GOATS 1/	932	987	980	720	828	680	1209	1424	2026	2872	3285	14.08
TOTAL MEAT	13	30	22	14	9	11	15	15	21	73	109	14.39
TOTAL EGGS IN SHELL	21	15	17	12	1	3	7	10	7	11	7	- 7.24
FISHERY PRODUCTS												
FISH FRESH FROZEN	12	20	16	6	4	4	8	13	14	21		
FISH CURED	14	9	13	12	10	12	11	5	6	4		
SHELLFISH	13	16	10	7	10	10	8	11	11	7		
FISH CANNED AND PREPARED	1	1	1	1	3	4	4	5	9	6		
FISH BODY AND LIVER OIL	1	1			1	2	1					
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	14	7	5	4	3		1	1	1	2	7	-13.94
SAWLOGS NONCONIFEROUS	22	24	8	17	10	9	5	3	4	36	189	5.84
FUELWOOD	9	9	7	8	8	6	5	8	8	7	7	- 2.21
SAWNWOOD CONIFEROUS	37	37	61	49	60	69	60	103	84	99	122	11.90
SAWNWOOD NONCONIFEROUS	28	23	21	1	1	1		2	3	6	12	-12.63
WOOD-BASED PANELS	26	32	31	27	29	26	26	24	19	19	21	- 4.55
PAPER AND PAPERBOARD	3	10	22	9	10	11	10	16	21	35	38	18.60

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 4. VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
FAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	325	520	107	92	64	234	873	670	288	220	99	-.16
RICE MILLED	3228	2293	2018	1911	3720	4830	3132	5085	5334	6063	6082	11.28
BARLEY	1	19	95		32	39	13	73	258	248	762	70.34
MAIZE	1952	1630	2554	2279	2483	1768	2196	2143	2340	2702	3195	3.68
MILLET	1	4	2	1	1	8	4	7	2	2	2	7.86
SORGHUM	134	135	189	213	182	138	166	170	208	288	318	6.68
POTATOES	35	40	36	46	95	73	55	99	110	81	78	10.79
SUGAR,TOTAL (RAW EQUIV.)	1816	1989	2557	2804	3556	4475	2765	3118	2616	2861	4158	5.25
PULSES	216	219	167	170	191	181	245	291	313	336	330	6.62
SOYBEANS	20	59	18	32	38	47	30	27	26	27	27	- 1.24
SOYBEAN OIL	9	8	7	4	2	4	7	6	27	32	46	19.90
GROUNDNUTS SHELLED BASIS	51	65	111	89	177	75	32	46	53	123	114	1.21
GROUNDNUT OIL	6	10	7	9	10	5	6	16	5	5	5	- 3.23
COPRA	1109	800	285	834	878	683	445	193	233	172	235	-15.19
COCONUT OIL	642	525	508	760	1004	845	1112	976	1061	1192	1065	8.15
PALM NUTS KERNELS	57	42	29	33	33	30	13	23	45	24	8	-10.89
PALM OIL	1147	1284	1411	1726	1897	2067	2168	2634	3295	2953	3466	11.92
OILSEED CAKE AND MEAL	2153	2243	2006	2059	3353	2870	2593	3349	2916	2852	3095	4.28
BANANAS	461	503	705	872	846	738	832	921	972	923	982	6.83
ORANGES+TANGER+CLEMEN	33	41	39	137	86	113	65	81	75	44	53	3.02
COFFEE GREEN+ROASTED	204	206	203	226	262	267	339	335	375	370	403	8.19
COCOA BEANS	7	10	14	15	18	18	24	32	41	64	74	24.65
TEA	464	454	458	502	512	499	459	475	523	553	479	1.03
COTTON LINT	310	248	96	244	218	56	128	134	375	466	344	5.01
JUTE AND SIMILAR FIBRES	716	867	860	566	646	544	474	522	430	530	474	- 5.80
TOBACCO UNMANUFACTURED	181	196	211	198	210	232	215	212	200	251	224	1.85
NATURAL RUBBER	2565	3051	2868	2737	2967	3027	3080	3179	3101	2926	2880	.90
WOOL GREASY	2	2	3	1	2		1					
BOVINE CATTLE 1/	148	123	114	74	73	98	78	66	55	47	55	- 9.62
SHEEP AND GOATS 1/	47	20	28	28	80	215	70	54	60	74	81	10.87
PIGS 1/	7	13	5	10	22	7	10	12	8	13	94	13.20
TOTAL MEAT	15	19	26	33	44	60	68	87	86	97	108	22.43
MILK DRY	3	2	3	4	5	5	7	10	13	9	11	18.61
TOTAL EGGS IN SHELL	7	4	3	5	6	10	6	5	3	6	6	.50
FISHERY PRODUCTS												
FISH FRESH FROZEN	229	302	285	418	289	543	561	554	561	590	460	8.94
FISH CURED	42	54	36	32	30	29	31	28	29	23		
SHELLFISH	172	218	212	228	291	282	312	350	259	232		
FISH CANNED AND PREPARED	7	11	18	18	26	36	49	47	37	42	28	16.58
SHELLFISH CANNED+PREPAR	20	23	26	27	21	32	29	30	22	6		
FISH BODY AND LIVER OIL			1	1	1	1	3	2	2	1		11.16
FISH MEAL	65	78	63	57	84	116	142	165	160	155	143	11.68
FOREST PRODUCTS 2/												
SAWLOGS NONCONIFEROUS	32177	39805	34240	28203	35758	37017	38458	35843	31534	24785	24553	- 2.62
PULPWOOD+PARTICLE	763	754	986	930	697	1033	860	736	1003	1000	1000	2.08
FUELWOOD	301	212	215	154	179	190	145	142	218	183	189	- 2.91
SAWNWOOD CONIFEROUS	109	188	117	134	251	258	425	481	410	283	219	11.48
SAWNWOOD NONCONIFEROUS	3120	4352	3661	3298	5551	5374	5463	7236	6398	5694	5959	7.10
WOOD-BASED PANELS	2573	3076	2424	2512	3110	3198	3342	3159	2933	3574	3428	2.89
PULP FOR PAPER	1	11	5		1				1	2	2	
PAPER AND PAPERBOARD	99	173	114	104	175	139	156	146	295	311	241	9.72
ASIAN CENT PLANNED ECON												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	4	9	4	3	4	5	6	7	3	8	5	2.34
RICE MILLED	1637	2743	2832	2336	1547	1498	2094	1902	1710	985	861	- 7.80
BARLEY		16		6	2		1	2	1			
MAIZE	110	65	130	315	430	356	230	240	104	141	94	.44
MILLET	24	33	30	56	52	37	30	20	5	1	2	-26.91
POTATOES	52	54	49	50	55	53	62	81	77	80	72	5.22
SUGAR,TOTAL (RAW EQUIV.)	641	632	705	619	660	757	481	501	634	424	553	- 3.04
PULSES	128	115	86	83	97	89	76	90	70	108	71	- 3.47
SOYBEANS	373	321	375	355	199	130	113	306	140	138	149	-10.18
SOYBEAN OIL					1	2	6	4	4			
GROUNDNUTS SHELLED BASIS	45	33	37	37	45	25	30	50	92	242	141	16.25

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 4. VOLUME OF EXPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
GROUNDNUT OIL	23	22	29	21	16	5	13	18	21	63	42	5.44
OILSEED CAKE AND MEAL	27	43	31	29	36	30	31	49	87	207	283	22.06
BANANAS	245	270	165	127	96	140	101	117	109	103	108	- 8.13
ORANGES+TANGER+CLEMEN	97	89	78	76	52	74	81	73	70	54	58	- 4.05
COFFEE GREEN+ROASTED	4	6	6	4	12	4	5	5	4	1	2	- 9.19
TEA	67	63	73	77	77	104	109	126	125	113	124	7.94
COTTON LINT	22	22	22	43	65	71	33	22	2	1		
JUTE AND SIMILAR FIBRES	2	2	1	1	4	7	20	32	40	45	45	52.73
TOBACCO UNMANUFACTURED	36	38	51	42	33	37	35	35	32	30	32	- 2.93
NATURAL RUBBER	32	40	49	17	49	50	41	50	39	26	27	- 1.25
WOOL GREASY	22	23	22	24	25	21	22	24	23	21	19	- 1.08
BOVINE CATTLE 1/	147	160	147	199	195	195	181	224	272	251	253	6.14
SHEEP AND GOATS 1/	1186	1220	1225	1030	873	482	443	463	448	330	312	-14.48
PIGS 1/	2689	2794	2601	2775	2953	3016	3129	3079	4548	3189	3216	3.11
TOTAL MEAT	248	262	167	205	201	155	210	246	251	252	255	1.45
TOTAL EGGS IN SHELL	44	41	40	39	38	35	42	51	54	55	70	4.78
FISHERY PRODUCTS												
FISH FRESH FROZEN	176	193	153	182	174	207	130	134	49	54		
FISH CURED	4	5	4	5	4	3	6	9	2	3	2	- 4.23
SHELLFISH	41	45	45	44	53	51	55	68	61	65	20	- .20
FISH CANNED AND PREPARED	3	6	6	6	14	13	21	31	31	31	32	27.38
SHELLFISH CANNED+PREPAR	8	8	7	7	11	11	14	10	8	9	1	- 8.66
FISH MEAL	3	3	3	1			1					
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	119	129	157	177	128	128	128	123	117	105	106	- 2.72
SAWLOGS NONCONIFEROUS	28	5	3	17	12	12	12	15	8	9	3	- 4.79
SAWNWOOD CONIFEROUS	139	53	66	95	103	102	111	102	93	93	95	1.47
SAWNWOOD NONCONIFEROUS	177	160	118	133	136	91	115	63	52	41	66	-12.29
WOOD-BASED PANELS	953	959	687	770	872	949	1244	1096	885	957	834	1.05
PULP FOR PAPER	54	18	23	30	22	22	33	35	33	75	68	8.14
PAPER AND PAPERBOARD	115	116	107	132	122	122	121	95	158	181	175	4.07

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 5. WORLD AVERAGE EXPORT UNIT VALUES OF SELECTED AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	.....	.....	.....	.....	US $	PER METRIC TON	.....	.....	.....	.....	.....	PERCENT
AGRICULTURAL PRODUCTS												
WHEAT	69	106	171	169	153	125	131	163	186	188	172	6.46
WHEAT FLOUR	93	135	210	237	215	191	199	224	283	294	244	8.17
RICE MILLED	136	223	398	374	277	263	345	323	382	437	337	6.60
BARLEY	59	94	135	140	138	132	137	145	175	175	160	7.85
MAIZE	63	92	128	136	123	111	117	128	150	154	127	5.48
POTATOES	71	114	111	149	246	197	157	188	185	178	186	7.69
SUGAR CENTRIFUGAL RAW	150	189	399	555	376	295	341	356	537	504	413	8.42
SOYBEANS	126	216	246	225	216	272	250	271	264	282	243	4.73
SOYBEAN OIL	288	358	701	695	456	586	617	675	625	541	483	3.83
GROUNDNUTS SHELLED	247	340	513	514	467	596	661	679	695	983	636	10.31
GROUNDNUT OIL	373	443	929	801	723	814	946	963	777	982	650	5.67
COPRA	118	210	507	237	183	314	372	574	396	303	263	6.78
COCONUT OIL	207	358	929	418	361	552	627	939	651	536	465	6.34
PALM NUTS KERNELS	107	179	364	178	160	266	262	357	287	240	242	6.02
PALM OIL	188	255	529	462	362	514	554	617	564	528	451	8.02
PALM KERNEL OIL	238	342	826	455	402	538	617	896	662	548	465	5.95
OLIVE OIL	806	1168	1786	1836	1309	1264	1344	1630	1907	1727	1689	4.89
CASTOR BEANS	158	384	329	207	251	334	332	345	364	869	313	4.52
CASTOR BEAN OIL	453	967	838	575	557	883	801	803	970	855	818	3.64
COTTONSEED	75	100	136	139	147	167	177	171	187	187	140	6.74
COTTONSEED OIL	317	355	602	675	555	599	607	682	628	628	528	4.72
LINSEED	121	258	426	336	291	273	216	281	311	326	284	3.33
LINSEED OIL	196	316	900	762	520	500	373	542	611	662	536	5.43
BANANAS	89	94	99	128	138	144	156	169	186	196	201	9.10
ORANGES	137	153	164	202	201	220	267	346	358	341	331	10.84
APPLES	186	249	241	316	273	352	412	399	446	434	447	8.85
RAISINS	362	726	907	716	677	965	1080	1563	1673	1480	1195	12.22
OATES	154	166	214	246	242	324	387	448	494	635	542	15.48
COFFEE GREEN	902	1137	1259	1180	2285	4245	3177	3152	3315	2263	2314	12.20
COCOA BEANS	568	842	1327	1397	1506	2811	3138	2859	2762	1778	1541	11.88
TEA	948	935	1087	1269	1238	2207	2072	1995	2059	1964	1814	9.07
COTTON LINT	774	879	1295	1120	1295	1537	1361	1528	1629	1715	1459	6.77
JUTE	228	250	247	238	266	277	355	380	386	305	285	4.15
JUTE-LIKE FIBRES	205	193	170	203	210	250	245	248	264	182	202	1.43
SISAL	151	320	716	469	342	380	379	477	587	535	544	7.55
TOBACCO UNMANUFACTURED	1370	1502	1751	2079	2180	2361	2643	2740	2817	2961	3261	8.75
NATURAL RUBBER	336	552	825	556	749	806	919	1214	1311	1132	935	10.66
RUBBER NATURAL DRY	309	573	712	544	720	794	915	1180	1309	1065	800	10.37
WOOL GREASY	932	2057	2803	1765	1797	2160	2221	2463	2823	2943	2869	7.50
CATTLE 1/	230	284	267	305	287	306	353	419	446	427	407	6.44
BEEF AND VEAL	1253	1659	1521	1733	1650	1861	2157	2390	2495	2355	2467	6.75
MUTTON AND LAMB	586	872	1223	1071	1009	1143	1390	1590	1763	1863	1806	10.39
PIGS 1/	57	78	81	90	90	100	104	111	106	108	111	5.61
BACON HAM OF SWINE	1027	1507	1620	2069	1979	1849	2223	2608	2851	2713	2526	8.65
MEAT CHIKENS	742	1040	1032	1132	1180	1232	1314	1394	1467	1369	1180	4.65
MEAT PREPARATIONS	1272	1537	1735	1500	1530	1521	1615	2151	2616	2490	2275	6.42
EVAP COND WHOLE COW MILK	432	482	560	681	638	658	756	853	929	919	933	8.10
MILK OF COWS SKIMMED DRY	579	660	842	992	812	638	744	843	1074	1106	1070	5.08
BUTTER OF COWMILK	1231	991	1318	1728	1676	1732	2244	2280	2466	2619	2705	10.07
CHEESE OF WHOLE COWMILK	1255	1461	1713	2021	1969	2146	2509	2748	2904	2649	2540	7.88
FISHERY PRODUCTS												
FISH FRESH FROZEN	542	664	669	746	897	1049	1129	1237	1218	1211	1293	9.31
FISH CURED	686	914	1237	1300	1488	1636	1797	2076	2400	2537	2201	12.57
SHELLFISH	1386	1789	1849	2093	2579	2753	3111	3637	4034	4021	5672	13.49
FISH CANNED AND PREPARED	958	1186	1342	1330	1448	1710	2043	2293	2275	2307	2253	9.47
SHELLFISH CANNED+PREPAR	1718	2240	2620	2861	3133	3403	3997	4620	5153	4910	6496	12.57
FISH BODY AND LIVER OIL	158	272	467	338	362	430	433	417	434	403	339	5.38
FISH MEAL	166	401	377	243	324	428	420	390	475	468	367	6.07
FOREST PRODUCTS												
SAWLOGS CONIFEROUS 2/	27	46	53	52	52	59	63	84	90	81	74	9.56
SAWLOGS NONCONIFEROUS 2/	26	40	48	39	50	54	57	93	101	88	90	13.02
PULPWOOD+PARTICLE 2/	14	17	22	25	23	24	25	26	36	39	35	9.06
FUELWOOD 2/	18	21	37	43	59	48	64	84	106	114	122	20.94
SAWNWOOD CONIFEROLS 2/	53	74	96	89	93	101	108	131	138	127	115	7.59
SAWNWOOD NONCONIF. 2/	80	105	133	128	134	151	163	215	242	216	207	10.18
WOOD-BASED PANELS 2/	132	167	187	183	197	211	228	283	315	293	285	8.21
PULP FOR PAPER	147	174	279	351	336	313	280	360	441	447	410	9.66
PAPER AND PAPERBOARD	207	245	348	372	406	421	451	505	534	564	552	9.76

1/ U.S. DOLLARS PER HEAD
2/ U.S. DOLLARS PER CUBIC METRE

ANNEX TABLE 6. VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
WORLD												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	59140	75290	66001	72187	70424	68993	77631	82720	94802	100699	105000	5.12
RICE MILLED	8803	9154	8461	7632	9264	10058	10376	12351	12865	13832	11275	4.86
BARLEY	13989	12096	12422	12512	13703	12355	14749	14769	14997	18599	18143	3.70
MAIZE	37611	47000	49533	51708	61873	55045	67868	74667	79623	80173	69637	7.02
MILLET	292	468	477	322	353	405	405	342	286	242	283	- 3.63
SORGHUM	5294	7286	10184	9224	10442	10679	10288	10149	10785	13690	12671	6.80
POTATOES	4878	3836	3829	3764	4327	4729	3908	4573	4673	4691	5020	1.68
SUGAR,TOTAL (RAW EQUIV.)	21308	22792	22258	21616	22175	26919	23906	25858	26182	27186	28653	2.86
PULSES	2066	2021	1684	1868	1883	2054	2057	2394	2863	3025	2826	4.99
SOYBEANS	13846	14675	17503	16313	19983	19623	23412	26125	27192	26185	28556	7.89
SOYBEAN OIL	1116	1051	1510	1373	1616	2072	2403	2553	3241	3263	3662	13.99
GROUNDNUTS SHELLED BASIS	879	988	889	927	1062	840	833	803	731	741	857	- 2.15
GROUNDNUT OIL	518	537	387	428	512	596	474	472	505	347	406	- 1.83
COPRA	1309	1061	545	1033	1215	919	804	458	464	396	499	- 9.75
COCONUT OIL	845	766	625	955	1411	1084	1259	1199	1124	1404	1271	6.15
PALM NUTS KERNELS	398	295	343	278	349	292	170	161	183	160	184	- 8.70
PALM OIL	1372	1549	1559	1884	2018	2471	2317	2704	3475	3014	3444	10.05
OILSEED CAKE AND MEAL	14336	15394	14829	14911	18475	19342	22044	23871	25440	27450	28658	8.05
BANANAS	6417	6385	6345	6307	6345	6576	6860	7032	6816	6788	6797	.95
ORANGES+TANGER+CLEMEN	4717	4952	4870	4991	5119	5276	4961	5058	5255	5021	5133	.64
LEMONS AND LIMES	733	778	836	830	936	912	963	966	991	974	1024	3.15
COFFEE GREEN+ROASTED	3474	3654	3463	3676	3776	3126	3435	3921	3799	3817	3871	.94
COCOA BEANS	1250	1171	1155	1192	1159	1006	1094	1026	1068	1234	1268	- .28
TEA	752	758	822	806	846	899	829	888	913	882	904	1.85
COTTON LINT	4003	4774	4091	4083	4103	4018	4506	4520	5076	4454	4463	1.11
JUTE AND SIMILAR FIBRES	788	873	859	569	664	557	489	581	576	554	529	- 4.68
TOBACCO UNMANUFACTURED	1204	1239	1286	1303	1301	1261	1424	1392	1408	1441	1396	1.68
NATURAL RUBBER	2984	3262	3349	3130	3275	3389	3351	3492	3386	3267	3118	.46
WOOL GREASY	1200	948	748	844	1034	870	883	907	853	866	822	- 1.69
BOVINE CATTLE 1/	7941	7084	5957	6410	6701	6781	7324	7267	6799	7151	7758	.60
SHEEP AND GOATS 1/	11900	11151	10298	11213	10704	13142	14335	16465	17606	18591	18086	6.38
PIGS 1/	5973	5779	5985	6377	6802	6704	7759	8145	10622	9864	9191	6.22
TOTAL MEAT	5278	5489	5045	5537	6015	6617	6937	7560	7893	8433	8663	5.90
MILK DRY	245	247	266	265	332	447	438	478	562	545	472	9.66
TOTAL EGGS IN SHELL	433	444	505	529	516	574	637	675	742	769	817	6.78
FISHERY PRODUCTS												
FISH FRESH FROZEN	2484	2816	2918	2835	2971	3167	3485	3829	4281	4346		
FISH CURED	480	413	376	377	366	327	340	374	390	369		
SHELLFISH	688	717	770	822	939	876	1051	1192	1126	1158		
FISH CANNED AND PREPARED	684	735	767	713	857	797	891	932	1023	1063		
SHELLFISH CANNED+PREPAR	115	134	130	129	145	154	160	161	161	171		
FISH BODY AND LIVER OIL	739	631	624	631	613	569	654	762	815	706		
FISH MEAL	3114	1720	1908	2288	2193	2212	2058	2419	2249	1989		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	26420	29838	26831	24329	27706	29281	29839	31520	28008	23720	26546	- .16
SAWLOGS NONCONIFEROUS	41834	49430	45228	35773	44192	46169	47608	48197	42158	35089	33403	- 1.83
PULPWOOD+PARTICLE	22879	28801	33914	31445	31886	36158	33914	38658	42329	42384	36585	4.68
FUELWOOD	1105	1679	1816	1684	1550	1627	1337	1383	1397	933	1003	- 3.71
SAWNWOOD CONIFEROLS	56773	60799	52077	42284	54360	60624	65095	67159	62754	58156	59538	1.58
SAWNWOOD NONCONIFEROUS	7804	10562	9563	8069	10494	11411	11868	13559	12881	11743	10977	3.88
WOOD-BASED PANELS	13115	16062	13710	12380	14555	14541	15848	16771	15540	16237	15160	1.68
PULP FOR PAPER	14881	16568	17385	13504	15277	15353	17396	18583	19086	18286	16889	1.90
PAPER AND PAPERBOARD	25175	27009	28937	23002	26551	27733	30346	32181	33574	33804	33498	3.31
WESTERN EUROPE												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	13410	13527	12488	12394	13109	12521	13300	12885	14024	13254	13840	.47
RICE MILLED	770	804	806	809	1225	1352	1567	1392	1335	1507	1733	8.94
BARLEY	5694	5364	6345	5477	6329	6136	6567	5105	5255	5966	6190	.16
MAIZE	20166	22641	24324	25301	26440	26733	24757	24817	23438	21722	21109	- .14
MILLET	114	138	108	112	90	182	195	150	98	109	98	- .57
SORGHUM	578	1139	2800	2669	2893	2146	1425	1166	1251	1091	2054	1.27
POTATOES	2549	2390	2235	2372	3149	2999	2565	2808	3051	3025	3205	2.91
SUGAR,TOTAL (RAW EQUIV.)	4823	4804	5165	5096	4467	4112	3431	3346	3096	2979	3098	- 5.96
PULSES	1098	1103	786	794	828	888	907	1054	1013	923	1052	.45
SOYBEANS	8323	8327	11275	10524	11719	11612	14201	15311	16217	14414	16454	7.19
SOYBEAN OIL	368	316	545	575	532	502	559	580	675	643	680	6.20
GROUNDNUTS SHELLED BASIS	610	712	628	621	749	577	556	545	428	398	449	- 4.94
GROUNDNUT OIL	435	422	327	338	351	355	325	407	446	296	349	- 1.17
COPRA	822	630	354	816	961	670	515	294	252	183	280	-11.95

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 6. VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
COCONUT OIL	287	277	177	281	427	331	395	390	414	543	520	8.33
PALM NUTS KERNELS	350	251	329	260	327	271	154	137	147	139	106	-10.97
PALM OIL	693	752	698	797	860	829	781	856	833	722	735	.65
OILSEED CAKE AND MEAL	10383	11039	9927	10101	12778	12853	15281	16634	17348	18080	19298	7.47
BANANAS	2554	2556	2427	2329	2256	2430	2525	2460	2239	2192	2202	- 1.24
ORANGES+TANGER+CLEMEN	3309	3459	3200	3198	3176	3322	3143	3227	3222	2969	3185	- .70
LEMONS AND LIMES	368	378	386	398	432	408	428	432	429	416	452	1.73
COFFEE GREEN+ROASTED	1606	1674	1642	1747	1810	1543	1703	1955	1929	2000	1996	2.25
COCOA BEANS	602	584	574	564	565	561	590	569	616	664	721	1.55
TEA	289	298	313	289	297	336	250	278	297	244	288	- 1.12
COTTON LINT	1281	1543	1145	1188	1318	1135	1216	1150	1258	1015	1148	- 1.88
JUTE AND SIMILAR FIBRES	398	353	356	177	232	216	157	182	132	120	102	-12.32
TOBACCO UNMANUFACTURED	646	681	661	677	695	677	785	743	701	679	669	.59
NATURAL RUBBER	910	947	958	875	941	950	861	924	887	829	832	- 1.08
WOOL GREASY	597	423	370	391	528	418	437	444	399	394	354	- 2.34
BOVINE CATTLE 1/	3933	3305	2691	3444	3306	3175	3472	3529	3416	3208	3478	.07
SHEEP AND GOATS 1/	3017	2529	1968	2570	2370	2354	2724	2913	2920	2183	2285	- .37
PIGS 1/	3000	2819	3009	3314	3629	3284	3870	4382	5202	5495	4681	6.73
TOTAL MEAT	3350	3446	2876	3104	3311	3461	3765	3787	3761	3503	3772	1.83
MILK DRY	118	102	85	92	117	98	115	127	146	123	116	2.68
TOTAL EGGS IN SHELL	247	270	318	311	307	327	366	400	430	431	444	5.99
FISHERY PRODUCTS												
FISH FRESH FROZEN	1026	1143	1231	1147	1132	1230	1332	1471	1602	1600		
FISH CURED	233	186	181	158	158	157	163	187	188	164		
SHELLFISH	249	245	261	295	328	271	344	366	411	407		
FISH CANNED AND PREPARED	283	310	288	274	307	299	290	315	339	338		
SHELLFISH CANNED+PREPAR	46	57	56	60	63	68	73	80	87	86		
FISH BODY AND LIVER OIL	665	569	551	558	537	510	584	666	666	637		
FISH MEAL	1855	1106	1086	1204	1187	1083	1070	1215	1155	1007		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	2767	4316	4756	3221	4417	4890	4094	4547	5103	4507	4798	3.47
SAWLOGS NONCONIFEROUS	9070	10952	8928	6985	8858	8746	7671	8011	8396	6879	6332	- 3.32
PULPWOOD+PARTICLE	11882	14941	18155	17920	17252	16718	15294	17885	20908	24780	20592	4.72
FUELWOOD	837	1413	1597	1470	1343	1379	1106	1129	1167	725	775	- 4.19
SAWNWOOD CONIFEROUS	25396	28214	23709	17177	23111	22096	23684	27274	25507	21914	22901	- .33
SAWNWOOD NONCONIFEROUS	3995	5677	4033	3620	5435	5521	5620	6831	6088	5094	4770	2.76
WOOD-BASED PANELS	6274	8157	6952	6076	7564	7524	8440	9652	8951	8970	8300	3.30
PULP FOR PAPER	8380	9305	9594	7234	8370	8217	9369	9949	9943	9462	8564	.94
PAPER AND PAPERBOARD	11433	12502	13523	9907	12368	12631	13596	15064	15099	15721	15702	3.48
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	12986	19997	7294	13297	12920	11783	12915	15817	20886	23938	26627	7.36
RICE MILLED	503	419	441	544	647	726	710	940	995	1599	1146	12.64
BARLEY	5487	3416	2368	3283	4118	2225	4137	4559	4311	6007	3312	2.01
MAIZE	6090	7816	6927	9131	17664	7493	17809	20175	18863	22075	15514	12.98
POTATOES	1365	584	642	514	368	664	301	512	297	330	253	-11.33
SUGAR,TOTAL (RAW EQUIV.)	2757	3504	2863	3915	4531	5566	4637	4878	5708	6296	8115	9.79
PULSES	34	32	49	59	39	33	39	41	54	69	66	5.60
SOYBEANS	478	914	265	520	2089	1544	1409	2360	1768	1656	1910	17.38
SOYBEAN OIL	87	34	38	31	72	94	103	122	152	202	323	21.02
GROUNDNUTS SHELLED BASIS	69	52	66	59	54	59	57	46	54	61	67	- .46
GROUNDNUT OIL	1	1	4	4	2	2		2				
COPRA	35	28	29	29	25	38	26	18	20	10	15	- 8.90
COCONUT OIL	38	24	27	42	93	48	66	58	89	77	100	13.01
PALM NUTS KERNELS	6	13	3	4	4	4	4	3	4			
PALM OIL	13	10	22	17	28	67	58	113	112	134	272	37.60
OILSEED CAKE AND MEAL	2764	3009	3404	3541	3592	3704	3699	4033	4599	5695	5278	6.55
BANANAS	174	189	198	267	224	281	299	298	269	232	178	2.17
ORANGES+TANGER+CLEMEN	686	680	762	715	693	727	719	690	750	690	677	- .08
LEMONS AND LIMES	253	273	308	310	330	314	327	309	333	308	343	2.04
COFFEE GREEN+ROASTED	185	171	183	205	199	201	178	201	228	203	198	1.41
COCOA BEANS	239	215	250	280	256	175	202	198	201	199	191	- 2.69
TEA	64	54	69	88	82	80	71	79	102	116	107	6.05
COTTON LINT	744	710	748	769	679	720	681	718	743	638	681	- .92
JUTE AND SIMILAR FIBRES	88	85	67	83	80	68	70	79	93	111	116	2.95
TOBACCO UNMANUFACTURED	160	151	142	147	126	133	135	133	178	196	202	2.53
NATURAL RUBBER	450	495	548	473	485	409	433	437	441	418	363	- 2.40
WOOL GREASY	143	148	151	162	162	161	182	188	182	172	195	2.88
BOVINE CATTLE 1/	61	90	232	506	195	224	84	176	180	167	167	3.52
SHEEP AND GOATS 1/	1601	1907	1918	1520	1401	1103	1243	1251	1276	1167	401	- 9.21
PIGS 1/	145	126	103	185	59	306	523	502	604	999	765	26.75
TOTAL MEAT	277	265	597	545	416	757	267	646	956	1226	1099	13.92

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 6. VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
MILK DRY	30	22	20	23	28	43	29	42	71	78	90	14.28
TOTAL EGGS IN SHELL	63	51	51	52	37	43	43	47	43	34	36	- 4.48
FISHERY PRODUCTS												
FISH FRESH FROZEN	128	120	132	141	159	147	224	241	273	163	68	1.54
FISH CURED	20	18	18	24	28	18	16	17	19	28	20	.76
FISH CANNED AND PREPARED	27	27	26	41	52	41	38	38	41	43	12	- 1.03
FISH BODY AND LIVER OIL	21	15	28	34	4	7	6	5	26	15		
FISH MEAL	453	287	458	498	445	407	389	454	303	221	148	- 7.18
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	780	1188	1248	830	787	885	960	720	1050	960	606	- 2.43
SAWLOGS NONCONIFEROUS	480	577	541	588	556	556	442	416	454	487	385	- 2.89
PULPWOOD+PARTICLE	1397	1208	1533	1722	1548	1440	1345	1446	1583	1390	1243	- .38
FUELWOOD	6	5	5	5	5	5	5	4	4	4	3	- 4.27
SAWNWOOD CONIFEROUS	2999	2841	3438	3599	2702	3157	3228	2644	2665	2869	2809	- 1.35
SAWNWOOD NONCONIFEROUS	371	354	441	442	366	363	326	268	274	331	213	- 4.94
WOOD-BASED PANELS	819	923	1117	1245	1386	1314	1132	1045	1137	1115	941	.87
PULP FOR PAPER	857	913	859	1106	1041	1029	1036	1005	1155	1092	1031	2.14
PAPER AND PAPERBOARD	1440	1417	1507	1713	1706	1712	1709	1784	2046	1971	1976	3.61
NORTH AMERICA DEVELOPED												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	3	4	83	17	23	35	1	5	6	1	57	- 4.52
RICE MILLED	94	92	71	74	80	80	82	91	94	106	126	3.02
BARLEY	360	181	328	307	195	180	108	157	140	127	198	- 7.77
MAIZE	448	825	1320	818	838	623	476	849	1228	1276	807	3.68
POTATOES	141	175	239	208	213	301	235	242	212	340	344	6.74
SUGAR,TOTAL (RAW EQUIV.)	5650	5706	6137	4475	5034	6330	4821	5399	4593	5457	3464	- 2.83
PULSES	29	32	66	44	34	53	43	39	43	61	47	3.36
SOYBEANS	309	232	391	385	422	318	325	351	483	382	468	3.96
SOYBEAN OIL	17	19	34	23	31	28	35	22	12	9	4	-11.33
GROUNDNUTS SHELLED BASIS	55	62	61	62	64	56	68	64	56	73	63	1.08
GROUNDNUT OIL	7	7	6	7	8	7	6	5	5	4	4	- 6.16
COCONUT OIL	374	280	271	435	603	495	503	527	422	476	427	4.00
PALM OIL	226	196	217	483	416	282	173	163	137	138	132	- 7.47
OILSEED CAKE AND MEAL	238	216	300	301	386	374	426	491	431	443	457	7.85
BANANAS	2146	2169	2268	2179	2411	2410	2543	2659	2669	2794	2935	3.25
ORANGES+TANGER+CLEMEN	259	265	259	264	339	380	303	294	320	333	317	2.47
LEMONS AND LIMES	18	19	20	23	24	27	34	36	38	43	38	9.51
COFFEE GREEN+ROASTED	1343	1405	1246	1324	1290	986	1195	1277	1190	1104	1150	- 1.82
COCOA BEANS	308	268	238	248	252	186	226	179	162	264	213	- 3.40
TEA	93	102	105	96	106	117	91	101	107	107	103	.65
COTTON LINT	93	86	72	61	73	53	59	61	65	63	52	- 4.15
JUTE AND SIMILAR FIBRES	16	33	31	23	25	14	17	23	10	16	18	- 5.06
TOBACCO UNMANUFACTURED	153	158	163	177	161	142	173	188	191	176	167	1.39
NATURAL RUBBER	685	727	759	747	818	903	846	862	695	759	713	.39
WOOL GREASY	30	18	8	13	17	12	15	11	14	20	16	- 1.17
BOVINE CATTLE 1/	1260	1264	716	516	1183	1184	1308	758	706	760	1044	- 1.93
SHEEP AND GOATS 1/	58	71	33	61	71	52	40	27	42	41	52	- 3.68
PIGS 1/	90	88	197	30	46	44	204	138	248	146	295	12.70
TOTAL MEAT	797	785	637	719	862	755	875	913	854	766	866	1.54
TOTAL EGGS IN SHELL	6	12	15	12	13	19	18	21	12	12	11	3.71
FISHERY PRODUCTS												
FISH FRESH FROZEN	728	792	689	611	709	727	800	776	699	735	676	- .02
FISH CURED	32	33	31	30	37	30	34	31	26	35	33	- .06
SHELLFISH	149	140	148	139	157	158	146	155	146	156	175	1.22
FISH CANNED AND PREPARED	108	104	131	82	103	78	89	95	99	104	114	- .40
SHELLFISH CANNED+PREPAR	31	32	33	27	35	41	40	41	39	47	54	5.43
FISH BODY AND LIVER OIL	10	11	8	7	11	8	9	9	12	10	8	- .14
FISH MEAL	357	63	62	108	128	74	40	82	45	56	79	- 9.24
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	2387	1954	1737	1728	2025	2174	2043	2458	2146	1674	1772	- .69
SAWLOGS NONCONIFEROUS	459	459	492	318	291	294	409	502	471	415	335	- .77
PULPWOOD+PARTICLE	2081	1863	2187	1859	2039	2273	2516	2504	2249	2348	2000	1.48
FUELWOOD	31	26	32	35	30	51	59	63	45	23	19	- .19
SAWNWOOD CONIFEROUS	21522	21750	16639	14175	19583	25061	28675	26582	22839	22542	21694	2.55
SAWNWOOD NONCONIFEROUS	1429	1732	1412	963	1287	1351	1431	1571	1422	1557	912	- 1.41
WOOD-BASED PANELS	4666	4147	3245	3147	3645	3546	3956	3336	2378	2851	2283	- 5.14
PULP FOR PAPER	3239	3497	3533	2687	3243	3344	3477	3818	3502	3538	3221	.70
PAPER AND PAPERBOARD	7143	7546	7602	6165	6982	7017	8387	8322	8118	7595	7303	1.02

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 6. VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
OCEANIA DEVELOPED												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	47		50	134	112			32	54	53		
RICE MILLED	5	6	7	7	6	9	8	8	8	9	10	5.07
MAIZE	1	1	1	1	1	2	3	3	4	5	11	31.09
SUGAR,TOTAL (RAW EQUIV.)	186	171	153	192	174	185	166	172	151	120	147	- 2.58
PULSES	16	12	16	20	13	12	13	12	14	13	19	- .43
SOYBEANS			33	16	10	21	15		13	41	10	
SOYBEAN OIL	4	6	10	18	38	33	29	26	32	29	46	22.74
GROUNDNUTS SHELLED BASIS	6	5	6	5	8	5	12	4	5	9	12	4.55
GROUNDNUT OIL	5	3	4	4	2	4	2	3		1	1	-18.34
COPRA	26	24	20	12	10	11	5	7	4	6	6	-16.25
COCONUT OIL	8	9	13	11	18	20	18	19	17	16	20	8.48
PALM OIL	8	7	14	16	17	23	23	28	26	24	21	12.53
OILSEED CAKE AND MEAL	24	12	21	15	3	6	30	9	13	23	10	- 1.55
BANANAS	24	33	37	43	29	35	38	35	37	36	36	1.93
ORANGES+TANGER+CLEMEN	16	18	18	18	15	17	18	14	16	16	17	- .79
LEMONS AND LIMES								1	1	1	1	
COFFEE GREEN+ROASTED	29	29	32	35	32	34	26	35	41	38	42	3.20
COCOA BEANS	18	21	21	25	16	20	17	15	14	15	13	- 4.88
TEA	37	36	34	35	33	35	30	30	32	28	30	- 2.39
COTTON LINT	9	4	9	4	4	5	4	2	2	2	1	-16.08
JUTE AND SIMILAR FIBRES	19	16	26	17	14	12	11	12	9	11	8	- 8.96
TOBACCO UNMANUFACTURED	15	14	17	17	17	13	16	13	15	15	14	- .80
NATURAL RUBBER	52	55	74	53	61	55	52	53	54	50	47	- 1.80
WOOL GREASY	4	5	6	1	1	1	1	1		1		
BOVINE CATTLE 1/	3	3	3	1	1	2	1	1	1			
SHEEP AND GOATS 1/	1	1					1	1	8	1	1	
TOTAL MEAT	1	2	4	2	2	2	1	2	4	4	3	11.00
MILK DRY		1	1	1	1	1	1	1		1		
FISHERY PRODUCTS												
FISH FRESH FROZEN	22	18	22	19	19	20	21	22	29	24	31	3.61
FISH CURED	4	3	5	4	4	5	3	5	4	4	4	-.53
SHELLFISH	1	2	1	1	3	3	2	4	4	6	7	18.15
FISH CANNED AND PREPARED	15	25	27	23	19	25	26	22	28	26	27	3.29
SHELLFISH CANNED+PREPAR	3	4	6	5	6	7	7	6	5	6	7	5.27
FISH BODY AND LIVER OIL	1	1	1	1	1	1	1	1			1	- 9.55
FISH MEAL	27	14	14	24	13	8	3	4	13	8	8	-11.63
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	5	1	3		5	2	2					
SAWLOGS NONCONIFEROUS	95	101	106	41	46	26	17	11	2	1	7	-34.72
SAWNWOOD CONIFEROUS	672	793	886	637	693	754	638	682	697	781	781	.02
SAWNWOOD NONCONIFEROUS	254	338	449	282	346	445	311	304	317	306	290	- .68
WOOD-BASED PANELS	73	92	131	123	137	121	89	99	88	104	111	.44
PULP FOR PAPER	242	315	352	301	232	276	239	279	279	284	261	- .78
PAPER AND PAPERBOARD	492	563	678	683	470	652	584	671	739	736	794	3.62
AFRICA DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	3525	3818	4566	5138	5055	6093	7369	7249	8485	8697	8806	10.31
RICE MILLED	791	976	976	602	878	1559	1895	2232	2202	2504	2873	15.71
BARLEY	76	106	114	173	68	219	647	419	300	448	623	23.46
MAIZE	480	480	830	864	685	880	1143	1283	2355	2447	2392	18.82
MILLET	133	240	247	140	162	158	142	114	130	77	119	- 6.71
SORGHUM	40	84	179	39	78	45	85	107	77	123	157	7.46
POTATOES	131	192	208	189	149	211	233	307	241	219	445	8.05
SUGAR,TOTAL (RAW EQUIV.)	1338	1363	1289	1274	1419	1779	1928	2021	2121	2364	2551	7.69
PULSES	77	78	53	89	77	93	120	210	174	183	189	13.16
SOYBEANS	1	13	10	9	16	50	23	31	25	11	35	22.16
SOYBEAN OIL	100	93	147	155	121	256	312	353	327	344	455	17.62
GROUNDNUTS SHELLED BASIS	21	24	19	44	18	27	30	13	17	11	18	- 5.38
GROUNDNUT OIL	24	39	6	8	30	23	9	8	9	6	4	-14.08
COPRA	5	6	2	3	3	3	4	4	3	4	4	- .74
COCONUT OIL	15	14	13	9	18	20	10	9	7	17	12	- 2.22
PALM OIL	27	41	38	29	68	81	104	100	165	244	293	27.14
OILSEED CAKE AND MEAL	41	36	50	58	54	102	122	157	183	238	231	23.19
BANANAS	52	55	43	37	40	46	29	13	16	24	22	-11.30
ORANGES+TANGER+CLEMEN	10	10	10	12	10	12	12	12	10	10	9	- .54

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 6. VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
LEMONS AND LIMES		1	1		1	1	1	1	1	1	1	2.87
COFFEE GREEN+ROASTED	34	42	61	65	77	59	83	75	80	101	80	8.41
COCOA BEANS	2	2	2	2	1	3	1	1	1	1	1	-11.87
TEA	41	35	42	45	42	46	56	71	58	66	60	6.22
COTTON LINT	33	41	51	54	46	51	42	48	45	64	67	4.20
JUTE AND SIMILAR FIBRES	58	74	94	80	61	73	56	64	67	61	59	- 2.06
TOBACCO UNMANUFACTURED	41	45	57	53	46	49	62	63	53	49	45	1.06
NATURAL RUBBER	16	18	21	17	18	22	21	20	21	26	24	3.93
WOOL GREASY	1	1	1	1	3	3	4	3	2	2	1	8.77
BOVINE CATTLE 1/	983	899	756	626	632	688	785	822	825	944	965	1.03
SHEEP AND GOATS 1/	1384	1263	1246	1229	1113	1167	1144	1249	1288	1405	1453	.76
PIGS 1/	7	2		1	1	1	1	1	1			
TOTAL MEAT	51	40	43	57	84	110	139	139	139	169	210	18.42
MILK DRY	9	15	25	20	22	22	24	24	36	35	27	10.11
TOTAL EGGS IN SHELL	2	3	4	8	13	21	44	36	51	51	72	45.79
FISHERY PRODUCTS												
FISH FRESH FROZEN	241	279	367	342	349	338	374	487	908	913		
FISH CURED	53	50	40	46	55	39	32	39	56	50		
SHELLFISH	3	4	3	11	14	18	19	6	8	8		
FISH CANNED AND PREPARED	56	66	64	62	114	108	159	160	151	152		
FISH BODY AND LIVER OIL	2	3	4	1	3	2	3	2				
FISH MEAL	18	13	18	12	13	17	20	24	35	32		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	20	8	17	38	43	31	32	53	21	21	21	5.09
SAWLOGS NONCONIFEROUS	191	215	311	153	172	286	197	244	345	257	180	1.63
SAWNWOOD CONIFEROUS	621	603	954	764	829	1251	764	1019	903	1051	1086	4.98
SAWNWOOD NONCONIFEROUS	132	115	218	153	168	158	205	205	213	225	236	5.89
WOOD-BASED PANELS	129	138	198	185	195	314	276	329	319	308	309	10.02
PULP FOR PAPER	31	46	65	56	94	96	96	98	98	93	88	9.95
PAPER AND PAPERBOARD	405	501	583	476	472	516	544	594	604	597	613	3.21
LATIN AMERICA												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	6737	8102	8337	6893	8707	7914	10531	10343	11928	11719	11141	5.67
RICE MILLED	417	391	622	566	489	433	436	1334	1085	834	651	8.05
BARLEY	116	186	319	262	207	203	358	323	479	413	360	10.56
MAIZE	797	2335	2584	3897	2438	3590	4714	3954	8918	7082	3381	15.73
MILLET	3	2	4	4	6	2	4	6	3	2	2	- .43
SORGHUM	615	450	1048	1348	554	1314	1391	1897	2764	3638	2248	19.24
POTATOES	448	241	192	196	173	198	203	251	337	189	200	- 2.38
SUGAR,TOTAL (RAW EQUIV.)	354	427	254	110	275	626	845	679	1288	1408	1249	20.71
PULSES	225	253	274	308	299	400	291	283	821	853	519	11.66
SOYBEANS	134	184	590	127	444	628	971	952	1207	2241	2054	32.09
SOYBEAN OIL	109	149	249	141	243	245	351	372	437	430	582	16.32
GROUNDNUTS SHELLED BASIS	13	6	13	55	40	9	17	13	14	15	21	1.95
GROUNDNUT OIL	17	34	13	41	64	136	85	9	2	4	10	-16.55
COPRA	1		1	21	1							
COCONUT OIL	19	33	26	40	88	26	40	15	26	25	31	- 1.29
PALM NUTS KERNELS			2	2	2	1		2	2			
PALM OIL	9	23	9	3	16	16	8	6	16	6	10	- 2.04
OILSEED CAKE AND MEAL	224	257	398	340	413	593	647	684	962	961	1058	17.26
BANANAS	244	238	286	233	184	228	287	391	502	453	315	6.60
ORANGES+TANGER+CLEMEN	15	20	18	17	19	26	22	46	56	43	38	12.89
LEMONS AND LIMES	2	1	2	2	3	4	6	3	2	3	1	2.60
COFFEE GREEN+ROASTED	67	75	96	82	86	54	58	103	60	67	71	- 1.37
COCOA BEANS	20	16	20	15	7	3	1	2	3	2	7	-20.45
TEA	12	12	18	10	13	14	16	20	15	14	13	1.90
COTTON LINT	83	87	67	69	56	85	71	91	81	93	64	.29
JUTE AND SIMILAR FIBRES	14	34	55	45	30	15	12	18	36	38	13	- 3.72
TOBACCO UNMANUFACTURED	11	14	24	16	18	19	17	19	29	22	21	5.47
NATURAL RUBBER	138	139	168	144	166	171	183	182	187	184	156	2.42
WOOL GREASY	14	5	4	6	8	6	7	9	13	12	10	5.78
BOVINE CATTLE 1/	664	584	624	564	632	607	697	972	543	584	583	.11
SHEEP AND GOATS 1/	137	65	226	316	41	55	54	122	125	200	262	4.03
PIGS 1/	48	38	42	48	59	36	32	21	9	22	58	- 7.11
TOTAL MEAT	151	125	232	160	182	197	374	365	337	410	386	12.46
MILK ORY	32	50	49	50	71	174	124	106	141	137	115	15.30
TOTAL EGGS IN SHELL	7	6	6	7	9	14	11	18	20	18	19	14.76

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 6. VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
FISHERY PRODUCTS												
FISH FRESH FROZEN	40	58	71	126	97	91	93	115	110	97		
FISH CURED	73	75	58	67	56	49	54	63	56	55		
SHELLFISH	6	9	11	7	4	5	5	10	7	9		
FISH CANNED AND PREPARED	42	35	39	41	44	49	67	76	85	83		
SHELLFISH CANNED+PREPAR	1	1	1	1	1	1	1	2	2	2		
FISH BODY AND LIVER OIL	29	19	23	20	44	27	36	66	103	37		
FISH MEAL	187	44	61	143	75	70	109	138	161	118		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	16	25	27	7	43	26	34	54	120	119	119	25.07
SAWLOGS NONCONIFEROUS	179	134	128	134	73	69	105	65	57	30	26	-15.96
FUELWOOD	9	8	8	3	2	2	1	1	1	3	3	-15.17
SAWNWOOD CONIFEROUS	1497	1458	1235	1235	1639	1613	1710	1505	1980	1906	1777	3.50
SAWNWOOD NONCONIFEROUS	187	202	685	742	427	520	679	684	910	645	629	11.40
WOOD-BASED PANELS	147	141	181	167	182	232	285	388	462	468	403	14.41
PULP FOR PAPER	636	649	806	543	534	461	576	643	726	768	740	1.40
PAPER AND PAPERBOARD	1805	1746	2061	1630	1719	2066	1809	1775	2343	2435	2386	3.08
NEAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	4387	5044	8294	8141	6972	8522	9546	9844	11411	12596	12602	10.10
RICE MILLED	575	501	946	939	1109	1456	1548	1887	1735	2021	1983	14.95
BARLEY	297	595	530	473	465	990	851	1493	2342	3286	4542	28.79
MAIZE	460	423	803	791	1009	1487	1850	2369	3057	3746	3641	26.53
MILLET	2	3	30	3	10	6	4	4	2	2	2	- 7.79
SORGHUM	3	5	4	77	197	189	254	109	101	132	359	52.36
POTATOES	123	123	178	171	160	233	234	285	356	422	404	13.92
SUGAR,TOTAL (RAW EQUIV.)	1151	1601	1693	1975	1590	2124	2176	3237	3121	2780	3065	9.76
PULSES	151	109	128	243	234	200	205	297	246	354	284	9.65
SOYBEANS	14	28	62	28	29	63	138	180	94	113	138	24.10
SOYBEAN OIL	181	108	232	270	332	230	280	380	442	504	541	13.67
GROUNDNUTS SHELLED BASIS	10	7	8	10	9	15	7	9	16	10	11	3.12
GROUNDNUT OIL	2	2	1	1	2	2	1	1	3	1		- 7.81
COCONUT OIL	8	5	8	22	31	8	7	5	14	8	10	.01
PALM OIL	91	89	78	137	76	148	164	187	210	205	352	14.04
OILSEED CAKE AND MEAL	136	88	117	100	237	379	459	442	406	543	713	23.20
BANANAS	108	135	167	255	308	272	277	317	298	301	291	9.74
ORANGES+TANGER+CLEMEN	225	284	408	532	636	543	462	504	568	607	573	7.81
LEMONS AND LIMES	13	14	27	32	54	52	46	79	80	83	75	20.74
COFFEE GREEN+ROASTED	59	55	56	49	51	53	42	40	46	56	64	- .68
COCOA BEANS	3	2	2	4	4	2	4	1	1	4	3	- .49
TEA	122	114	144	132	157	148	202	184	173	171	177	4.64
COTTON LINT	8	9	12	26	7	37	21	41	21	24	25	13.12
JUTE AND SIMILAR FIBRES	18	27	31	31	40	33	24	47	20	24	28	.68
TOBACCO UNMANUFACTURED	28	29	32	44	45	45	52	55	49	60	71	9.01
NATURAL RUBBER	52	49	57	51	50	49	46	37	40	50	57	- 1.15
WOOL GREASY	29	20	23	26	27	32	17	18	18	19	15	- 4.68
BOVINE CATTLE 1/	178	154	153	160	184	389	389	385	503	737	779	19.62
SHEEP AND GOATS 1/	5022	4695	4317	4921	5135	7856	8638	10415	11480	13160	13197	13.48
TOTAL MEAT	75	90	142	251	331	482	586	673	978	1303	1240	35.10
MILK DRY		1	2	1	2	5	6	10	4	18	10	46.68
TOTAL EGGS IN SHELL	54	44	56	81	77	84	85	75	108	143	153	11.35
FISHERY PRODUCTS												
FISH FRESH FROZEN	22	23	30	41	60	55	74	59	79	113	6	3.61
FISH CURED	5	3	4	3	3	4	8	3	6	7		
SHELLFISH	1	1	1	1	1	2	2	3	3	4		4.74
FISH CANNED AND PREPARED	16	23	27	33	45	47	57	54	73	66	11	6.25
FISH BODY AND LIVER OIL	2	2	2	2	2	2	1	1	1	1		
FISH MEAL	13	12	28	27	51	136	56	52	80	145		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	154	135	59	165	195	229	175	169	228	253	325	9.75
SAWLOGS NONCONIFEROUS	43	40	37	68	88	56	68	4	9	11	14	-17.60
PULPWOOD+PARTICLE		29	26	8	9	13	36	40	14	4	5	8.38
FUELWOOD	29	62	34	35	37	38	39	31	25	27	33	- 3.33
SAWNWOOD CONIFEROUS	1638	1589	1685	1634	2088	2792	2245	2493	2917	3257	3817	9.18
SAWNWOOD NONCONIFEROUS	103	80	350	381	500	827	816	671	837	736	792	23.59
WOOD-BASED PANELS	233	331	419	465	591	740	792	916	1026	1254	1521	18.91
PULP FOR PAPER	63	69	64	71	69	81	80	85	86	83	99	4.04
PAPER AND PAPERBOARD	591	539	572	696	724	866	889	848	985	1072	1088	7.57

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 6. VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
FAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	6490	10713	11449	14860	13484	6973	7769	8567	8636	8543	9712	- 1.25
RICE MILLED	4482	4730	3094	3081	3795	3906	3554	3502	4481	4428	2014	- 2.66
BARLEY	349	494	497	539	8	327	107	106	206	275	837	- 1.11
MAIZE	1174	1337	1250	1440	1971	2517	3125	4114	3888	4487	4677	17.48
MILLET		26	43	13	29	10	1	2	2	2	6	3.90
SORGHUM		1188	727	204	398	21	49	144	62	162	449	24.46
POTATOES	90	96	100	89	95	106	119	145	157	147	146	6.24
SUGAR,TOTAL (RAW EQUIV.)	1086	1398	1069	1100	1087	1395	1800	1874	2512	2706	2168	9.75
PULSES	191	127	100	98	90	91	165	207	207	224	351	9.11
SOYBEANS	146	168	135	153	433	370	489	728	994	1067	1185	27.95
SOYBEAN OIL	184	178	184	87	194	527	583	530	1004	981	910	25.08
GROUNDNUTS SHELLED BASIS	24	24	26	19	45	25	31	43	72	98	156	19.12
GROUNDNUT OIL	25	27	24	23	48	64	42	36	38	33	36	4.64
COPRA	79	34	19	55	96	99	163	74	115	113	101	12.08
COCONUT OIL	36	58	41	34	55	74	162	91	58	166	81	11.87
PALM NUTS KERNELS	20	19	4	4	5	5	6	10	15	6	65	6.94
PALM OIL	240	315	358	277	372	842	847	1058	1759	1368	1445	23.41
OILSEED CAKE AND MEAL	232	150	271	333	533	848	917	1076	1129	1167	1392	24.77
BANANAS	46	55	50	56	45	48	57	69	59	48	61	1.85
ORANGES+TANGER+CLEMEN	179	193	170	208	199	215	222	208	238	273	231	3.50
LEMONS AND LIMES							4	6	7	8	8	
COFFEE GREEN+ROASTED	25	45	34	31	42	32	19	27	19	36	48	- .37
COCOA BEANS	12	11	9	9	9	8	12	17	27	45	60	18.77
TEA	49	54	52	64	70	81	77	85	87	98	94	7.40
COTTON LINT	538	672	559	790	794	843	863	827	888	772	795	3.77
JUTE AND SIMILAR FIBRES	96	112	71	80	123	57	64	78	119	89	104	.32
TOBACCO UNMANUFACTURED	50	51	74	54	61	70	64	69	82	88	71	4.47
NATURAL RUBBER	92	114	125	123	142	160	193	215	182	210	215	8.73
WOOL GREASY	21	14	16	26	27	32	29	31	33	36	31	7.83
BOVINE CATTLE 1/	328	303	286	286	282	299	340	376	367	384	385	2.96
SHEEP AND GOATS 1/	352	244	224	253	296	273	258	234	216	181	186	- 4.26
PIGS 1/	2680	2700	2629	2796	3004	3023	3123	3095	4552	3194	3383	3.45
TOTAL MEAT	100	109	125	149	173	212	279	297	227	266	351	13.02
MILK DRY	53	53	66	68	84	93	127	151	151	139	98	10.93
TOTAL EGGS IN SHELL	52	56	54	58	57	64	68	75	75	75	78	4.54
FISHERY PRODUCTS												
FISH FRESH FROZEN	121	140	132	148	156	163	185	230	217	227		
FISH CURED	55	42	32	32	21	19	22	22	29	22		
SHELLFISH	61	68	80	68	89	79	103	161	148	138		
FISH CANNED AND PREPARED	86	91	97	114	112	83	83	79	95	86		
SHELLFISH CANNED+PREPAR	18	17	15	14	16	15	16	14	8	8		
FISH BODY AND LIVER OIL	5	6	2	2	7	3	4	5	2	2		
FISH MEAL	86	53	60	99	84	94	131	164	149	150		
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	373	827	773	461	750	1200	2426	2128	1536	1186	1543	14.44
SAWLOGS NONCONIFEROUS	5854	6481	5686	6180	7505	8558	9371	9355	6526	5991	5700	.93
PULPWOOD+PARTICLE		13	61	61		1		2	2			
FUELWOOD	141	115	110	110	114	138	117	141	137	135	135	1.46
SAWNWOOD CONIFEROUS	38	41	65	179	214	228	235	80	87	71	79	4.95
SAWNWOOD NONCONIFEROUS	662	1207	1108	981	1463	1741	1829	2345	1850	1896	1865	10.01
WOOD-BASED PANELS	262	348	339	392	472	495	575	610	725	814	829	12.05
PULP FOR PAPER	476	466	465	282	406	545	678	714	704	759	676	6.89
PAPER AND PAPERBOARD	1271	1418	1320	1133	1459	1494	1774	1995	2086	2131	2138	6.50
ASIAN CENT PLANNED ECON												
AGRICULTURAL PRODUCTS												
WHEAT+FLOUR,WHEAT EQUIV.	6028	8326	7654	5095	3662	8990	10001	11387	13049	15397	15656	10.96
RICE MILLED	948	963	1241	737	784	214	250	624	592	437	305	-10.76
BARLEY	452	279	321	174	333	265	336	704	402	354	509	4.65
MAIZE	1840	3229	3427	1729	2150	2222	3064	5412	4438	3287	4117	7.07
SORGHUM	5	41	73	152	255	394	473	517	417	840	908	51.91
SUGAR,TOTAL (RAW EQUIV.)	1109	1274	626	740	929	1872	1564	1355	1101	1250	2343	6.66
PULSES	40	40	32	33	39	49	68	58	72	91	53	8.35
SOYBEANS	712	799	1181	854	829	985	1172	1696	1529	1682	1516	8.77
SOYBEAN OIL	44	123	34	42	27	149	137	143	136	56	63	6.57
GROUNDNUTS SHELLED BASIS	7	6	6				4	1			14	
COCONUT OIL	35	22	21	47	29	22	19	27	31	27	25	- .95
PALM OIL	9	13	11	12	3	30	14	48	63	26	26	17.51
OILSEED CAKE AND MEAL	1	2	1	1	29	41	55	1	9	14	1	20.48
BANANAS		15	4	10	15							

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 6. VOLUME OF IMPORTS OF MAJOR AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	THOUSAND METRIC TONS											PERCENT
COFFEE GREEN+ROASTED					7	6	6	5	6	7	8	
COCOA BEANS	2	8	6	8	11	12	15	17	17	4	18	13.22
TEA	4	6	7	6	5	5	6	5	5	4	4	- 2.17
COTTON LINT	371	719	599	412	428	422	818	835	1240	1064	829	9.35
JUTE AND SIMILAR FIBRES	19	86	69	22	27	34	37	36	47	54	55	3.30
TOBACCO UNMANUFACTURED	24	20	23	11	13	15	19	22	32	54	39	8.76
NATURAL RUBBER	253	304	274	298	248	316	300	333	358	213	245	- .35
WOOL GREASY	25	21	17	13	22	22	28	38	60	90	81	17.64
BOVINE CATTLE 1/	1	1	4	8	1				2			
SHEEP AND GOATS 1/	4	5	6	6				3	1		1	
PIGS 1/	1	1	3		2	1	4	3	3	5	4	26.39
TOTAL MEAT	2	2	2	29	10	4	11	18	16	23	31	31.16
FISHERY PRODUCTS												
FISH FRESH FROZEN		1	8	4	6	7	5	5	1	1	1	- 4.03
FISH CURED			2	7	1	1	1	1				
SHELLFISH	1		3	4	4	8	9	14	2	2	2	21.34
FISH CANNED AND PREPARED	11	3	4	2	4	4	3	4	4	4	4	- 4.14
FISH BODY AND LIVER OIL	1	3	3	3	2	2	3	3	1	1	1	- 1.20
FISH MEAL	48	33	40	95	129	124	145	170	164	165	157	17.74
FOREST PRODUCTS 2/												
SAWLOGS CONIFEROUS	122	492	610	614	618	400	370	403	611	1112	2528	16.80
SAWLOGS NONCONIFEROUS	4000	3990	3801	3887	4437	6236	7127	6760	6481	5491	4659	4.86
PULPWOOD+PARTICLE	7	7	7	88	199	199	199	56	56	235	182	38.11
SAWNWOOD CONIFEROLS	2			21	29	29	29	29	31	37	33	
SAWNWOOD NONCONIFEROUS	8	9	27	23	30	38	56	96	139	200	296	42.95
WOOD-BASED PANELS	5	1	1	3	12	13	24	36	51	70	97	56.24
PULP FOR PAPER	242	243	248	217	228	169	201	209	419	521	432	6.88
PAPER AND PAPERBOARD	212	167	189	174	217	297	404	427	650	649	469	15.17

1/ THOUSAND HEAD
2/ EXCEPT FOR PULP FOR PAPER AND PAPER AND PAPERBOARD, ALL FOREST PRODUCTS ARE EXPRESSED IN THOUSAND CUBIC METRES

ANNEX TABLE 7. INDICES OF VALUE OF EXPORTS OF AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
						1974-76=100						PERCENT
WORLD												
AGRICULTURAL PRODUCTS	51	76	96	99	105	120	133	156	180	179	161	11.69
FOOD	49	72	95	104	101	110	127	150	178	183	162	12.12
FEED	49	105	97	83	120	150	157	185	211	236	208	14.27
RAW MATERIALS	60	91	107	88	105	121	129	148	161	155	140	8.36
BEVERAGES	61	81	82	86	132	191	183	207	215	166	169	12.47
FISHERY PRODUCTS	61	82	88	93	119	140	170	207	209	210		
FOREST PRODUCTS	54	77	101	90	109	118	132	171	194	178	163	11.85
DEVELOPED COUNTRIES												
AGRICULTURAL PRODUCTS	51	78	96	101	103	113	132	157	187	190	170	12.28
FOOD	49	75	94	104	103	109	129	154	187	192	170	12.56
FEED	49	111	112	81	107	124	153	179	207	213	193	12.80
RAW MATERIALS	57	88	109	90	101	127	131	153	167	164	155	9.56
BEVERAGES	62	85	89	98	113	145	167	212	218	201	199	13.46
FISHERY PRODUCTS	63	87	93	93	114	134	163	193	207	207		
FOREST PRODUCTS	53	74	101	91	108	116	130	163	187	175	159	11.68
WESTERN EUROPE												
AGRICULTURAL PRODUCTS	54	77	90	103	106	120	147	178	206	201	187	13.54
FOOD	53	74	89	105	106	118	145	174	208	203	187	13.76
FEED	46	111	114	82	105	128	153	189	214	243	232	14.87
RAW MATERIALS	56	80	99	93	107	106	135	161	141	126	126	7.79
BEVERAGES	63	88	89	99	113	139	169	218	221	205	203	13.50
FISHERY PRODUCTS	60	85	93	93	114	136	155	189	211	203		
FOREST PRODUCTS	50	72	104	90	106	113	129	166	194	175	159	12.12
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS	60	79	102	100	98	119	113	132	139	136	128	7.12
FOOD	60	81	106	100	94	112	105	127	133	132	119	6.18
FEED	36	57	70	70	161	161	140	136	115	75	102	8.50
RAW MATERIALS	61	72	91	99	109	141	131	139	150	150	154	9.50
BEVERAGES	64	76	89	107	104	124	143	165	163	150	156	9.65
FISHERY PRODUCTS	53	67	84	107	109	105	121	156	155	135		
FOREST PRODUCTS	52	73	97	98	105	119	124	137	146	141	142	9.25
NORTH AMERICA DEVELOPED												
AGRICULTURAL PRODUCTS	42	78	100	99	101	103	126	148	180	190	163	12.63
FOOD	40	76	97	101	101	98	121	143	176	191	162	12.85
FEED	52	115	114	78	108	117	153	175	208	201	173	11.54
RAW MATERIALS	57	81	113	91	96	127	145	165	194	180	164	11.23
BEVERAGES	33	68	96	73	131	298	202	253	295	256	243	21.66
FISHERY PRODUCTS	62	97	86	93	122	158	236	275	261	301	292	18.26
FOREST PRODUCTS	58	76	97	91	112	120	133	168	190	184	164	11.68
OCEANIA DEVELOPED												
AGRICULTURAL PRODUCTS	57	84	100	98	102	114	111	134	176	188	174	10.67
FOOD	59	73	91	105	103	107	111	131	185	195	179	11.63
FEED	48	101	118	88	94	214	204	217	126	171	177	10.94
RAW MATERIALS	54	112	124	79	97	130	110	140	155	171	161	8.66
BEVERAGES	66	68	92	103	106	100	108	117	149	210	219	11.74
FISHERY PRODUCTS	85	97	93	97	110	155	170	243	246	247	280	14.49
FOREST PRODUCTS	50	78	101	94	105	125	136	193	245	259	219	16.21

ANNEX TABLE 7. INDICES OF VALUE OF EXPORTS OF AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	1974-76=100											PERCENT
DEVELOPING COUNTRIES												
AGRICULTURAL PRODUCTS	52	73	96	96	108	132	135	153	168	161	144	10.59
FOOD	47	64	99	104	97	112	121	139	157	162	143	11.02
FEED	49	96	76	86	137	185	163	193	218	267	228	16.34
RAW MATERIALS	63	93	104	87	109	116	127	143	155	147	124	7.11
BEVERAGES	61	79	78	80	142	212	190	204	213	150	154	11.92
FISHERY PRODUCTS	56	71	78	95	127	152	184	233	214	217		
FOREST PRODUCTS	56	100	102	80	118	129	144	221	234	197	184	12.95
AFRICA DEVELOPING												
AGRICULTURAL PRODUCTS	60	77	99	91	110	143	138	146	150	121	113	6.97
FOOD	59	73	103	98	99	117	132	133	143	116	103	6.15
FEED	84	118	98	89	113	143	86	148	111	87	108	1.03
RAW MATERIALS	66	89	113	83	104	108	108	123	143	151	136	6.81
BEVERAGES	58	80	84	81	135	208	163	182	168	121	124	8.88
FISHERY PRODUCTS	57	92	100	98	102	109	126	154	204	212		
FOREST PRODUCTS	60	108	112	80	108	113	123	141	166	131	126	6.57
LATIN AMERICA												
AGRICULTURAL PRODUCTS	50	71	90	98	112	138	143	158	176	171	153	11.87
FOOD	45	64	95	107	98	114	120	140	157	167	143	11.41
FEED	39	87	66	88	146	212	198	220	265	348	288	21.94
RAW MATERIALS	65	89	100	94	106	127	148	145	153	157	134	7.88
BEVERAGES	61	81	73	75	152	205	199	210	228	149	163	12.59
FISHERY PRODUCTS	75	65	89	90	121	130	186	238	254	258		
FOREST PRODUCTS	56	82	109	95	96	118	144	245	331	323	268	18.84
NEAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS	69	91	100	90	110	112	120	124	134	155	151	7.20
FOOD	66	88	95	91	113	129	156	167	192	238	238	13.63
FEED	127	149	117	95	88	86	59	72	90	56	58	- 8.29
RAW MATERIALS	69	91	102	89	109	100	93	91	91	94	87	-.76
BEVERAGES	87	117	118	79	103	147	178	224	183	232	167	9.48
FISHERY PRODUCTS	74	109	90	97	113	160	132	171	195	242		
FOREST PRODUCTS	54	81	122	81	97	110	90	154	170	269	358	16.16
FAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS	46	67	99	94	107	132	133	165	187	185	157	12.99
FOOD	37	50	100	101	98	116	115	149	171	188	167	14.94
FEED	49	103	88	79	133	150	121	162	157	150	129	8.91
RAW MATERIALS	55	94	106	83	112	122	141	179	202	179	136	10.37
BEVERAGES	65	67	79	95	126	244	202	212	240	196	171	14.10
FISHERY PRODUCTS	41	68	71	100	129	172	190	250	212	209		
FOREST PRODUCTS	51	101	99	75	125	136	148	241	237	187	181	13.51
ASIAN CENT PLANNED ECON												
AGRICULTURAL PRODUCTS	54	80	105	105	89	86	104	118	132	125	122	6.48
FOOD	49	73	106	109	85	74	93	104	124	118	109	6.03
FEED	50	100	79	89	132	119	86	132	249	688	882	26.55
RAW MATERIALS	78	119	102	91	107	118	126	150	135	113	141	4.45
BEVERAGES	72	75	93	96	110	207	236	270	268	244	254	16.74
FISHERY PRODUCTS	45	73	47	91	162	186	219	261	139	149		
FOREST PRODUCTS	94	111	90	91	119	132	174	213	201	211	178	9.77

ANNEX TABLE 8. INDICES OF VOLUME OF EXPORTS OF AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	1974-76=100											PERCENT
WORLD												
AGRICULTURAL PRODUCTS	94	102	97	98	106	110	117	123	131	136	135	4.08
FOOD	92	100	96	98	106	113	119	126	136	142	141	4.84
FEED	81	92	93	90	117	119	136	141	156	166	165	8.07
RAW MATERIALS	109	114	101	96	103	104	109	108	111	108	107	-.26
BEVERAGES	97	103	95	100	105	95	103	115	114	115	118	2.05
FISHERY PRODUCTS	100	99	94	99	107	113	121	129	126	131		
FOREST PRODUCTS	97	110	107	88	104	108	115	123	125	119	114	2.18
DEVELOPED COUNTRIES												
AGRICULTURAL PRODUCTS	91	101	96	98	105	111	121	128	142	145	143	5.20
FOOD	89	100	95	99	106	111	123	129	144	149	146	5.61
FEED	82	103	105	87	108	101	134	141	156	155	157	6.81
RAW MATERIALS	107	112	103	95	103	112	113	118	123	117	117	1.54
BEVERAGES	84	91	93	99	108	115	111	133	130	137	140	5.38
FISHERY PRODUCTS	100	103	95	98	107	111	121	128	130	136		
FOREST PRODUCTS	97	108	108	88	103	107	114	122	125	121	116	2.33
WESTERN EUROPE												
AGRICULTURAL PRODUCTS	85	94	97	99	105	107	118	131	140	150	149	6.07
FOOD	85	94	97	99	104	108	119	131	143	153	151	6.29
FEED	77	99	108	89	103	101	132	146	157	176	192	8.76
RAW MATERIALS	99	97	99	97	104	93	107	110	109	108	110	1.40
BEVERAGES	86	92	92	99	109	112	109	132	127	136	140	5.19
FISHERY PRODUCTS	101	101	94	98	108	110	113	124	126	135		
FOREST PRODUCTS	98	115	114	84	103	105	117	128	127	125	123	2.58
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS	97	99	107	98	95	108	96	99	100	102	103	-.24
FOOD	101	102	112	97	91	105	92	97	97	99	98	-.64
FEED	51	62	79	79	142	129	119	112	96	63	74	2.80
RAW MATERIALS	87	93	93	100	107	115	103	99	104	107	112	1.86
BEVERAGES	90	84	97	101	102	117	117	126	128	129	134	4.75
FISHERY PRODUCTS	77	77	86	109	106	94	91	96	99	86		
FOREST PRODUCTS	91	100	96	102	102	104	108	100	103	95	95	-.23
NORTH AMERICA DEVELOPED												
AGRICULTURAL PRODUCTS	87	108	95	98	107	112	133	137	156	157	152	6.23
FOOD	86	107	91	99	110	112	134	138	156	161	156	6.68
FEED	85	108	107	84	109	98	136	138	162	147	139	5.75
RAW MATERIALS	98	118	117	93	90	109	128	131	146	124	124	2.86
BEVERAGES	50	93	110	86	104	155	122	154	178	168	154	10.35
FISHERY PRODUCTS	98	116	92	97	110	144	181	181	185	198	197	8.96
FOREST PRODUCTS	98	104	106	89	105	109	113	122	129	122	114	2.45
OCEANIA DEVELOPED												
AGRICULTURAL PRODUCTS	115	108	91	97	112	124	121	116	137	126	126	2.54
FOOD	109	100	90	99	110	123	129	115	148	129	132	3.60
FEED	94	115	74	92	134	159	152	170	78	96	118	1.77
RAW MATERIALS	131	126	92	92	117	127	103	117	112	117	112	-.11
BEVERAGES	97	84	99	99	102	89	87	90	105	125	126	2.50
FISHERY PRODUCTS	116	111	102	102	97	116	123	156	157	160	190	5.94
FOREST PRODUCTS	79	95	98	91	111	135	139	158	187	182	155	8.78

ANNEX TABLE 8. INDICES OF VOLUME OF EXPORTS OF AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	1974-76=100											PERCENT
DEVELOPING COUNTRIES												
AGRICULTURAL PRODUCTS	101	104	98	97	106	109	109	113	112	119	121	2.03
FOOD	98	101	99	95	106	117	111	118	116	126	129	2.94
FEED	79	78	77	94	130	142	139	143	154	182	177	9.93
RAW MATERIALS	111	115	99	97	104	96	105	99	99	99	97	- 1.12
BEVERAGES	103	109	96	101	103	85	99	107	107	105	107	.43
FISHERY PRODUCTS	100	92	93	99	108	118	121	132	119	121		
FOREST PRODUCTS	101	121	99	89	111	114	121	127	122	112	106	1.23
AFRICA DEVELOPING												
AGRICULTURAL PRODUCTS	112	112	104	95	101	88	87	90	87	87	86	- 2.78
FOOD	119	111	105	95	101	90	87	89	86	85	85	- 3.22
FEED	128	112	92	95	113	106	69	96	73	56	72	- 6.03
RAW MATERIALS	115	118	106	90	103	89	94	94	106	106	94	- 1.31
BEVERAGES	97	110	103	96	101	82	86	91	82	83	86	- 2.39
FISHERY PRODUCTS	92	112	106	95	99	97	100	98	117	142		
FOREST PRODUCTS	115	131	110	86	105	104	104	102	100	83	82	- 3.11
LATIN AMERICA												
AGRICULTURAL PRODUCTS	97	102	98	98	104	116	120	122	118	129	127	3.17
FOOD	94	101	101	96	103	126	121	124	116	132	129	3.48
FEED	61	64	70	96	133	165	171	165	193	239	229	15.85
RAW MATERIALS	112	109	97	106	97	103	131	109	106	105	95	- .35
BEVERAGES	109	113	92	104	103	79	100	112	114	108	113	.67
FISHERY PRODUCTS	141	77	94	103	103	113	124	150	143	147		
FOREST PRODUCTS	113	127	108	92	100	122	147	196	218	218	193	8.41
NEAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS	129	128	97	93	110	98	98	93	92	109	119	- 1.18
FOOD	121	122	97	88	115	119	116	111	116	151	171	3.31
FEED	206	143	105	107	88	56	50	39	44	25	31	-17.83
RAW MATERIALS	132	132	96	96	108	83	86	79	75	79	83	- 5.07
BEVERAGES	151	166	124	76	100	102	118	150	130	181	139	1.49
FISHERY PRODUCTS	86	128	120	86	93	107	90	100	109	110		
FOREST PRODUCTS	85	94	124	84	92	95	81	139	123	176	271	8.67
FAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS	90	92	90	95	115	119	112	124	130	136	142	5.08
FOOD	86	83	85	95	120	132	118	137	144	154	170	7.72
FEED	84	90	82	85	133	114	98	122	105	103	96	2.16
RAW MATERIALS	96	109	100	95	104	100	103	105	108	110	103	.69
BEVERAGES	93	92	91	100	108	106	110	112	125	131	124	3.68
FISHERY PRODUCTS	67	87	86	100	113	131	137	138	120	115		
FOREST PRODUCTS	92	117	97	88	115	115	119	121	111	98	93	.41
ASIAN CENT PLANNED ECON												
AGRICULTURAL PRODUCTS	98	115	106	99	95	90	95	100	102	89	95	- 1.18
FOOD	96	117	109	101	90	82	89	94	100	85	83	- 2.20
FEED	79	101	78	91	131	99	88	105	158	421	580	17.46
RAW MATERIALS	113	111	94	91	115	117	119	119	96	85	133	.34
BEVERAGES	86	85	95	97	108	132	140	158	157	140	154	7.21
FISHERY PRODUCTS	107	121	94	94	112	111	90	105	58	61		
FOREST PRODUCTS	132	117	81	107	112	113	142	122	107	112	105	.01

ANNEX TABLE 9. INDICES OF VALUE OF IMPORTS OF AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	1974-76=100											PERCENT
WORLD												
AGRICULTURAL PRODUCTS	51	74	94	101	105	119	133	156	180	180	163	11.99
FOOD	48	69	94	105	101	109	126	150	177	183	165	12.48
FEED	52	104	98	87	116	147	151	180	204	231	211	13.76
RAW MATERIALS	60	88	104	90	105	119	129	147	162	152	133	8.19
BEVERAGES	60	78	82	90	127	195	186	208	218	176	177	13.19
FISHERY PRODUCTS	61	81	92	93	116	135	163	202	209	214		
FOREST PRODUCTS	53	78	102	90	108	120	134	171	192	172	168	11.82
DEVELOPED COUNTRIES												
AGRICULTURAL PRODUCTS	54	77	93	100	107	121	133	155	171	164	149	10.48
FOOD	52	73	92	105	103	109	126	149	166	165	148	10.74
FEED	53	107	98	86	115	143	145	175	196	220	197	12.69
RAW MATERIALS	63	91	105	90	105	115	124	141	148	135	122	6.55
BEVERAGES	60	79	82	90	128	197	186	208	220	173	175	13.60
FISHERY PRODUCTS	62	83	93	92	116	136	162	202	203	209		
FOREST PRODUCTS	55	80	103	90	107	118	131	169	186	162	159	10.95
WESTERN EUROPE												
AGRICULTURAL PRODUCTS	58	81	94	100	106	124	139	160	172	153	147	9.75
FOOD	56	77	94	105	102	114	133	153	165	149	143	9.57
FEED	55	108	95	86	119	144	152	185	207	220	205	13.09
RAW MATERIALS	65	92	105	88	107	116	129	143	150	131	122	6.38
BEVERAGES	61	82	84	90	126	197	186	214	225	177	176	13.06
FISHERY PRODUCTS	62	85	97	95	108	126	154	192	222	200		
FOREST PRODUCTS	52	76	105	88	108	116	125	164	192	166	155	11.40
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS	43	64	77	107	116	116	127	158	194	217	184	15.39
FOOD	38	57	67	112	122	110	129	167	210	247	206	18.50
FEED	45	98	105	93	102	129	122	144	167	229	184	12.35
RAW MATERIALS	57	81	108	97	95	111	108	128	140	127	116	6.34
BEVERAGES	60	65	81	100	119	174	157	169	198	162	160	12.09
FISHERY PRODUCTS	55	70	95	97	108	113	114	123	127	109		
FOREST PRODUCTS	49	62	85	113	102	107	109	113	139	141	144	9.66
NORTH AMERICA DEVELOPED												
AGRICULTURAL PRODUCTS	60	80	100	93	107	125	135	152	160	151	133	8.70
FOOD	60	79	108	97	95	99	111	130	140	143	120	6.89
FEED	53	96	90	89	121	138	151	178	157	170	153	10.42
RAW MATERIALS	52	76	98	87	115	120	132	161	156	157	123	9.47
BEVERAGES	63	82	81	85	134	196	198	207	214	167	174	12.56
FISHERY PRODUCTS	77	86	94	87	119	132	140	169	168	189	198	10.62
FOREST PRODUCTS	72	88	95	91	113	131	165	177	165	171	174	9.98
OCEANIA DEVELOPED												
AGRICULTURAL PRODUCTS	49	57	99	106	95	121	139	136	162	158	156	11.74
FOOD	40	47	90	117	93	107	127	130	147	152	166	13.35
FEED	81	54	171	102	26	47	207	64	111	210	76	4.64
RAW MATERIALS	54	67	121	84	95	97	110	111	139	135	113	7.12
BEVERAGES	67	73	88	107	105	202	215	195	247	207	194	14.05
FISHERY PRODUCTS	55	73	109	99	93	127	135	149	182	204	211	13.19
FOREST PRODUCTS	46	66	103	104	93	117	113	136	167	177	195	12.89

ANNEX TABLE 9. INDICES OF VALUE OF IMPORTS OF AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	1974-76=100											PERCENT
DEVELOPING COUNTRIES												
AGRICULTURAL PRODUCTS	39	62	99	104	98	114	134	160	209	231	205	16.68
FOOD	37	60	99	106	95	107	128	155	208	233	208	17.07
FEED	38	60	93	87	120	202	214	243	301	358	368	25.10
RAW MATERIALS	51	75	100	92	108	136	152	173	216	217	176	13.90
BEVERAGES	54	65	82	96	123	175	190	205	201	199	192	15.11
FISHERY PRODUCTS	56	69	86	99	115	127	171	204	250	255		
FOREST PRODUCTS	46	65	99	92	110	139	153	186	227	232	225	16.95
AFRICA DEVELOPING												
AGRICULTURAL PRODUCTS	40	57	91	111	98	122	145	164	213	231	217	17.53
FOOD	39	56	92	112	96	116	143	164	219	240	227	18.13
FEED	39	63	93	95	112	216	288	373	455	585	529	31.75
RAW MATERIALS	47	60	101	102	97	122	130	152	154	156	143	11.27
BEVERAGES	47	57	71	101	128	184	180	168	188	183	157	14.57
FISHERY PRODUCTS	48	58	78	95	127	138	194	240	342	337		
FOREST PRODUCTS	37	55	105	96	99	126	123	145	153	153	155	13.05
LATIN AMERICA												
AGRICULTURAL PRODUCTS	43	65	105	97	99	106	130	159	223	227	182	15.38
FOOD	41	64	104	98	98	101	127	151	225	231	182	15.66
FEED	35	77	106	85	109	190	184	229	303	344	350	23.39
RAW MATERIALS	57	74	118	86	95	118	133	173	196	180	142	10.91
BEVERAGES	56	73	90	89	121	149	147	283	193	183	169	13.60
FISHERY PRODUCTS	65	74	90	110	100	110	148	191	222	208		
FOREST PRODUCTS	54	63	107	92	101	114	116	136	198	203	185	13.13
NEAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS	29	40	91	111	98	119	141	167	226	276	259	22.87
FOOD	26	38	91	113	96	113	135	166	231	283	264	23.78
FEED	41	50	90	66	144	249	281	278	302	447	471	29.16
RAW MATERIALS	43	50	84	106	110	142	133	132	135	187	173	13.93
BEVERAGES	57	63	88	95	117	184	249	202	228	225	235	17.02
FISHERY PRODUCTS	32	46	83	90	128	199	268	256	403	490		
FOREST PRODUCTS	38	48	79	103	118	170	167	173	222	253	266	20.96
FAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS	42	69	92	104	104	109	121	137	171	189	162	12.93
FOOD	40	69	94	107	100	97	112	129	165	185	157	12.59
FEED	40	51	86	96	117	187	190	233	281	288	322	23.33
RAW MATERIALS	52	68	85	95	120	151	149	162	186	195	169	13.33
BEVERAGES	55	71	76	96	128	174	158	179	183	206	212	14.71
FISHERY PRODUCTS	60	80	90	98	113	113	142	170	193	199		
FOREST PRODUCTS	47	80	101	84	114	135	169	239	246	238	230	17.19
ASIAN CENT PLANNED ECON												
AGRICULTURAL PRODUCTS	45	86	128	90	82	121	144	191	240	251	225	15.91
FOOD	43	81	131	93	76	118	131	184	211	233	228	15.56
FEED	30	34	38	96	167	240	329	113	256	457	293	29.68
RAW MATERIALS	51	103	121	82	98	124	178	210	322	300	213	16.53
BEVERAGES	50	65	82	55	163	362	243	302	302	343	236	22.29
FISHERY PRODUCTS	43	59	61	107	132	158	254	320	191	197	204	18.68
FOREST PRODUCTS	55	81	104	78	118	182	248	282	406	394	364	23.46

ANNEX TABLE 10. INDICES OF VOLUME OF IMPORTS OF AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	1974-76=100											PERCENT
WORLD												
AGRICULTURAL PRODUCTS	93	100	96	98	106	108	116	124	129	133	133	4.08
FOOD	90	99	96	98	106	111	118	128	134	138	140	4.80
FEED	87	94	92	93	116	120	135	143	149	157	162	7.18
RAW MATERIALS	106	108	99	98	103	100	108	109	111	108	105	.47
BEVERAGES	93	101	95	101	104	96	102	115	113	116	118	2.29
FISHERY PRODUCTS	97	96	95	98	107	108	115	126	126	130		
FOREST PRODUCTS	98	110	108	88	104	109	117	125	125	119	117	2.25
DEVELOPED COUNTRIES												
AGRICULTURAL PRODUCTS	97	102	95	98	107	104	109	115	115	117	119	2.28
FOOD	95	101	95	98	107	106	110	116	117	120	122	2.75
FEED	89	98	92	93	115	117	131	139	144	151	151	6.27
RAW MATERIALS	111	110	99	98	103	97	102	102	100	96	96	- 1.07
BEVERAGES	95	102	95	102	103	94	101	114	113	115	117	2.07
FISHERY PRODUCTS	98	97	96	97	107	108	115	126	124	129		
FOREST PRODUCTS	100	113	109	87	104	106	115	123	121	113	110	1.49
WESTERN EUROPE												
AGRICULTURAL PRODUCTS	98	101	97	98	105	104	109	114	113	111	116	1.84
FOOD	96	99	97	99	104	105	110	113	113	110	116	1.94
FEED	93	100	90	92	118	119	138	147	152	159	168	7.07
RAW MATERIALS	114	112	98	96	107	100	105	103	100	93	93	- 1.35
BEVERAGES	93	104	96	101	103	96	100	117	112	117	118	2.19
FISHERY PRODUCTS	106	97	96	99	105	101	108	121	128	124		
FOREST PRODUCTS	100	114	110	85	105	106	113	126	124	119	116	1.97
USSR AND EASTERN EUROPE												
AGRICULTURAL PRODUCTS	89	101	84	102	114	105	111	125	137	152	148	5.61
FOOD	86	106	77	102	121	109	118	136	149	172	168	7.37
FEED	76	82	97	100	103	106	108	115	122	134	108	4.45
RAW MATERIALS	101	98	101	103	96	95	96	101	105	99	102	.11
BEVERAGES	93	83	92	106	102	98	89	97	111	109	104	1.76
FISHERY PRODUCTS	91	68	92	105	103	92	102	115	115	78		
FOREST PRODUCTS	86	88	94	106	100	102	100	97	111	109	103	1.93
NORTH AMERICA DEVELOPED												
AGRICULTURAL PRODUCTS	102	105	101	94	105	101	104	107	101	106	100	-.16
FOOD	103	106	103	91	105	105	101	104	96	103	94	- .52
FEED	86	85	89	95	116	113	135	142	122	122	128	4.99
RAW MATERIALS	102	100	97	98	105	102	105	109	100	105	95	-.12
BEVERAGES	99	106	96	101	103	89	109	115	113	112	117	1.71
FISHERY PRODUCTS	106	103	101	92	108	106	105	108	101	108	112	.69
FOREST PRODUCTS	112	115	106	88	106	113	129	128	117	114	105	.74
OCEANIA DEVELOPED												
AGRICULTURAL PRODUCTS	89	86	103	101	96	96	94	91	97	94	116	1.16
FOOD	81	79	97	107	96	100	98	96	100	96	136	2.99
FEED	170	84	155	116	27	48	211	52	86	139	48	- 5.01
RAW MATERIALS	103	95	118	85	97	83	87	76	82	81	77	- 3.15
BEVERAGES	92	92	97	104	99	107	90	102	111	107	119	1.96
FISHERY PRODUCTS	85	90	110	96	94	111	107	100	115	115	133	3.30
FOREST PRODUCTS	81	95	116	100	84	103	88	99	104	108	114	1.83

ANNEX TABLE 10. INDICES OF VOLUME OF IMPORTS OF AGRICULTURAL, FISHERY AND FOREST PRODUCTS

	1972	1973	1974	1975	1976	1977	1978	1979	1980	1981	1982	ANNUAL RATE OF CHANGE 1972-82
	1974-76=100											PERCENT
DEVELOPING COUNTRIES												
AGRICULTURAL PRODUCTS	80	93	99	99	102	121	139	154	174	181	179	9.08
FOOD	79	93	99	99	102	123	141	158	179	187	186	9.61
FEED	66	58	86	93	122	157	180	184	204	229	283	16.90
RAW MATERIALS	87	102	98	99	102	113	129	133	155	153	139	5.70
BEVERAGES	82	86	94	96	110	112	112	121	113	128	128	4.49
FISHERY PRODUCTS	90	88	89	101	110	107	116	128	136	138		
FOREST PRODUCTS	88	92	103	92	105	124	131	138	151	154	157	6.68
AFRICA DEVELOPING												
AGRICULTURAL PRODUCTS	84	88	97	100	104	134	155	160	180	194	203	10.31
FOOD	85	90	98	99	103	137	163	169	193	206	218	11.09
FEED	80	66	95	101	104	170	186	216	228	309	313	17.41
RAW MATERIALS	79	79	99	105	96	101	105	111	106	113	111	3.26
BEVERAGES	71	71	82	102	116	129	103	95	98	120	106	4.05
FISHERY PRODUCTS	74	81	82	91	127	125	132	145	168	162		
FOREST PRODUCTS	73	86	112	91	96	118	109	120	121	121	122	4.47
LATIN AMERICA												
AGRICULTURAL PRODUCTS	83	92	105	94	101	115	146	157	194	189	163	9.02
FOOD	81	92	105	94	101	116	151	160	203	196	167	9.64
FEED	60	65	100	91	110	139	151	161	196	209	239	14.77
RAW MATERIALS	106	105	111	95	94	108	113	128	139	137	119	2.90
BEVERAGES	90	95	106	94	100	85	97	149	112	124	125	3.51
FISHERY PRODUCTS	116	97	88	113	99	95	122	154	146	150		
FOREST PRODUCTS	96	94	118	91	91	100	97	104	137	134	127	3.33
NEAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS	62	67	91	104	104	131	140	167	182	203	214	13.44
FOOD	60	67	91	105	104	133	142	173	190	209	221	14.20
FEED	74	58	85	70	145	219	270	259	242	344	452	22.74
RAW MATERIALS	80	62	83	111	106	106	94	96	97	137	128	5.18
BEVERAGES	88	85	99	93	108	107	135	123	122	129	139	5.02
FISHERY PRODUCTS	50	61	79	91	129	190	167	160	220	267		
FOREST PRODUCTS	76	74	86	98	115	151	146	147	168	184	206	11.21
FAR EAST DEVELOPING												
AGRICULTURAL PRODUCTS	82	100	91	101	108	109	118	125	140	144	140	5.56
FOOD	81	102	93	101	106	104	115	124	141	146	140	5.50
FEED	71	54	77	103	120	139	159	176	194	180	251	14.90
RAW MATERIALS	85	94	84	103	112	127	128	127	132	132	131	5.02
BEVERAGES	81	103	90	96	114	118	106	121	119	143	155	5.40
FISHERY PRODUCTS	93	97	93	102	104	87	91	94	95	91		
FOREST PRODUCTS	93	107	99	87	113	129	155	167	157	157	157	6.69
ASIAN CENT PLANNED ECON												
AGRICULTURAL PRODUCTS	99	135	124	90	87	129	152	179	198	201	205	8.12
FOOD	104	135	126	90	84	139	150	185	186	197	217	7.90
FEED	6	24	32	104	163	198	244	82	156	266	190	33.65
RAW MATERIALS	87	137	119	89	92	100	158	164	235	210	173	8.49
BEVERAGES	52	67	83	52	164	162	150	267	222	255	184	17.51
FISHERY PRODUCTS	60	38	84	111	104	131	141	155	140	145	150	11.94
FOREST PRODUCTS	96	92	96	93	110	136	163	164	188	191	191	9.42

ANNEX TABLE 11. THE IMPORTANCE OF AGRICULTURE IN THE ECONOMY

COUNTRY	AGRICULTURAL GDP AS % TOTAL GDP 1981	AGRIC.POPULATION AS % TOTAL POPULATION 1982	AGRIC.EXPORTS AS % TOTAL EXPORTS 1982	AGRIC.IMPORTS AS % TOTAL IMPORTS 1982	SHARE OF TOTAL IMPORTS FINANCED BY AGR.EXPORTS % 1982
ALGERIA	8	47	1	23	1
ANGOLA	43	56	6	17	7
BENIN	42	45	63	13	4
BOTSWANA	15	79	20	11	10
BRIT.INDIAN OCEAN TERRIT	50	50			
BURUNDI	63	82	97	16	40
CAMEROON	32	80	39	10	32
CAPE VERDE	15	55	31	30	2
CENTRAL AFRICAN REPUBLIC	35	86	23	32	37
CHAD	46	82	64	16	66
COMOROS	44	63	125	37	53
CONGO	18	33	1	16	2
DJIBOUTI	5	47		31	
EGYPT	16	50	21	32	7
EQUATORIAL GUINEA	44	73			
ETHIOPIA	60	78	96	11	44
GABON	8	75	1	16	1
GAMBIA	30	77	42	46	15
GHANA	52	50	31	15	29
GUINEA	48	79	7	22	10
GUINEA-BISSAU	50	81	53	31	14
IVORY COAST	26	78	65	20	65
KENYA	34	77	53	6	26
LESOTHO	23	82	30	20	3
LIBERIA	16	68	23	20	23
LIBYA	2	13		16	
MADAGASCAR	39	82	71	28	39
MALAWI	45	82	92	12	77
MALI	36	86	93	26	56
MAURITANIA	24	82	16	37	16
MAURITIUS	14	27	69	31	55
MOROCCO	15	50	21	22	11
MOZAMBIQUE	43	62	25	16	14
NAMIBIA	10	47			
NIGER	45	87	25	20	17
NIGERIA	19	51	2	16	2
REUNION	9	26	83	22	11
RWANDA	43	89	79	11	25
ST. HELENA	100			24	
SAO TOME AND PRINCIPE	31	52	36	21	53
SENEGAL	31	73	30	29	17
SEYCHELLES	7	47	16	16	2
SIERRA LEONE	30	64	25	26	12
SOMALIA	32	79	82	44	41
SOUTH AFRICA	7	28	11	4	11
SPANISH NORTH AFRICA	21	15			
SUDAN	33	76	67	24	30
SWAZILAND	22	71	41	6	25
TANZANIA	52	80	70	12	35
TOGO	28	67	28	26	12
TUNISIA	20	39	9	12	5
UGANDA	77	80	37	7	44
UPPER VOLTA	38	80	76	26	16
WESTERN SAHARA	22	38			
ZAIRE	20	73	31	26	27
ZAMBIA	20	65	2	6	2
ZIMBABWE	16	58	38	1	33
ANTIGUA AND BARBUDA	5	9	2	13	
BAHAMAS	4	8		1	
BARBADOS	8	16	14	16	6
BELIZE	45	27	56	27	40
BERMUDA	10	6		19	
BRITISH VIRGIN ISLANDS	8	7			
CANADA	4	5	12	8	15
CAYMAN ISLANDS	20	11			
COSTA RICA	23	34	69	14	68
CUBA	19	22	118	17	79
DOMINICA	31	33	58	21	22
DOMINICAN REPUBLIC	17	55	65	15	41
EL SALVADOR	26	50	73	15	44
GREENLAND	20	6	1	19	1
GRENADA	21	33	86	25	26
GUADELOUPE	7	15	86	23	11
GUATEMALA	23	54	52	11	44
HAITI	33	65	49	19	13
HONDURAS	31	62	69	9	53
JAMAICA	8	19	13	15	7
MARTINIQUE	8	14	59	20	8
MEXICO	8	34	6	13	9
MONTSERRAT	22	9	12	13	
NETHERLANDS ANTILLES	15	8	1	2	
NICARAGUA	29	40	81	17	52
PANAMA	14	33	37	8	8

ANNEX TABLE 11. THE IMPORTANCE OF AGRICULTURE IN THE ECONOMY

COUNTRY	AGRICULTURAL GDP AS % TOTAL GDP 1981	AGRIC.POPULATION AS % TOTAL POPULATION 1982	AGRIC.EXPORTS AS % TOTAL EXPORTS 1982	AGRIC.IMPORTS AS % TOTAL IMPORTS 1982	SHARE OF TOTAL IMPORTS FINANCED BY AGR.EXPORTS % 1982
PUERTO RICO	2	3			
ST CHRISTOPHER AND NEVIS	20	8	70	23	30
SAINT LUCIA	15	33	54	22	19
ST.PIERRE AND MIQUELON	24			15	
ST VINCENT GRENADINES	20	32	52	21	21
TRINIDAD AND TOBAGO	3	15	2	11	2
TURKS AND CAICOS IS.	20	17			
UNITED STATES	3	2	18	7	16
US VIRGIN ISLANDS	62	9			
ARGENTINA	13	12	68	7	97
BOLIVIA	17	49	9	12	11
BRAZIL	12	37	40	9	42
CHILE	7	18	10	15	10
COLOMBIA	22	26	69	10	39
ECUADOR	12	43	20	8	26
FALKLAND IS. (MALVINAS)	50				
FRENCH GUIANA	41	20	9	19	1
GUYANA	35	21	52	14	44
PARAGUAY	28	48	84	23	48
PERU	9	38	7	13	6
SURINAME	8	17	10	8	8
URUGUAY	8	11	59	14	58
VENEZUELA	5	17		17	1
AFGHANISTAN	44	77	35	12	18
BAHRAIN	1	60	1	5	1
BANGLADESH	47	83	18	22	7
BHUTAN	99	93			
BRUNEI	1	7		15	
BURMA	46	50	58	11	54
CHINA	35	58	13	31	17
CYPRUS	10	33	43	14	19
EAST TIMOR	92	58			
GAZA STRIP (PALESTINE)	20	3	31	5	20
HONG KONG	1	2	5	14	4
INDIA	39	62	30	13	20
INDONESIA	24	57	7	9	9
IRAN	15	36	1	26	1
IRAQ	9	39	1	10	
ISRAEL	5	6	16	12	11
JAPAN	3	10	1	12	1
JORDAN	8	24	24	17	5
KAMPUCHEA,DEMOCRATIC	65	73	15	13	1
KOREA DPR	13	44	13	15	10
KOREA REP	18	36	2	12	2
KUWAIT		2	1	12	2
LAOS	50	73	1	12	
LEBANON	9	9	16	19	5
MACAU	1	3		17	
MALAYSIA	24	45	26	11	24
MALDIVES	100	79		16	
MONGOLIA	20	46	34	10	25
NEPAL	63	92	19	13	8
OMAN	2	60	1	13	1
PAKISTAN	30	52	34	14	15
PHILIPPINES	22	44	31	8	18
QATAR	2	60		12	
SAUDI ARABIA KINGDOM OF	1	59		13	
SINGAPORE	1	2	8	8	6
SRI LANKA	43	53	57	13	32
SYRIA	18	47	15	15	6
THAILAND	24	74	56	6	46
TURKEY	21	52	63	3	29
UNITED ARAB EMIRATES	1	60	1	9	1
VIET NAM	32	69	24	16	11
YEMEN ARAB REPUBLIC	29	74	2	33	
YEMEN DEMOCRATIC	10	57	1	15	
ALBANIA	25	59			
ANDORRA	46	21			
AUSTRIA	4	8	5	8	4
BELGIUM-LUXEMBOURG	2	3	12	13	11
BULGARIA	19	31	11	5	12
CZECHOSLOVAKIA	7	9	4	10	4
DENMARK	6	6	33	12	30
FAEROE ISLANDS	42	5	3	12	3
FINLAND	8	12	5	8	5
FRANCE	4	8	17	11	14
GERMAN DEMOCRATIC REP.	9	9	2	10	2
GERMANY, FED. REP. OF	2	4	6	15	7
GIBRALTAR	46	20			

ANNEX TABLE 11. THE IMPORTANCE OF AGRICULTURE IN THE ECONOMY

COUNTRY	AGRICULTURAL GDP AS % TOTAL GDP 1981	AGRIC. POPULATION AS % TOTAL POPULATION 1982	AGRIC. EXPORTS AS % TOTAL EXPORTS 1982	AGRIC. IMPORTS AS % TOTAL IMPORTS 1982	SHARE OF TOTAL IMPORTS FINANCED BY AGR. EXPORTS % 1982
GREECE	18	36	32	14	14
HOLY SEE	43				
HUNGARY	14	16	25	8	25
ICELAND	25	11	3	11	2
IRELAND	14	20	30	13	25
ITALY	6	10	8	15	7
LIECHTENSTEIN	46	4			
MALTA	4	5	6	20	3
MONACO	42	4			
NETHERLANDS	4	5	23	17	25
NORWAY	5	7	2	6	2
POLAND	30	29	6	18	6
PORTUGAL	14	25	10	16	5
ROMANIA	16	45	10	8	9
SAN MARINO	42	24			
SPAIN	7	15	15	12	10
SWEDEN	3	5	3	7	3
SWITZERLAND	4	5	4	10	4
UNITED KINGDOM	2	2	8	14	7
YUGOSLAVIA	14	35	12	7	7
AMERICAN SAMOA	58	55		14	
AUSTRALIA	7	5	39	4	37
CHRISTMAS ISLAND (AUST.)		50			
COCOS (KEELING) ISLANDS		100			
COOK ISLANDS	60	53	36	21	6
FIJI	24	39	54	15	30
FRENCH POLYNESIA	6	55	17	19	1
GUAM	75	55		6	
JOHNSTON ISLAND		100			
KIRIBATI	56	55	5	25	8
MIDWAY ISLANDS		50			
NAURU	50	50		17	
NEW CALEDONIA	3	60	1	25	1
NEW ZEALAND	12	9	68	6	63
NIUE		50	15	21	2
NORFOLK ISLAND	50	50		2	
PACIFIC IS. (TRUST TR.)	57	55	31	21	9
PAPUA NEW GUINEA	32	81	30	15	19
SAMOA	56	55	47	24	13
SOLOMON ISLANDS	61	59	31	15	31
TOKELAU		50			
TONGA	56	55	34	26	8
TUVALU		50		15	1
VANUATU	57	60	43	10	16
WAKE ISLAND		100			
WALLIS AND FUTUNA IS.	63	60			
USSR	15	15	3	25	4

ANNEX TABLE 12A. RESOURCES AND THEIR USE IN AGRICULTURE

COUNTRY	ARABLE LAND AS % OF TOTAL LAND 1981	IRRIGATED LAND AS % OF ARABLE LAND 1981	FOREST LAND AS % OF TOTAL LAND 1981	AGRIC. POPULATION PER HA OF ARABLE LAND 1981	AGRIC. LAB. FORCE AS % OF AGRIC. POPULATION 1982
ALGERIA	3	5	2	1.3	22
ANGOLA	3		43	1.2	26
BENIN	16	1	35	.9	45
BOTSWANA	2		2	.5	46
BURUNDI	51		2	2.7	47
CAMEROON	15		54	1.0	46
CAPE VERDE	10	5		4.6	32
CENTRAL AFRICAN REPUBLIC	3		64	1.0	53
CHAD	3		16	1.2	38
COMOROS	42		16	2.6	36
CONGO	2		62	.8	34
DJIBOUTI					30
EGYPT	3	100		7.5	28
EQUATORIAL GUINEA	8		61	1.2	29
ETHIOPIA	13		24	1.8	41
GABON	2		78	.9	47
GAMBIA	27	12	21	1.8	48
GHANA	12	1	38	2.2	36
GUINEA	6	1	43	2.6	44
GUINEA-BISSAU	10		38	1.7	30
IVORY COAST	12	1	29	1.7	49
KENYA	4	2	4	5.7	37
LESOTHO	10			3.8	52
LIBERIA	4	1	39	3.8	36
LIBYA	1	11		.2	25
MADAGASCAR	5	16	23	2.5	48
MALAWI	25		46	2.3	44
MALI	2	6	7	3.0	53
MAURITANIA		4	15	6.6	30
MAURITIUS	58	15	31	2.5	37
MOROCCO	19	6	12	1.3	26
MOZAMBIQUE	4	2	20	2.2	37
NAMIBIA	1	1	13	.8	32
NIGER	3	1	2	1.3	31
NIGERIA	33		16	1.4	37
REUNION	22	9	35	2.6	31
RWANDA	39		11	4.5	52
ST. HELENA	6		3		
SAO TOME AND PRINCIPE	38			1.3	24
SENEGAL	27	3	28	.8	41
SEYCHELLES	19		19	6.4	31
SIERRA LEONE	25		29	1.3	37
SOMALIA	2	15	14	3.5	38
SOUTH AFRICA	11	8	4	.6	36
SPANISH NORTH AFRICA					36
SUDAN	5	15	20	1.2	31
SWAZILAND	11	16	6	2.2	45
TANZANIA	6	1	47	2.9	40
TOGO	26	1	30	1.3	41
TUNISIA	30	3	3	.6	24
UGANDA	29		30	1.9	41
UPPER VOLTA	10		26	2.2	53
WESTERN SAHARA				27.0	24
ZAIRE	3		78	3.4	42
ZAMBIA	7		27	.8	36
ZIMBABWE	7	4	62	1.7	32
ANTIGUA AND BARBUDA	18		16	.9	43
BAHAMAS	1		32	2.4	38
BARBADOS	77			1.3	43
BELIZE	2	4	44	.9	30
BERMUDA			20		50
BRITISH VIRGIN ISLANDS	20		7	.3	
CANADA	5	1	35		43
CAYMAN ISLANDS			23		50
COSTA RICA	10	5	34	1.6	34
CUBA	28	31	17	.7	31
DOMINICA	23		41	1.6	32
DOMINICAN REPUBLIC	26	12	13	2.7	26
EL SALVADOR	35	15	6	3.5	31
GREENLAND					33
GRENADA	41		9	2.6	32
GUADELOUPE	22	5	40	1.4	36
GUATEMALA	16	4	41	2.3	30
HAITI	32	8	4	4.4	50
HONDURAS	16	5	36	1.3	29
JAMAICA	24	12	28	1.7	35
MARTINIQUE	19	25	26	2.4	36
MEXICO	12	22	25	1.1	29
MONTSERRAT	10		40	1.0	
NETHERLANDS ANTILLES	8			2.9	41
NICARAGUA	11	6	37	.9	31
PANAMA	8	5	54	1.1	34
PUERTO RICO	16	28	20	.8	33

ANNEX TABLE 12A. RESOURCES AND THEIR USE IN AGRICULTURE

COUNTRY	ARABLE LAND AS % OF TOTAL LAND 1981	IRRIGATED LAND AS % OF ARABLE LAND 1981	FOREST LAND AS % OF TOTAL LAND 1981	AGRIC. POPULATION PER HA OF ARABLE LAND 1981	AGRIC. LAB. FORCE AS % OF AGRIC. POPULATION 1982
ST CHRISTOPHER AND NEVIS	39		17	.5	33
SAINT LUCIA	28	6	18	2.4	33
ST. PIERRE AND MIQUELON	13		4		
ST VINCENT GRENADINES	50	6	41	1.9	31
TRINIDAD AND TOBAGO	31	13	45	1.2	39
TURKS AND CAICOS IS.	2			1.0	
UNITED STATES	21	11	31		46
US VIRGIN ISLANDS	21		6	1.4	40
ARGENTINA	13	5	22	.1	38
BOLIVIA	3	4	52	.8	33
BRAZIL	9	3	68	.6	32
CHILE	7	23	21	.4	33
COLOMBIA	5	6	50	1.2	30
ECUADOR	9	20	52	1.4	32
FRENCH GUIANA			82	4.3	38
GUYANA	3	25	83	.4	33
PARAGUAY	5	3	52	.8	32
PERU	3	34	55	2.0	28
SURINAME		71	96	1.2	26
URUGUAY	8	6	4	.2	39
VENEZUELA	4	8	39	.7	31
AFGHANISTAN	12	33	3	1.6	33
BAHRAIN	3	50		98.5	26
BANGLADESH	68	19	16	8.3	34
BHUTAN	2		70	13.1	48
BRUNEI	2		79	2.1	28
BURMA	15	11	49	1.8	40
CHINA	11	45	13	5.8	46
CYPRUS	47	22	19	.5	44
EAST TIMOR	5		74	5.6	30
GAZA STRIP (PALESTINE)					29
HONG KONG	8	38	13	15.8	47
INDIA	57	24	23	2.6	38
INDONESIA	11	28	67	4.5	34
IRAN	8	33	11	1.1	28
IRAQ	13	32	3	1.0	24
ISRAEL	21	49	6	.6	36
JAPAN	13	66	68	2.5	53
JORDAN	14	6	1	.6	24
KAMPUCHEA, DEMOCRATIC	17	3	76	1.6	38
KOREA DPR	19	47	74	3.7	45
KOREA REP	22	53	67	6.7	39
KUWAIT		100		24.0	28
LAOS	4	13	56	3.2	47
LEBANON	34	24	7	.7	26
MACAU					33
MALAYSIA	13	9	67	1.5	35
MALDIVES	10		3	42.0	43
MONGOLIA	1	3	10	.7	37
NEPAL	17	10	33	5.8	47
OMAN		93		13.7	25
PAKISTAN	26	71	4	2.3	27
PHILIPPINES	33	13	41	2.3	35
QATAR				50.3	26
SAUDI ARABIA KINGDOM OF	1	35	1	5.0	26
SINGAPORE	12		5	7.3	41
SRI LANKA	33	24	37	3.7	35
SYRIA	31	10	3	.8	25
THAILAND	36	15	30	2.0	45
TURKEY	37	7	26	.9	41
UNITED ARAB EMIRATES		38		51.7	26
VIET NAM	19	27	32	6.3	45
YEMEN ARAB REPUBLIC	14	9	8	1.6	27
YEMEN DEMOCRATIC	1	34	7	5.3	26
ALBANIA	27	53	45	2.3	43
ANDORRA	2		22	7.0	43
AUSTRIA	20		40	.4	45
BELGIUM-LUXEMBOURG	25		21	.4	39
BULGARIA	38	28	35	.7	52
CZECHOSLOVAKIA	41	3	37	.3	50
DENMARK	63	15	12	.1	48
FAEROE ISLANDS	2			.7	50
FINLAND	8	3	76	.3	47
FRANCE	34	6	27	.2	43
GERMAN DEMOCRATIC REP.	47	3	28	.3	53
GERMANY, FED. REP. OF	31	4	30	.3	48
GIBRALTAR					33
GREECE	30	25	20	.9	42
HUNGARY	58	3	18	.3	44

ANNEX TABLE 12A. RESOURCES AND THEIR USE IN AGRICULTURE

COUNTRY	ARABLE LAND AS % OF TOTAL LAND 1981	IRRIGATED LAND AS % OF ARABLE LAND 1981	FOREST LAND AS % OF TOTAL LAND 1981	AGRIC. POPULATION PER HA OF ARABLE LAND 1981	AGRIC. LAB. FORCE AS % OF AGRIC. POPULATION 1982
ICELAND			1	3.3	44
IRELAND	14		5	.7	38
ITALY	42	23	22	.5	38
LIECHTENSTEIN	25		19	.3	
MALTA	44	7		1.2	38
NETHERLANDS	25	32	9	.9	39
NORWAY	3	9	27	.4	38
POLAND	49	1	29	.7	56
PORTUGAL	39	18	40	.7	39
ROMANIA	46	22	28	1.0	55
SAN MARINO	17			5.0	40
SPAIN	41	15	31	.3	36
SWEDEN	7	2	64	.2	39
SWITZERLAND	10	6	26	.8	50
UNITED KINGDOM	29	2	9	.2	46
YUGOSLAVIA	31	2	36	1.0	46
AMERICAN SAMOA	20		70	4.5	33
AUSTRALIA	6	4	14		43
CHRISTMAS ISLAND (AUST.)					50
COOK ISLANDS	26			1.8	30
FIJI	13		65	1.1	34
FRENCH POLYNESIA	20		31	1.1	33
GUAM	22		18	4.8	36
KIRIBATI	51		3	.9	36
NAURU					50
NEW CALEDONIA	1		51	8.6	38
NEW ZEALAND	2	37	35	.6	40
NIUE	65		19	.1	50
PACIFIC IS. (TRUST TR.)	33		22	1.3	35
PAPUA NEW GUINEA	1		71	7.2	49
SAMOA	43		47	.7	33
SOLOMON ISLANDS	2		93	2.7	38
TONGA	79		12	1.0	32
TUVALU					50
VANUATU	6		1	.8	37
WALLIS AND FUTUNA IS.	25			1.2	33
USSR	10	8	41	.2	50

ANNEX TABLE 12B. RESOURCES AND THEIR USE IN AGRICULTURE

COUNTRY	AGRICULTURAL GFCF $ PER HA ARABLE LAND 1980	AGRICULTURAL GFCF $ PER CAPUT OF AGRIC.-LAB.FORCE 1980	FERTILIZER USE PER HA ARAB.LAND KG/HA 1981	NOS. OF TRACTORS PER 000 HA ARABLE LAND 1981	OFFICIAL COMMITM. TO AGRICULTURE $ PER CAPUT 1981
ALGERIA			26	6	
ANGOLA			3	3	1.9
BENIN			2		12.8
BOTSWANA			1	2	18.4
BURUNDI			1		15.3
CAMEROON			6		9.7
CAPE VERDE				1	37.7
CENTRAL AFRICAN REPUBLIC			1		3.0
CHAD			1		2.9
CONGO			1	1	
DJIBOUTI					.6
EGYPT	134.4	65.5	248	9	5.8
ETHIOPIA			3		2.4
GABON	48.1	108.0	3	3	34.6
GAMBIA			5		11.3
GHANA			11	1	1.4
GUINEA			2		2.8
GUINEA-BISSAU			5		25.9
IVORY COAST			13	1	11.5
KENYA	49.6	23.4	34	3	6.7
LESOTHO	42.3	22.1	15	5	8.3
LIBERIA			9	1	5.8
LIBYA	243.8	4882.8	38	7	
MADAGASCAR			2	1	8.9
MALAWI			15	1	3.2
MALI			6		9.9
MAURITANIA				1	22.7
MAURITIUS	164.5	181.4	209	3	3.7
MOROCCO			24	3	2.5
MOZAMBIQUE			12	2	7.8
NAMIBIA				4	
NIGER			2		6.4
NIGERIA			7		5.1
REUNION			270	23	
RWANDA					14.4
ST. HELENA				3	
SAO TOME AND PRINCIPE				3	36.0
SENEGAL			5		28.4
SEYCHELLES				6	
SIERRA LEONE			2		11.4
SOMALIA			1	2	16.9
SOUTH AFRICA	86.5	385.8	90	13	
SUDAN			6	1	8.1
SWAZILAND			103	14	15.3
TANZANIA			6	4	12.1
TOGO			2		8.9
TUNISIA	74.6	567.6	18	8	29.3
UGANDA					4.2
UPPER VOLTA			2		8.5
WESTERN SAHARA				6	
ZAIRE			1		2.3
ZAMBIA			20	1	14.4
ZIMBABWE	37.5	66.8	68	8	2.9
ANTIGUA AND BARBUDA				29	
BAHAMAS			133	8	2.0
BARBADOS			182	17	25.2
BELIZE			27	25	1.8
BRITISH VIRGIN ISLANDS				1	
CANADA	90.4	7738.2	42	14	
COSTA RICA	158.4	300.8	151	12	1.0
CUBA			187	20	
DOMINICA			182	5	39.3
DOMINICAN REPUBLIC			47	3	7.3
EL SALVADOR	42.9	40.2	122	5	8.2
GRENADA				2	68.8
GUADELOUPE			255	26	
GUATEMALA	40.1	60.7	56	2	5.0
HAITI			6	1	3.6
HONDURAS			18	2	15.7
JAMAICA			72	11	8.3
MARTINIQUE			698	43	
MEXICO			67	6	10.3
MONTSERRAT				13	
NETHERLANDS ANTILLES				15	
NICARAGUA			48	2	6.2
PANAMA			52	7	29.8
PUERTO RICO				26	
ST CHRISTOPHER AND NEVIS			171	15	
SAINT LUCIA			59	2	
ST VINCENT GRENADINES			229	4	
TRINIDAD AND TOBAGO			42	15	
UNITED STATES	97.3	8318.1	102	24	
US VIRGIN ISLANDS			157	43	

ANNEX TABLE 12B. RESOURCES AND THEIR USE IN AGRICULTURE

COUNTRY	AGRICULTURAL GFCF $ PER HA ARABLE LAND 1980	AGRICULTURAL GFCF $ PER CAPUT OF AGRIC.LAB.FORCE 1980	FERTILIZER USE PER HA ARAB.LAND KG/HA 1981	NOS. OF TRACTORS PER 000 HA ARABLE LAND 1981	OFFICIAL COMMITM. TO AGRICULTURE $ PER CAPUT 1981
ARGENTINA			3	5	8.0
BOLIVIA			2		.9
BRAZIL			38	5	3.3
CHILE			20	6	1.8
COLOMBIA			50	5	3.9
ECUADOR			26	3	10.0
FRENCH GUIANA			201	35	
GUYANA			36	7	42.7
PARAGUAY			5	2	26.9
PERU			37	4	8.9
SURINAME			109	26	130.2
URUGUAY			44	23	.6
VENEZUELA	82.2	360.0	39	10	
AFGHANISTAN			5		
BANGLADESH			44		5.1
BHUTAN			1		2.7
BRUNEI				3	
BURMA			17	1	3.8
CHINA			147	8	
CYPRUS	93.7	435.5	37	25	22.5
EAST TIMOR				1	
HONG KONG				1	
INDIA	33.0	33.6	34	3	1.9
INDONESIA			74	1	3.9
IRAN			49	5	
IRAQ			14	4	
ISRAEL	298.5	1297.9	180	68	
JAPAN			387	226	
JORDAN			5	3	20.7
KAMPUCHEA, DEMOCRATIC			6		
KOREA DPR			349	14	
KOREA REP	526.2	203.7	351	2	1.3
KUWAIT			500	24	
LAOS			5	1	4.4
LEBANON			101	9	.7
MALAYSIA			92	2	11.8
MONGOLIA			11	8	
NEPAL			9		7.6
OMAN			40	3	
PAKISTAN			53	2	2.7
PHILIPPINES			32	2	4.8
QATAR			280		
SAUDI ARABIA KINGDOM OF			60	1	
SINGAPORE			671	7	
SRI LANKA			77	12	20.6
SYRIA	23.5	122.6	23	5	
THAILAND	33.7	38.0	18	4	6.0
TURKEY			45	16	3.6
UNITED ARAB EMIRATES			281		.7
VIET NAM			41	6	.9
YEMEN ARAB REPUBLIC			4	1	5.6
YEMEN DEMOCRATIC			9	6	7.0
ALBANIA			111	15	
AUSTRIA			240	196	
BELGIUM-LUXEMBOURG	581.9	4187.7	515	137	
BULGARIA			251	15	
CZECHOSLOVAKIA			333	26	
DENMARK			233	68	
FINLAND	436.8	3447.0	193	92	
FRANCE			298	81	
GERMAN DEMOCRATIC REP.			344	29	
GERMANY, FED. REP. OF	823.9	4982.3	418	196	
GREECE	98.1	257.4	148	38	
HUNGARY			279	10	
ICELAND			3764	1688	
IRELAND	726.7	2649.3	609	147	
ITALY	407.4	2138.1	158	89	
LIECHTENSTEIN				113	
MALTA	235.7	550.0	24	29	1.2
NETHERLANDS	1953.0	5738.9	773	212	
NORWAY	1369.5	9344.5	303	164	
POLAND			225	43	
PORTUGAL			77	21	2.1
ROMANIA			154	15	10.5
SPAIN			67	27	
SWEDEN	336.8	5452.2	164	64	
SWITZERLAND			412	234	
UNITED KINGDOM	356.5	4750.5	330	76	
YUGOSLAVIA			128	57	11.4
AMERICAN SAMOA				8	

ANNEX TABLE 12B. RESOURCES AND THEIR USE IN AGRICULTURE

COUNTRY	AGRICULTURAL GFCF $ PER HA ARABLE LAND 1980	AGRICULTURAL GFCF $ PER CAPUT OF AGRIC.LAB.FORCE 1980	FERTILIZER USE PER HA ARAB.LAND KG/HA 1981	NOS. OF TRACTORS PER 000 HA ARABLE LAND 1981	OFFICIAL COMMITM. TO AGRICULTURE $ PER CAPUT 1981	
AUSTRALIA			28	8		
COOK ISLANDS				22		
FIJI			80	7	15.1	
FRENCH POLYNESIA			13	2	20.0	
GUAM				7		
NEW CALEDONIA			55	105	42.4	
NEW ZEALAND			1015	204		
NIUE				1		
PACIFIC IS. (TRUST TR.)				1		
PAPUA NEW GUINEA			33	4	5.5	
SAMOA			4		108.9	
TONGA				1	96.0	
VANUATU				1		
USSR			83	11		

ANNEX TABLE 13. MEASURES OF OUTPUT AND PRODUCTIVITY IN AGRICULTURE

COUNTRY	AGRICULTURAL GDP $ PER CAPUT AGRIC. POPULATION 1981	AGRICULTURAL GDP GROWTH RATE 1971-80 %	INDEX OF FOOD PRODUC. PER CAPUT 1974-76=100 1980-82	INDEX OF TOT. AGR. PRODUC. PER CAPUT 1974-76=100 1980-82	PER CAPUT DIETARY ENERGY SUPPLIES AS % OF REQUIREM. 1981	INDEX OF VALUE OF AGRIC. EXPORTS 1974-76=100 1980-82
ALGERIA	353	20.0	84	84	109	67
ANGOLA	375	7.4	88	71	97	47
BENIN	218	16.4	101	100	94	158
BOTSWANA	277	8.6	70	70	105	117
BRIT. INDIAN OCEAN TERRIT	1000					
BURUNDI	135	12.8	101	102	103	171
CAMEROON	337	19.8	91	94	98	152
CAPE VERDE	66	11.9	113	113	120	1025
CENTRAL AFRICAN REPUBLIC	97	13.3	96	94	93	126
CHAD	82	9.1	104	98	74	174
COMOROS	240	14.9	93	92	97	224
CONGO	648	14.0	98	99	110	102
DJIBOUTI	129	21.2				
EGYPT	191	8.6	92	93	134	77
EQUATORIAL GUINEA	98	6.3				162
ETHIOPIA	103	6.6	103	104	93	143
GABON	636	15.0	103	103	126	537
GAMBIA	127	12.9	70	70	95	51
GHANA	2146	27.9	67	67	83	94
GUINEA	171	4.2	93	93	84	180
GUINEA-BISSAU	139	7.5	83	83	95	188
IVORY COAST	364	22.7	116	112	114	189
KENYA	153	15.8	86	90	87	174
LESOTHO	100	12.7	79	80	106	134
LIBERIA	107	17.6	92	90	97	188
LIBYA	1382	25.2	83	83	161	32
MADAGASCAR	153	16.0	87	86	110	133
MALAWI	123	12.6	100	103	96	193
MALI	53	14.0	97	99	76	265
MAURITANIA	116	10.5	108	108	94	216
MAURITIUS	519	18.1	91	92	122	99
MOROCCO	217	13.8	89	89	105	140
MOZAMBIQUE	194	1.1	82	81	79	73
NAMIBIA	400	3.0	86	86	96	166
NIGER	180	18.8	124	123	101	211
NIGERIA	470	14.5	99	99	103	83
REUNION	1185	13.5	107	105	123	144
RWANDA	123	15.6	105	106	97	131
ST. HELENA		10.6				
SAO TOME AND PRINCIPE	200	17.0	95	95	100	142
SENEGAL	131	16.2	76	76	104	43
SEYCHELLES	250	11.9				154
SIERRA LEONE	164	13.0	90	91	83	142
SOMALIA	123	20.0	72	72	90	245
SOUTH AFRICA	661	11.2	97	97	117	148
SPANISH NORTH AFRICA	966	11.3				
SUDAN	232	15.3	97	90	102	106
SWAZILAND	360	12.2	112	115	114	182
TANZANIA	207	22.9	99	93	82	122
TOGO	147	13.1	98	98	93	175
TUNISIA	560	17.4	91	92	121	93
UGANDA	298	36.6	92	87	74	73
UPPER VOLTA	65	11.0	100	102	87	154
WESTERN SAHARA	407	16.7				
ZAIRE	41	14.6	92	92	96	80
ZAMBIA	179	11.4	75	76	96	89
ZIMBABWE	213	5.8	85	87	96	149
ANTIGUA AND BARBUDA	714	2.7	88	88	82	39
BAHAMAS	2091	5.2	100	100	89	
BARBADOS	1419	15.4	119	119	127	112
BELIZE	1609	10.1	112	112	119	157
BERMUDA	18750	14.2				
BRITISH VIRGIN ISLANDS	3000	12.6				
CANADA	9015	11.1	116	116	128	181
CAYMAN ISLANDS	1500	10.6				
COSTA RICA	855	17.6	93	98	117	172
CUBA	1145	9.4	121	120	123	158
DOMINICA	643	9.1	92	92	86	108
DOMINICAN REPUBLIC	393	14.0	97	96	95	105
EL SALVADOR	362	17.5	92	87	93	163
GREENLAND	24667	21.3				145
GRENADA	514	9.7	108	108	91	169
GUADELOUPE	1731	8.1	90	89	105	108
GUATEMALA	481	16.2	106	102	98	158
HAITI	130	13.4	89	89	85	186
HONDURAS	316	13.2	107	110	94	307
JAMAICA	515	7.2	91	91	117	57
MARTINIQUE	2340	15.4	74	74	112	59
MEXICO	724	14.9	109	106	126	132
MONTSERRAT	2000					18
NETHERLANDS ANTILLES	6739	12.6	74	74	111	195
NICARAGUA	643	11.3	73	71	94	110
PANAMA	826	9.8	101	102	104	145

ANNEX TABLE 13. MEASURES OF OUTPUT AND PRODUCTIVITY IN AGRICULTURE

COUNTRY	AGRICULTURAL GDP $ PER CAPUT AGRIC.POPULATION 1981	AGRICULTURAL GDP GROWTH RATE 1971-80 %	INDEX OF FOOD PRODUC.PER CAPUT 1974-76=100 1980-82	INDEX OF TOT.AGR. PRODUC.PER CAPUT 1974-76=100 1980-82	PER CAPUT DIETARY ENERGY SUPPLIES AS % OF REQUIREM. 1981	INDEX OF VALUE OF AGRIC.EXPORTS 1974-76=100 1980-82
PUERTO RICO	2991	7.8	82	82		
ST CHRISTOPHER AND NEVIS	1714	10.3				126
SAINT LUCIA	475	3.3	98	98	102	164
ST.PIERRE AND MIQUELON		14.3				
ST VINCENT GRENADINES	485	9.1	107	107	94	238
TRINIDAD AND TOBAGO	823	12.5	64	64	113	62
TURKS AND CAICOS IS.	1000					
UNITED STATES	17422	9.2	113	112	137	177
US VIRGIN ISLANDS	44300	17.4				
ARGENTINA	3831	14.8	113	110	129	219
BOLIVIA	419	20.2	95	93	89	108
BRAZIL	725	22.7	111	109	109	161
CHILE	1100	7.4	101	101	113	343
COLOMBIA	1231	17.7	110	111	112	208
ECUADOR	453	14.0	99	98	93	147
FALKLAND IS. (MALVINAS)		10.6				173
FRENCH GUIANA	6077	13.8				1712
GUYANA	1136	9.9	94	94	104	85
PARAGUAY	985	20.7	111	108	125	174
PERU	282	1.8	84	86	94	64
SURINAME	1397	13.8	126	125	113	179
URUGUAY	2365	8.8	100	101	109	231
VENEZUELA	1273	17.4	89	88	107	74
AFGHANISTAN	119	17.4	92	88	85	145
BAHRAIN	223	17.6				22
BANGLADESH	76	6.6	101	101	84	139
BHUTAN	112	8.3	104	103		166
BRUNEI	1526	17.1	88	87	117	103
BURMA	128	14.0	115	114	117	216
CHINA	157	9.3	113	114	104	127
CYPRUS	943	6.0	117	116	135	203
EAST TIMOR	524	14.6				
GAZA STRIP (PALESTINE)	6429	13.3				140
HONG KONG	1389	10.6	73	73	119	225
INDIA	132	7.1	104	104	94	142
INDONESIA	238	18.1	121	120	113	189
IRAN	1069	20.0	94	92	122	26
IRAQ	476	17.4	106	105	119	124
ISRAEL	4279	13.1	92	97	121	185
JAPAN	3265	13.7	91	90	122	320
JORDAN	249	15.2	103	103	106	292
KAMPUCHEA,DEMOCRATIC	130	8.4	88	86	96	23
KOREA DPR	301	10.7	110	110	128	145
KOREA REP	781	20.1	104	102	131	198
KUWAIT	2833	26.1				473
LAOS	85	4.4	124	124	93	43
LEBANON	1508	6.2	127	123	119	241
MACAU	889	16.8	140	140	102	318
MALAYSIA	801	17.3	114	108	114	181
MALDIVES	135	8.6	89	89	92	113
MONGOLIA	537	6.9	87	87	113	100
NEPAL	109	7.1	87	87	85	54
OMAN	248	11.1				613
PAKISTAN	184	10.9	104	105	95	247
PHILIPPINES	383	15.6	108	108	107	130
QATAR	1099	12.1				
SAUDI ARABIA KINGDOM OF	284	23.6	21	22	123	451
SINGAPORE	3255	11.5	130	128	139	278
SRI LANKA	229	5.6	134	119	98	135
SYRIA	651	21.7	130	123	127	111
THAILAND	243	15.9	109	110	104	201
TURKEY	496	17.6	103	101	119	217
UNITED ARAB EMIRATES	375	26.3				1027
VIET NAM	78	8.7	112	112	95	134
YEMEN ARAB REPUBLIC	183	19.9	89	89	104	12
YEMEN DEMOCRATIC	70	8.0	86	84	96	122
ALBANIA	337	8.3	109	110	129	215
ANDORRA	12286	17.6				
AUSTRIA	4412	13.9	111	111	130	220
BELGIUM-LUXEMBOURG	9060	9.2	105	104	142	204
BULGARIA	1765	6.0	116	110	147	171
CZECHOSLOVAKIA	3746	2.8	106	106	137	175
DENMARK	8810	13.4	114	114	132	172
FAEROE ISLANDS	62000	13.1				
FINLAND	5643	12.4	101	101	113	211
FRANCE	4787	8.9	113	113	141	203
GERMAN DEMOCRATIC REP.	5410	10.0	109	110	141	203
GERMANY, FED. REP. OF	6308	10.7	109	109	125	233
GIBRALTAR	13000	14.3				

ANNEX TABLE 13. MEASURES OF OUTPUT AND PRODUCTIVITY IN AGRICULTURE

COUNTRY	AGRICULTURAL GDP $ PER CAPUT AGRIC.POPULATION 1981	AGRICULTURAL GDP GROWTH RATE 1971-80 %	INDEX OF FOOD PRODUC.PER CAPUT 1974-76=100 1980-82	INDEX OF TOT.AGR. PRODUC.PER CAPUT 1974-76=100 1980-82	PER CAPUT DIETARY ENERGY SUPPLIES AS % OF REQUIREM. 1981	INDEX OF VALUE OF AGRIC.EXPORTS 1974-76=100 1980-82
GREECE	1675	14.0	106	105	149	151
HOLY SEE		13.1				
HUNGARY	1444	8.1	116	116	134	161
ICELAND	22731	17.8	97	97	124	215
IRELAND	2997	15.0	102	102	149	180
ITALY	3524	11.8	108	108	145	205
LIECHTENSTEIN	70000	15.1				
MALTA	2529	9.7	127	127	106	106
MONACO	79000	13.6				
NETHERLANDS	8050	11.9	109	109	134	174
NORWAY	8797	14.3	112	112	127	157
POLAND	1793	10.7	87	87	129	68
PORTUGAL	1165	9.7	80	81	129	164
ROMANIA	726	6.7	114	113	124	150
SAN MARINO	12800	13.5				
SPAIN	1976	13.5	105	105	137	205
SWEDEN	7975	11.0	99	99	116	127
SWITZERLAND	12909	21.0	111	111	128	164
UNITED KINGDOM	9517	10.3	118	118	128	283
YUGOSLAVIA	978	14.1	108	107	143	209
AMERICAN SAMOA	833	11.2				
AUSTRALIA	13720	13.3	98	97	115	174
COCOS (KEELING) ISLANDS						130
COOK ISLANDS	818	9.3				155
FIJI	1063	16.2	129	129	117	175
FRENCH POLYNESIA	807	18.7	96	96	109	124
GUAM	10431	13.0				
KIRIBATI	818	11.5				59
NAURU	750	10.2				
NEW CALEDONIA	430	5.1	107	102	106	165
NEW ZEALAND	10113	9.8	108	110	135	196
NIUE						57
NORFOLK ISLAND	1000					
PACIFIC IS. (TRUST TR.)	821	13.2				233
PAPUA NEW GUINEA	302	12.3	96	98	78	179
SAMOA	818	11.0	103	103	90	101
SOLOMON ISLANDS	570	18.4	128	128	76	245
TONGA	818	11.2	94	94	119	97
VANUATU	767	13.2	88	88	79	113
WALLIS AND FUTUNA IS.	833	11.6				
USSR	2302	4.9	96	96	129	113

ANNEX TABLE 14. CARRY-OVER STOCKS OF SELECTED AGRICULTURAL PRODUCTS

	Date	Crop year ending in 1977	1978	1979	1980	1981	1982	1983[a/]	1984[b/]
		..... million metric tons							
CEREALS									
Developed countries		147.8	147.2	177.8	157.2	135.3	176.1	216.6	147.3
Canada		19.5	20.6	23.2	15.4	14.0	16.3	18.4	15.5
United States		61.6	74.2	72.6	78.1	62.2	101.8	142.4	64.1
Australia		2.8	1.6	5.7	5.0	2.7	3.1	1.0	7.1
EEC		14.6	13.6	17.6	15.7	15.9	13.8	18.2	15.4
Japan		7.5	8.8	9.9	10.7	8.8	7.4	5.7	5.4
USSR		24.0	10.0	30.0	16.0	14.0	14.0	14.0	24.0
Developing countries		101.2	94.9	99.0	100.5	101.9	102.7	105.0	112.7
Far East		77.2	73.7	81.1	81.5	76.1	76.3	79.5	92.0
Bangladesh		0.4	0.6	0.2	0.8	1.3	0.7	0.5	0.6
China		43.0	40.6	47.6	54.4	48.1	45.9	49.8	53.8
India		15.5	14.7	14.9	10.9	7.4	7.5	8.5	14.5
Pakistan		0.6	0.6	0.7	1.1	1.3	2.3	2.5	2.8
Near East		10.2	8.6	6.4	9.2	10.4	11.5	10.2	9.0
Turkey		3.6	3.5	1.4	0.8	0.6	0.6	0.6	0.6
Africa		4.3	4.8	3.9	2.9	3.4	4.5	4.4	3.4
Latin America		9.4	7.8	7.5	7.0	12.0	10.5	11.0	8.2
Argentina		3.2	1.7	2.3	1.5	1.0	1.6	2.3	1.3
Brazil		2.1	2.1	0.7	1.3	3.8	2.6	3.6	1.6
World total		249.0	242.1	276.8	257.8	237.3	278.8	321.6	260.0
of which:									
Wheat		116.0	97.7	117.8	104.7	97.9	102.8	119.3	134.0
Rice (milled basis)		38.0	40.5	44.0	42.7	43.7	43.9	42.7	41.5
Coarse grains		95.1	103.9	115.0	110.3	95.7	132.2	159.6	84.5
SUGAR (raw value)									
World total	1 Sept.	25.2	30.7	31.5	25.2	24.3	32.7	37.9	37.4
COFFEE									
Exporting countries[c/]		2.32	1.92	2.08	1.98	1.86	2.60	3.05	3.41
		..... thousand metric tons							
DRIED SKIM MILK									
United States	31 Dec.	308	265	220	266	404	582	660	591
EEC	31 Dec.	1066	840	316	303	387	688	1019	1155
Total of above		1374	1105	536	569	791	1270	1679	1746

a/ Estimate. - b/ Forecast. - c/ Gross opening stocks at the commencing of the coffee years.

Source: FAO, Commodities and Trade Division.

ANNEX TABLE 15. ANNUAL CHANGES IN CONSUMER PRICES: ALL ITEMS AND FOOD

Region and country	All items						Food					
	1960 to 1965	1965 to 1970	1970 to 1975	1975 to 1980	1980 to 1981	1981 to 1982	1960 to 1965	1965 to 1970	1970 to 1975	1975 to 1980	1980 to 1981	1981 to 1982
	Percent per year											
DEVELOPED COUNTRIES												
WESTERN EUROPE												
Austria	3.9	3.3[a]	7.4	3.8	6.8	5.4	4.4	2.1[a]	6.7	4.4	5.8	4.5
Belgium	2.5	3.5	8.3	6.4	7.6	8.7	2.9	3.5	7.5	4.6	6.0	4.6
Denmark	5.5	7.5	9.5	10.4	11.7	10.2	4.2	7.5	10.7	...	11.6	10.4
Finland	5.3	4.6[b]	2.0	10.6	12.0	9.3	5.9	5.2[b]	12.4	10.8	13.1	12.1
France	3.8	4.3	8.8	10.4	13.1	11.6	4.3	3.8	9.6	10.0	12.7	12.1
Germany, Fed. Rep. of	2.8	2.4	6.2	4.0	5.9	5.3	2.6	1.3	5.6	3.3	4.9	6.2
Greece	1.6	2.5	13.1	16.3	24.4	21.0	2.5	2.6	14.7	17.6	30.1	21.1
Iceland	11.0	12.8	24.8	42.0	50.8	46.3	15.2	13.3	28.3	41.0	55.3	39.5
Ireland	4.2	5.3	13.0	84.9	20.4	17.1	3.9	4.3	14.3	13.7	15.0	13.2
Italy	4.9	3.0	11.4	3.0	19.5	16.4	4.6	2.2	11.6	15.6	18.1	16.4
Netherlands	3.5	4.8	8.6	6.1	6.7	6.0	4.0	4.3	6.9	...	5.6	5.7
Norway	4.1	5.0	8.3	8.4	13.6	11.4	4.5	5.3	8.3	7.4	16.6	13.7
Portugal	2.6	6.4	15.3	...	20.0	22.4	2.8	5.2	16.3	21.0	19.5	24.2
Spain	7.0	5.1	12.0	18.6	14.6	14.4	7.7	3.7	12.1	16.0	13.6	15.0
Sweden	3.6	4.5	7.8	10.5	12.5	8.6	5.3	4.5	7.9	10.7	15.0	12.4
Switzerland	3.2	3.4	7.9	2.4	6.5	5.6	2.9	0.9	7.3	2.9	10.4	6.8
United Kingdom	3.6	4.6	12.3	14.4	11.9	8.6	3.6	4.6	15.1	13.9	8.4	7.8
Yugoslavia	13.6	10.5	19.3	18.2	40.9	32.1	17.3	9.0	19.1	19.4	42.8	37.4
NORTH AMERICA												
Canada	1.6	3.8	7.4	8.4	12.4	10.8	2.2	3.4	11.1	9.9	11.4	7.3
United States	1.3	4.2	6.7	8.9	10.2	6.0	1.4	4.0	9.5	7.6	7.7	4.0
OCEANIA												
Australia	1.8	3.1	10.2	10.6	9.7	11.1	2.0	2.1	9.8	12.0	9.2	7.7
New Zealand	2.7	4.1	9.8	14.8	15.4	16.1	2.4	4.1	9.4	16.8	16.7	12.4
OTHER DEVELOPED COUNTRIES												
Israel	7.1	4.0	23.9	60.0	117.0	120.3	5.6	3.1	25.1	65.0	199.0	116.0
Japan	6.0	5.4	12.0	6.5	4.9	2.7	7.2	6.1	13.0	5.5	5.3	1.8
South Africa	2.1	3.4	9.3	12.0	15.1	14.8	2.6	3.0	11.7	13.0	22.1	11.5

See notes at end of table

ANNEX TABLE 15. ANNUAL CHANGES IN CONSUMER PRICES: ALL ITEMS AND FOOD (continued)

Region and country	All items 1960 to 1965	1965 to 1970	1970 to 1975	1975 to 1980	1980 to 1981	1981 to 1982	Food 1960 to 1965	1965 to 1970	1970 to 1975	1975 to 1980	1980 to 1981	1981 to 1982
	Percent per year											
DEVELOPING COUNTRIES												
LATIN AMERICA												
Argentina	23.0	19.4	59.5	100.0	104.0	164.8	23.0	18.3	58.0	...	99.0	178.4
Bahamas	...	...	9.5	6.9	11.1	6.1	...	...	11.8	7.7	14.8	6.8
Barbados	...	...	18.6	10.0	14.6	10.3	...	...	21.0	9.1	14.9	7.3
Bolivia	5.1	5.9	23.7	17.0	32.1	123.5	2.1	7.8	27.2	16.4	35.2	123.9
Brazil	60.0	28.0	23.5 c/	46.0	95.7	89.1	60.0	26.0	25.9 c/	49.0	92.5	84.4
Chile	27.0	26.0	225.4	70.0	19.7	9.9	30.0	26.0	245.5	70.0	14.2	3.6
Colombia	12.4	10.1	19.5	23.0	29.4	24.0	13.4	9.2	24.0	25.0	25.1	24.4
Costa Rica	2.3	2.5	13.7	8.1	37.0	90.1	2.2	3.8	3.7	9.6	36.7	113.6
Dominican Republic	2.7	1.0	11.1	8.3	7.5	7.6	2.5	0.1	13.3	3.4	0.4	7.9
Ecuador	4.0	4.6	13.7	11.7	16.4	16.3	4.9	6.0	18.4	11.2	14.2	17.1
El Salvador	0.2	1.1	8.4	...	14.7	11.7	1.1	2.2	8.8	...	17.6	10.7
Guatemala	0.1	1.5	2.9	10.7	11.4	0.2	0.1	1.7	3.3	9.4	11.2	-2.8
Guyana	1.9	1.5	8.2	12.8	22.2	17.8	2.3	2.8	12.2	14.1	27.6	26.6
Haiti	3.7	1.7	13.7	8.0	13.8	0.1	4.1	1.8	15.5	9.3	14.2	-0.9
Honduras	2.7	1.6	6.5	9.2	9.4	9.4 d/	3.2	1.8	8.0	9.6	7.3	6.7 d/
Jamaica	2.9	4.3	14.9	22.0	...	6.1 d/	2.4	4.7	17.2	24.0	...	5.0 d/
Mexico	1.9 e/	3.5	12.4	21.0	28.0	58.9	1.6 e/	3.8	13.9	19.5	26.1	53.6
Panama	1.1 e/	1.6	7.8	6.9	7.3	4.3	1.4 e/	1.7	9.9	6.6	9.1	5.9
Paraguay	...	1.2 f/	12.6	14.7	13.0	5.2	...	0.3 f/	15.4	14.9	6.4	0.1
Peru	9.4	7.8 f/	12.1	37.0	75.4	64.5	10.5	7.1 f/	13.9	50.0	76.4	52.9
Puerto Rico	2.2	3.2	8.8	5.6	9.8	3.8	3.0	4.1	12.6	5.5	9.2	2.8
Suriname	...	...	8.2	11.5	9.0	...	...	...	9.5	9.4	14.9	...
Trinidad & Tobago	2.2	3.8	13.7	12.9	14.4	11.4	2.1 g/	3.7	17.1	11.1	16.5	13.6
Uruguay	16.2 g/	60.0	73.4	55.0	34.0	19.0	13.1 g/	60.0	76.0	55.0	25.6	11.7
Venezuela	1.7	1.6	5.5	11.4	14.7	9.9	1.7	0.9	8.5	15.7	18.6	9.7
FAR EAST												
Bangladesh	...	4.0 b/	39.0 h/	7.6	13.2	9.3	...	3.2 b/	42.0 h/	5.0	13.6	9.8
Burma	...	6.4 b/	17.8	3.8	0.3	5.2	...	2.9 b/	21.0	2.6	-4.6	4.7
Dem. Kampuchea	4.3	4.5	100.9	...	...	...	2.7	6.7	112.8	...	...	...
India	6.1	8.9 i/	13.2	1.3	13.1	7.7	6.5	9.8 i/	14.2	0.8	14.5	7.1
Indonesia	...	100.0	21.3	...	12.2	9.5	...	100.0	25.2	...	14.7	7.5
Korea, Rep. of	15.4	12.3	14.3	17.2	23.3	7.3	18.3	12.5	16.8	17.2	29.1	2.5
Lao, People's D.R.	38.0	6.0	35.2	...	...	... j/	39.0	4.0	40.9	...	...	... j/
Malaysia	0.5	0.4 b/	6.7	4.6	9.6	6.3 j/	0.6	0.4 b/	10.4	3.7	10.3	9.2 j/
Nepal	...	6.2	10.3	6.7	12.3	...	...	7.2	9.8	6.1	12.0	...
Pakistan	2.6	5.6	15.2	9.0	13.8	7.4	3.8	6.0	16.6	8.0	15.2	7.0
Philippines	4.8	3.6 a/	18.7	12.0	12.3	...	6.8	5.2 a/	20.1	11.0	12.2	...
Sri Lanka	1.7	4.2	8.0	9.9	18.0	10.9	1.3	4.9	9.1	10.7	17.6	12.7
Thailand	1.5	2.5	9.8	10.4	13.4	5.4	2.0	4.2	11.9	10.6	10.5	3.5

See notes at end of table

ANNEX TABLE 15. ANNUAL CHANGES IN CONSUMER PRICES: ALL ITEMS AND FOOD (continued)

Region and country	All items						Food					
	1960 to 1965	1965 to 1970	1970 to 1975	1975 to 1980	1980 to 1981	1981 to 1982	1960 to 1965	1965 to 1970	1970 to 1975	1975 to 1980	1980 to 1981	1981 to 1982
	Percent per year											
AFRICA												
Algeria	...	...	5.1	12.4	14.6	...	...	...	7.2	15.7	18.3	...
Botswana	...	...k/	...	12.4	16.3	11.5	...	...k/	...	13.8	22.3	13.5
Cameroon	...	3.3f/	10.2	10.7	10.2	13.3	...	4.6f/	11.5	11.8	12.9	...
Ethiopia	...e/	3.0f/	3.7	15.7	4.3	5.6	...e/	3.5f/	2.7	19.2	4.5	6.0
Gabon	4.4e/	3.0	11.4	12.9	8.7	16.7m/	3.3e/	2.1	2.7	...	...	...
Gambia	...	...	10.5	10.2	6.1	10.8	...	...	12.8	9.7	5.3	8.9
Ghana	11.8	3.7	17.4	70.0	116.5	22.3	14.0	2.1	20.3	45.0	111.1	35.8
Ivory Coast	2.6	4.9	8.2h/	16.7	8.5	17.4	2.8	5.9	9.3h/	19.3	5.2	4.2
Kenya	2.0	1.7	13.9h/	9.8	13.8j/	25.7	1.9	2.0	14.7h/	10.2	12.9j/	18.3
Liberia	...	4.4	12.1	8.8	6.3j/	...	...	3.4	13.7	8.1	3.8j/	...
Madagascar	...	2.3b/	9.7	9.2	30.5	31.6	...	2.2b/	12.0	9.0	32.0	31.2
Malawi	...e/	2.0b/	8.9	9.2	9.5	9.6j/	...e/	3.4b/	10.7	9.5	11.1	5.2j/
Mauritius	1.0e/	3.0	13.1	16.9	12.5	13.9j/	0.6e/	3.0	14.7	16.3	14.5	11.5m/
Morocco	4.0n/	0.6	5.4	9.7	12.5	15.8m/	4.6n/	0.1	7.2	9.3	14.9	13.1m/
Mozambique	1.9n/	3.7	10.5	...	...	...	0.7n/	4.7	11.1	...	...	...
Niger	...	3.8	7.9	14.6	22.9	...	...	4.4	10.6	14.8	28.5	...
Nigeria	3.2	5.6	11.5	14.4	20.8	...	2.0	8.8	13.1	20.0	24.3	...
Senegal	...p/	...	13.0	6.8	5.8	17.5	...p/	...	16.5	6.4	0.8	20.5
Sierra Leone	3.9p/	4.3k/	8.4	13.8	23.2	31.1	0.6p/	4.8k/	11.0	12.9	23.6	...
Somalia	7.4	2.5b/	7.5	...	...	...	7.5	2.8b/	9.1	...	...	...
Swaziland	...	2.7b/	9.3	13.2	19.8	11.1	...	2.5b/	9.8	14.0	24.5	9.2
Tanzania	1.2	3.7f/	13.1	14.5	25.6	...	1.2	2.5f/	17.7	13.4	23.5	...
Togo	...	2.1f/	8.9	8.1	12.6	...	...	2.6f/	9.7	9.9	12.6	...
Tunisia	4.5	2.9	4.8	...	9.0	13.6	4.8	3.1	5.2	...	8.9	13.3
Uganda	5.4	4.0	23.4	...	...	...	7.3	3.5	24.3	...	...	...
Zaire	15.6n/	23.0i/	18.6	...	35.4	38.5r/	19.0n/	22.0i/	21.2	...	39.2	39.7r/
Zambia	2.4	8.7i/	7.1	15.2	14.0	12.6m/	2.4	8.8i/	7.4	13.7	15.0	13.9m/
Zimbabwe	...	...	...	9.8	13.1	10.7	...	...	...	8.4	12.0	10.5
NEAR EAST												
Cyprus	0.3	2.9a/	8.0	...	10.7	6.4	0.2	3.2a/	10.2	...	11.4	8.1
Egypt	3.2	3.2a/	5.8	12.9	10.4	14.8	6.5	6.2a/	8.6	14.4	14.1	14.5
Iran	2.0	1.4	9.6	16.1	24.2	18.4	3.1	0.9	10.0	18.9	29.6	16.9
Iraq	...	3.5b/	11.3	...	...	...	...	3.1b/	18.1	...	...	...
Jordan	...	2.8b/	6.0	11.6	11.1	5.6	...	3.1b/	9.2	9.8	7.5	3.5
Kuwait	...	...e/	10.1	7.1	7.3	8.1	...	...e/	15.4	6.1	2.4	7.0
Lebanon	...	1.8a/	4.5	...	...	...	...	2.0a/	-3.5	...	...	...
Libya	...	6.1a/	16.4	...	...	...	...	8.3a/	15.9	...	...	...
Sudan	3.3e/	3.4a/	11.6	16.8	...	...	4.2e/	2.8a/	12.0	14.2	...	...
Syria	1.3e/	4.2k/	16.7	10.9	18.2	14.5	1.3e/	4.7k/	18.2	...	19.3	14.9
Turkey	3.6	7.1a/	6.2	50.0	35.9	27.1	4.8	8.7a/	7.7	47.0	40.7	29.0

a/1965-69. b/1967-70. c/1972-75. d/ January-September. e/ 1962-65. f/1966-70. g/1960-62. h/1973-75. i/1965-68. j/January-June. k/1968-70. m/January-November. n/1963-65. p/1961-65. r/January-August.

Source: International Labour Office. Bulletin of Labour Statistics.

ANNEX TABLE 16. PER CAPUT DIETARY ENERGY SUPPLIES IN RELATION TO NUTRITIONAL REQUIREMENTS IN SELECTED DEVELOPED AND DEVELOPING COUNTRIES

COUNTRY	1969-71	1972-74	1976-78	1979-81	REQUIREMENTS
	% OF REQUIREMENTS				KILOCAL/CAPUT /DAY
ALGERIA	77	84	97	108	2400
ANGOLA	87	88	96	99	2350
BENIN	92	91	93	95	2300
BOTSWANA	94	90	91	101	2320
BURUNDI	95	97	97	101	2330
CAMEROON	93	97	103	99	2320
CAPE VERDE	84	93	103	118	2350
CENTRAL AFRICAN REPUBLIC	97	102	95	94	2260
CHAD	89	76	76	77	2380
COMOROS	95	98	91	95	2340
CONGO	98	101	104	110	2220
EGYPT	102	104	115	127	2510
ETHIOPIA	88	80	81	92	2330
GABON	94	91	114	120	2340
GAMBIA	98	92	92	95	2380
GHANA	97	96	88	82	2300
GUINEA	88	88	87	82	2310
GUINEA-BISSAU	91	92	96	94	2310
IVORY COAST	107	103	106	113	2310
KENYA	97	97	93	85	2320
LESOTHO	89	88	100	106	2280
LIBERIA	94	93	99	99	2310
LIBYA	101	126	152	162	2360
MADAGASCAR	109	108	109	110	2270
MALAWI	99	100	97	95	2320
MALI	87	77	84	81	2350
MAURITANIA	86	76	81	87	2310
MAURITIUS	103	106	116	119	2270
MOROCCO	102	107	108	108	2420
MOZAMBIQUE	89	86	82	80	2340
NAMIBIA	100	101	98	96	2280
NIGER	88	84	90	99	2350
NIGERIA	95	93	97	101	2360
REUNION	110	115	121	123	2270
RWANDA	88	83	91	98	2320
SAO TOME AND PRINCIPE	92	85	93	101	2350
SENEGAL	98	96	99	103	2380
SIERRA LEONE	90	86	84	84	2300
SOMALIA	96	92	91	86	2310
SOUTH AFRICA	113	117	117	117	2450
SUDAN	89	89	96	98	2350
SWAZILAND	95	101	107	110	2320
TANZANIA	85	86	89	84	2320
TOGO	95	92	87	92	2300
TUNISIA	95	107	113	119	2390
UGANDA	97	93	87	77	2330
UPPER VOLTA	83	77	83	85	2370
ZAIRE	100	102	100	96	2220
ZAMBIA	94	96	98	96	2310
ZIMBABWE	86	93	83	88	2390
ANTIGUA AND BARBUDA	89	86	83	82	2420
BAHAMAS	106	99	87	90	2420
BARBADOS	120	121	122	125	2420
BELIZE	112	114	115	118	2260
CANADA	124	126	126	126	2660
COSTA RICA	108	111	117	118	2240
CUBA	111	115	118	121	2310
DOMINICA	91	89	90	84	2420
DOMINICAN REPUBLIC	87	92	95	95	2260
EL SALVADOR	81	84	92	94	2290
GRENADA	97	91	85	90	2420
GUADELOUPE	97	99	101	103	2420
GUATEMALA	94	94	95	98	2190
HAITI	85	85	85	84	2260
HONDURAS	94	92	94	94	2260
JAMAICA	111	116	115	113	2240
MARTINIQUE	98	101	107	110	2420
MEXICO	113	115	118	124	2330
NETHERLANDS ANTILLES	101	103	111	112	2420
NICARAGUA	113	109	108	97	2250
PANAMA	106	101	100	101	2310
SAINT LUCIA	89	90	91	100	2420
ST VINCENT GRENADINES	93	91	90	92	2420
TRINIDAD AND TOBAGO	99	101	107	111	2420
UNITED STATES	132	133	136	138	2640
ARGENTINA	127	122	126	128	2650
BOLIVIA	83	83	87	89	2390
BRAZIL	104	104	106	108	2390
CHILE	110	110	109	113	2440
COLOMBIA	92	97	104	109	2320
ECUADOR	87	88	91	92	2290
GUYANA	102	103	108	104	2270
PARAGUAY	120	118	120	123	2310
PERU	96	95	92	93	2350
SURINAME	106	108	110	112	2260
URUGUAY	112	109	106	108	2670
VENEZUELA	95	91	102	107	2470

ANNEX TABLE 16. PER CAPUT DIETARY ENERGY SUPPLIES IN RELATION TO NUTRITIONAL REQUIREMENTS IN SELECTED DEVELOPED AND DEVELOPING COUNTRIES

COUNTRY	1969-71	1972-74	1976-78	1979-81	REQUIREMENTS
	% OF REQUIREMENTS				KILOCAL/CAPUT /DAY
AFGHANISTAN	90	89	86	84	2440
BANGLADESH	90	83	82	83	2210
BRUNEI	103	109	114	116	2240
BURMA	102	102	103	112	2160
CHINA	88	91	95	103	2360
CYPRUS	126	127	127	136	2480
HONG KONG	120	118	116	121	2290
INDIA	90	88	92	93	2210
INDONESIA	88	92	99	110	2160
IRAN	91	104	119	118	2410
IRAQ	96	99	104	116	2410
ISRAEL	118	119	120	119	2570
JAPAN	118	121	120	122	2340
JORDAN	97	90	92	102	2460
KAMPUCHEA, DEMOCRATIC	102	95	83	87	2220
KOREA DPR	105	110	122	128	2340
KOREA REP	109	114	122	130	2350
LAOS	93	89	83	87	2220
LEBANON	101	105	108	121	2480
MACAU	89	92	96	106	2290
MALAYSIA	107	110	111	112	2240
MALDIVES	79	79	81	90	2210
MONGOLIA	100	103	110	114	2430
NEPAL	92	90	90	88	2200
PAKISTAN	88	88	91	94	2310
PHILIPPINES	90	91	98	106	2260
SAUDI ARABIA KINGDOM OF	79	81	96	122	2420
SINGAPORE	124	129	133	138	2300
SRI LANKA	104	95	98	102	2220
SYRIA	97	102	105	121	2480
THAILAND	97	98	104	104	2220
TURKEY	110	113	118	119	2520
VIET NAM	98	97	94	94	2160
YEMEN ARAB REPUBLIC	89	90	96	102	2420
YEMEN DEMOCRATIC	89	86	84	94	2410
ALBANIA	105	107	121	127	2410
AUSTRIA	127	128	127	130	2630
BELGIUM-LUXEMBOURG	136	138	141	143	2640
BULGARIA	140	139	143	145	2500
CZECHOSLOVAKIA	137	139	138	137	2470
DENMARK	125	126	127	132	2690
FINLAND	116	117	113	114	2710
FRANCE	134	135	136	140	2520
GERMAN DEMOCRATIC REP.	129	131	137	141	2620
GERMANY, FED. REP. OF	120	120	122	126	2670
GREECE	127	137	143	147	2500
HUNGARY	127	128	131	134	2630
ICELAND	111	115	114	122	2660
IRELAND	137	140	145	147	2510
ITALY	139	142	140	146	2520
MALTA	124	123	123	115	2480
NETHERLANDS	129	130	130	135	2690
NORWAY	116	118	121	125	2680
POLAND	127	131	134	133	2620
PORTUGAL	132	130	130	131	2450
ROMANIA	115	121	129	126	2650
SPAIN	117	128	132	134	2460
SWEDEN	113	114	117	117	2690
SWITZERLAND	129	128	126	128	2690
UNITED KINGDOM	133	131	128	129	2520
YUGOSLAVIA	130	132	138	140	2540
AUSTRALIA	121	118	119	115	2660
FIJI	93	99	107	117	2660
FRENCH POLYNESIA	106	103	103	109	2660
NEW CALEDONIA	115	106	105	107	2660
NEW ZEALAND	134	136	135	136	2640
PAPUA NEW GUINEA	77	78	76	78	2660
SAMOA	78	79	87	92	2660
SOLOMON ISLANDS	79	75	79	77	2660
TONGA	96	107	119	120	2660
VANUATU	91	90	81	80	2660
USSR	130	130	132	130	2560

ANNEX TABLE 17. ANNUAL SHARES OF AGRICULTURAL "BROAD" DEFINITION IN TOTAL OFFICIAL COMMITMENTS MADE TO ALL SECTORS BY MULTILATERAL AND BILATERAL SOURCES, 1975-82

	1975	1976	1977	1978	1979	1980	1981	1982[a/]
	..... %							
CONCESSIONAL & NON-CONCESSIONAL COMMITMENTS								
Multilateral agencies b/	38	32	36	39	36	38	36	35
World Bank c/	40	31	39	41	37	33	33	31
Regional Development Banks c/	37	36	35	31	33	45	44	43
OPEC Multilateral c/	8	25	13	30	7	16	16	16
Bilateral sources	7	7	10	9	...	...	...	...
DAC/EEC	8	8	11	11	12	11	11	11
OPEC Bilateral	6	5	6	3	...	...	...	...
All sources (multilateral + bilateral)	14	14	17	17	...	...	...	...
CONCESSIONAL COMMITMENTS ONLY (ODA)								
Multilateral agencies b/	43	46	44	49	49	49	53	46
World Bank c/	43	44	54	52	52	45	58	43
Regional Development Banks c/	46	54	50	48	53	62	65	58
OPEC Multilateral c/	21	29	11	29	7	15	14	17
Bilateral sources	10	9	14	13	16	13	14	16
DAC/EEC	13	11	16	17	18	16	18	17
OPEC Bilateral	5	5	7	3	7	1	4	12
All sources (multilateral + bilateral)	14	15	18	19	21	19	21	21

a/ Preliminary.

b/ Including also UNDP, CGIAR, FAO/TF, FAO/TCP (from 1977) and IFAD (from 1978).

c/ Excluding commitments to CGIAR.

Source: FAO and OECD.

ANNEX TABLE 18. PERCENTAGE DISTRIBUTION OF OFFICIAL COMMITMENTS TO AGRICULTURE "BROAD" DEFINITION BY MULTILATERAL AND BILATERAL SOURCES, 1975-82

	1975	1976	1977	1978	1979	1980	1981	1982 a/
	..... %							
CONCESSIONAL & NON-CONCESSIONAL COMMITMENTS								
Multilateral agencies	58	57	57	58	52	59	58	57
World Bank b/	41	37	38	43	34	35	34	34
Regional Development Banks b/	13	14	14	10	12	15	17	14
OPEC Multilateral b/	-	2	2	2	-	1	1	2
Others c/	4	4	3	3	6	8	6	7
Bilateral sources	42	43	43	42	48	41	42	43
DAC/EEC	31	36	38	40	44	40	40	37
OPEC Bilateral	11	7	5	2	4	1	2	6
All sources (multilateral + bilateral)	100	100	100	100	100	100	100	100
CONCESSIONAL COMMITMENTS ONLY (ODA)								
Multilateral agencies	38	47	36	41	37	45	43	40
World Bank b/	21	23	19	26	18	21	21	20
Regional Development Banks b/	10	15	11	8	11	12	12	7
OPEC Multilateral b/	1	3	2	2	-	1	1	2
Others c/	6	6	4	5	8	11	9	11
Bilateral sources	62	53	64	59	63	55	57	60
DAC/EEC	50	47	56	56	59	53	54	51
OPEC Bilateral	12	6	8	3	4	2	3	9
All sources (multilateral + bilateral)	100	100	100	100	100	100	100	100

a/ Preliminary.

b/ Excluding commitments to CGIAR.

c/ Including UNDP, CGIAR, FAO/TF, FAO/TCP (from 1977) and IFAD (from 1978).

Source: FAO and OECD.

ANNEX TABLE 19. PERCENTAGE DISTRIBUTION OF OFFICIAL COMMITMENTS TO AGRICULTURE (EXCLUDING TECHNICAL ASSISTANCE GRANTS) BY PURPOSE, 1975-82

	1975	1976	1977	1978	1979	1980	1981	1982[a/]
	..... %							
Land and water development[b/]	21	19	25	26	18	25	17	22
Agricultural services	7	7	12	12	10	13	7	12
Supply of inputs	7	7	4	5	3	6	5	4
Crop production	4	10	5	8	7	7	6	8
Livestock	3	5	3	4	3	2	2	1
Fisheries[c/]	2	2	3	3	3	3	3	2
Research, extension, training[d/]	3	3	4	4	3	5	5	5
Agriculture, unallocated	11	13	11	12	17	9	14	11
TOTAL NARROW DEFINITION	58	66	67	74	64	70	59	65
Rural development/infrastructure	16	16	16	15	16	19	22	23
Manufacturing of inputs[e/]	23	7	5	4	11	2	10	4
Agro-industries	2	10	9	5	6	7	5	4
Forestry	1	1	2	2	3	2	2	3
Regional development	-	-	1	-	-	-	2	1
TOTAL BROAD DEFINITION	100	100	100	100	100	100	100	100

a/ Preliminary.

b/ Including river development.

c/ Including inputs such as fishing trawlers, fishing gera.

d/ Including commitments to CGIAR.

e/ Mostly fertilizers.

Source: FAO and OECD.

ANNEX TABLE 20. DAC COUNTRIES: BILATERAL ODA COMMITMENTS FROM INDIVIDUAL COUNTRIES AND PROPORTION TO AGRICULTURE (BROAD DEFINITION)

	Bilateral ODA to all sectors					Proportion of ODA to agriculture				
	1978	1979	1980	1981	1982	1978	1979	1980	1981	1982
	..... million $					..... %				
Australia	453	453	522	590	545	17	14	8	14	11
Austria	115	70	140	265	258	44	20	47	10	1
Belgium	444	462	512	432	327	4	4	4	4	3
Canada	1 136	676	512	1 011	807	23	21	31	39	15
Denmark	395	288	260	225	282	19	32	37	44	50
Finland	35	85	112	111	123	29	8	15	19	20
France	2 977	3 746	4 766	4 431	4 341	6	7	6	8	10
Germany	2 446	3 972	4 617	3 467	2 713	21	21	16	13	18
Italy	63	63	138	443	679	9	15	24	6	15
Japan	2 272	2 528	3 369	3 437	3 609	23	25	16	24	18
Netherlands	1 272	1 327	1 592	1 066	934	29	35	24	27	22
New Zealand	47	53	54	52	47	20	18	24	33	30
Norway	226	234	247	262	309	33	25	28	26	25
Sweden	521	782	611	518	579	11	31	34	39	32
Switzerland	110	174	139	253	213	30	13	33	46	18
UK	1 530	1 964	1 459	1 000	1 112	8	11	7	8	8
USA	4 757	5 186	5 378	5 135	6 103	14	15	20	16	13
Total DAC countries	18 797	22 062	24 426	22 698	22 982	16	18	16	17	15

Source: OECD.

ANNEX TABLE 21. DISTRIBUTION OF OFFICIAL COMMITMENTS (EXCLUDING TECHNICAL ASSISTANCE GRANTS) TO AGRICULTURE "BROAD" DEFINITION FROM ALL SOURCES BY REGION AND ECONOMIC GROUPS, 1975-82

	1975	1976	1977	1978	1979	1980	1981	1982[a]
	..... %							
CONCESSIONAL & NON-CONCESSIONAL COMMITMENTS								
Far East and Pacific	50	36	39	49	46	46	42	49
Africa	18	23	29	22	24	22	28	28
Latin America	22	28	24	21	22	24	23	18
Near East	10	13	7	8	8	8	7	5
Total 4 developing regions	100	100	100	100	100	100	100	100
of which:								
Least developed countries[b]	17	19	18	14	18	19	19	19
Food aid priority countries[c]	59	52	57	60	59	65	59	62
IDA-assisted countries d/	63	56	63	64	65	70	64	66
CONCESSIONAL COMMITMENTS								
Far East and Pacific	53	36	43	53	55	50	48	46
Africa	19	28	33	26	23	26	32	39
Latin America	14	23	14	14	13	14	12	9
Near East	14	13	10	7	9	10	8	6
Total 4 developing regions	100	100	100	100	100	100	100	100
of which:								
Least developed countries[b]	29	29	28	21	24	27	28	30
Food aid priority countries[c]	73	69	74	73	73	79	75	75
IDA-assisted countries d/	76	73	79	77	79	83	80	79

a/ Preliminary.
b/ 36 countries.
c/ 66 countries.
d/ 68 countries.

Note: Data on bilateral (DAC and OPEC) commitments are incomplete.

Source: FAO and OECD.

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