THE STATE OF FOOD AND AGRICULTURE 1961

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

THE STATE OF FOOD AND AGRICULTURE 1961

C 61/6

THE STATE OF FOOD AND AGRICULTURE 1961

FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME 1961

The statistical material in this publication has been prepared from the information available to FAO up to 30 June 1961.

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 Secretariat of the Food and Agriculture Organization of the United Nations concerning the legal status of any country or territory or of its authorities, or concerning the delimitation of its frontiers.

Printed in Italy

CONTENTS

Annex tables

List of figures

FOREWORD

This year's review of the state of food and agriculture again reveals the general pattern which has become familiar during the past decade. There is still an abundance, often a surplus, of agricultural products in the economically more developed half of the world, side by side with continuing malnutrition and even hunger in many of the less developed countries. Prices of agricultural products on world markets have continued to decline, including those of most of the basic exports of the less developed countries, so that their efforts to increase their shipments bring little or no increase in earnings with which to import the capital goods essential for economic development and raise the incomes and standards of living of their farm populations. These are two fundamental problems, of much more than purely agricultural significance, which do not permit of any rapid solution. They will remain with us for many years to come.

In 1960/61 there were, as in all years, both favorable and less favorable developments. There was little increase in agricultural production to set against the continuing growth of population. Indeed, it is likely that, if the statistics made it possible to include Mainland China, total world production would show some decline because of the disastrous harvest in that country following a series of natural calamities.

On the other hand, in the Far East region outside Mainland China, the world's worst nourished and also most populous region, there was a good harvest for the third year in succession. At long last the severe setback of the war years was overcome and in 1960/61 food production per head regained its prewar level. For the past several years, only reduced exports and increased imports, including large supplies provided on generous special terms, had made it possible to keep the average food supplies at slightly more than the low prewar level.

A second favorable development is the steadily increasing determination to make even fuller use of the abundant supplies of food in some areas to relieve want and to foster economic development in the less developed countries. The growing interest in these problems in the United Nations, the gathering support for FAO's Freedom from Hunger Campaign, the Food for Peace Campaign in the United States and similar measures in a number of other countries all point to the increasing concern to reduce the extreme disparities between the more and the less developed regions of the world. There is no doubt that the fuller utilization of food surpluses could powerfully reinforce the gradually rising flow of multilateral and bilateral economic and technical assistance to the less developed countries.

FAO has always emphasized that the ultimate solution to the problem of hunger and malnutrition in the less developed countries can be found only by raising their own agricultures to a much more productive level. In undertaking measures utilizing food surpluses, this must be borne constantly in mind.

Special chapters in the last two issues of The state of food and agriculture *were devoted to an examination in the light of postwar experience of the over-all problems of agricultural development in those countries. These problems were considered from the standpoint of the farmers, handicapped in their efforts to improve their output and their way of life by poverty, ignorance and in many countries by an outdated agrarian and institutional structure. They were discussed also from the standpoint of governments* *in planning the development of agriculture, as a key sector in economic development as a whole, and in establishing an economic and social environment in which plans for agricultural expansion had good prospects of success.*

In this year's issue, two of the most basic problems of agricultural development have been singled out for special consideration. Chapter III reviews and evaluates the measures of agrarian reform which have been put in hand since the second world war. It is certain that in no comparable period of history have there been such widespread efforts, affecting so large a proportion of the human race, to establish systems of land tenure better adapted to present needs. The lessons to be drawn from the experiences of countries with a wide range of social, economic and geographical conditions in tackling this fundamental problem are clearly of very great significance. Particular stress is laid in the chapter on the importance of providing adequate credit, marketing and technical services if measures of agrarian reform are to achieve the results intended.

Chapter IV in turn reviews the development of the agricultural research, education and extension services in the countries of Asia, Africa and Latin America. During the past century agricultural science has developed with an increasingly rapid tempo and in the countries where it has been applied it is no exaggeration to speak of "the agricultural revolution". So far, however, basic research, and still more its adoption in everyday farm practice, has been predominantly in the economically more developed countries, with mainly temperate climates. To adapt this growing body of knowledge to the arid or tropical climates of most of the less developed countries, and to persuade the farmers to accept and apply this new knowledge, is an immense task. The chapter summarizes some of the conclusions which begin to emerge from FAO's own work and from its study of the successes and failures of the less developed countries in building up their technical services to agriculture.

B. R. SEN
Director-General

Chapter I - SUMMARY

Chapter II - World review and outlook

AGRICULTURAL PRODUCTION

Preliminary FAO estimates for the world excluding Mainland China indicate that the total volume of agricultural production increased by only about 1 percent in 1960/61. This is less than the estimated annual population growth of 1.6 percent but, taking the last two seasons together, production appears to have continued to increase slightly faster than population.

Production again rose by about 3 percent in the Far East (excluding Mainland China) and there were also fairly large increases in Oceania and western Europe in 1960/61. Gains of about 1 percent were recorded in North America, the Near East and Africa. In Latin America and in eastern Europe and the U.S.S.R., however, widespread bad weather brought a fall in production in 1960/61. Moreover, in Mainland China, which it is not yet possible to include in the index of world production, harvests were disastrously small.

On a per caput basis, world production has changed very little since the big increase in 1958/59, but there have been large changes in single regions. Food production fell behind the growth of population during the war years in every region except North America. The subsequent improvement has been very largely in the more developed parts of the world, though in each of the less developed regions the prewar level of per caput production now seems to have been reached or exceeded at some time during the postwar period. In the Far East (excluding Mainland China), where production per head is the lowest in the world, the prewar level is estimated to have been regained at last in 1960/61. In Africa, in contrast, per caput food production returned to this level soon after the war, but appears to have dropped below it in 1960/61. In Latin America, where population growth is particularly rapid, the prewar level was approximately regained in the three years 1956/57 to 1958/59, but there has since been a sharp drop. In the Near East also, per caput production has deteriorated recently, though it is still a good deal higher than before the war.

Comparatively few agricultural products showed substantial increases in production in 1960/61. Apart from sharp recoveries in the production of apples, copra and oats, the main expansions were in the output of sugar, cocoa, olive oil, and rice. The biggest increases in sugar production were in western Europe. Cocoa production again increased very steeply in Ghana and Nigeria, but Brazil's crop declined because of adverse weather. For bananas, coffee and tea, production fell sharply in 1960/61, a much smaller crop in Brazil being the main factor in the decline in coffee production. The production of citrus fruit, wine, jute, rubber, wool, and eggs was also lower than in 1959/60. Comparing 1960/61 with the average for 1953-57, the most rapid gains in world production have been in coffee, soybeans, cocoa, sugar, maize, and rice.

The world fish catch is estimated to have increased by a further 6 percent in 1960. A large part of the expansion was again in Peru, which has climbed rapidly to third place among the world's fish producers. Production also increased sharply in the U.S.S.R. and in Japan in 1960, but catches were reduced in a number of important fisheries of western Europe and North America.

World roundwood removals rose by about 3 percent in 1960, and the output of each of the main categories of forest products also increased. The increase in production was largely in western Europe and in the U.S.S.R. In North America, fellings stayed at about the same level as in 1959, and there was a decline in the output of sawnwood.

CHANGES IN STOCKS

In 1960/61 there were particularly large increases in stocks of coarse grains, butter, and sugar. Wheat stocks rose again, after remaining comparatively stable the previous season. While the unsold stocks still consist mainly of temperate zone products, in the last few years the tendency for stocks to accumulate has spread to certain tropical tree crops. The first product to be so affected was coffee, stocks of which again increased substantially in 1960/61, and cocoa production also is now tending to outstrip consumption. Thus there has probably been some reduction in the proportion of world stocks located in North America, though this is estimated still to be about 70 percent.

Economic activity and the demand for agricultural products

In contrast to the mild recession in North America, economic activity continued to expand rapidly in most countries of western Europe and in Japan in 1960. During the first half of 1961, however, the United States recession appeared to have run its course, while in some European countries there were signs that economic expansion was slowing down.

Mainly as a result of these tendencies in the industrialized countries, the rapid expansion of world trade in evidence since the end of the previous recession leveled off in the second half of 1960. The exports of the primary producing countries fell somewhat between the first and the second half of 1960. Balance of payments difficulties were experienced by many of these countries, as well as by some of the major trading nations, including the United Kingdom and the United States.

As with the recession of 1957-58, the slowing down in the growth of economic activity appears to have had little effect on the demand for foodstuffs. However, for a number of raw materials of agricultural origin, including rubber and wool, and for some forest products, the slower expansion had quite substantial effects on the level of demand.

Food supplies and consumption

Except for the world as a whole, the indices of per caput food production discussed earlier do not show trends in the supply of food that is available for consumption. Approximate estimates indicate that, because of restricted exports or greater imports, food supplies in the less developed regions have improved more quickly than per caput production. Thus the prewar level of per caput food supplies seems to have been exceeded for some years in each of these regions, in spite of the lag in production in some of them.

The greatest improvements in food supplies, however, have been in those parts of the world that are already better fed, so that the worse-fed areas are tending to lag still further behind. Moreover, the improvement in the less developed regions appears to have been entirely in supplies of crop products. In the more developed regions, on the other hand, it is livestock products that have increased, as rising incomes have brought a shift from such commodities as grains toward increased consumption of more expensive foods.

International trade in agricultural products

Although the expansion of world trade in agricultural products slowed down somewhat in 1960, both the volume and value of exports showed further gains over 1959. The volume of exports rose by about 5 percent, compared with a gain of 7 percent in 1959 when trade was recovering from the effects of the 1957-58 recession. Average prices of agricultural products in world trade, which had risen during 1959 and the earlier part of 1960, fell back somewhat during the second half of the year. For 1960 as a whole, however, the average unit value at current prices was slightly higher than in 1959, and total earnings from agricultural exports rose by about 6 percent. Because of an increase of 3 percent in average unit values of manufactured goods in world trade, the " terms of trade " for agricultural exports declined for the sixth year in succession, and the " real " value of agricultural exports, as measured by their capacity to purchase manufactured goods, rose by only 3 percent.

Since 1948-52, an increase of 41 percent in the volume of agricultural exports has brought a rise of only 21 percent in value at current prices and of no more than 10 percent in real value. Moreover, during the last few years, shipments on special terms have represented from 6 to 9 percent of total agricultural exports. If commercial exports only are considered, the volume of exports has risen by about 33 percent since 1948-52, their value at current prices by about 14 percent and their real value by barely 4 percent.

In 1960, all the main commodity groups shared in the expansion in the volume of trade. Exports of forest products increased by 10 percent, and each of the three main groups of agricultural products showed an increase of 4-6 percent over 1959. In the food and feedingstuffs group, the largest increases were for wheat and sugar, but for livestock products there was only a small rise. The increase in the volume of trade in the beverages and tobacco group was due mainly to a gain of one fifth in cocoa exports. For agricultural raw materials, a decline in North American imports was more than offset by a rise in imports into western Europe and the Far East. World cotton exports increased by about one quarter and those from the United States were doubled, partly in expectation of less favorable export terms.

Developments in 1960 continued the postwar trend for agricultural exports to come increasingly from the economically more developed regions. Apart from a small rise in exports from Latin America, the increase in agricultural exports in 1960 came wholly from western Europe and North America. Much of the expansion in western Europe represented a greater volume of trade within the region, while cotton accounted for about 70 percent of the increase in North American exports. On the import side, some 90 percent of the increase in world trade in 1960 represented larger shipments to western Europe and the Far East. The latter region, which has been a net importer of foodstuffs throughout the postwar period, in 1960 became a net importer of agricultural raw materials and of agricultural products as a whole, while its gross imports of agricultural products are now comparable in volume with those of North America, which have changed very little in recent years.

The slight rise in average unit values of agricultural products as a whole in 1960 as compared with 1959 reflected a balance between an increase of some 10 percent for agricultural raw materials, and falls of about 4 percent for beverages and tobacco and of 1 percent for food and feedingstuffs. In the raw materials group the prices of rubber and jute reached very high levels in the first half of 1960, but rubber prices subsequently fell steeply. In the beverages and tobacco group, there were falls in the prices of cocoa and of African coffees. For food and feedingstuffs, somewhat lower values for sugar and oilseeds were not quite counterbalanced by increases for meat and fruit.

For most commodities, prices moved in an opposite direction to changes in the volume of trade, so that the two factors tended to offset each other in their influence on gross earnings from agricultural exports. For raw materials, however, both volume and prices were higher in 1960. As already pointed out, the average export unit value of manufactured goods increased by 3 percent in 1960, and the real value of earnings from agricultural exports was reduced to that extent. Earnings in real terms from agricultural exports increased sharply in 1960 in western Europe and North America, and there was a small increase in the Near East, but they declined in Oceania, the Far East and Africa, in the latter two regions entirely because of lower prices. In Latin America there was little change from 1959.

United States exports under government-financed programs, which remain by far the largest component of exports of agricultural products on special terms, again expanded. Most of the increase was accounted for by larger shipments of wheat, wheat flour, and rice. Nearly three-quarters of the total wheat and wheat flour exports from the United States in 1959/60 and the first half of 1960/61 were government-financed, but for cotton the sharp increase in commercial exports greatly reduced the share of concessional sales in total United States cotton exports. Government-financed exports accounted for only 29 percent of the total agricultural exports of the United States in 1959/60, compared with 34 percent in 1958/59 and a peak of 41 percent in 1956/57. Imports on special terms covered nearly 90 percent of the total wheat imports of India and Pakistan in 1959/60 and 70-80 percent of those of the United Arab Republic (Egyptian Region), Turkey and Yugoslavia.

An important contribution to the increased volume of agricultural trade in 1960 came from the sharp rise in imports into the U.S.S.R. and Mainland China. Both these countries have become major importers of sugar since the breakdown of the sugar agreement between the United States and Cuba. Moreover, following the very poor 1960 harvest, Mainland China has purchased large quantities of wheat and barley, mainly from Australia and Canada; most of this, however, is for delivery between 1961 and 1963.

Farm prices and incomes

There was no regular trend in 1960 in the movement of farm prices as a whole, but in a majority of the limited number of countries for which data are available, the relationship between the prices received for farm products and those paid for farm production requisites and living expenses moved unfavorably for farmers. This trend is more definitely downward when considered over a longer period from the early 1950s.

Similarly there was no consistent trend in the movement of farm incomes in 1960, taking into account the volume of sales as well as prices. The income of the farm sector appears to have increased slightly, however, at least at current prices, in Canada, France, Western Germany, the United Kingdom and the United States, but to have declined somewhat in Australia, Chile, Greece and Italy. Incomplete information suggests that there was also some decline in 1960 in Denmark, New Zealand, Spain and Yugoslavia.

Longer-term trends in farm incomes are reviewed in some detail. It is shown that in the more developed countries, that part of the income of the farm sector which derives from the domestic market (usually much the largest share) tends to grow more slowly than the national income as a whole. The three causes of this lag appear to be the falling income elasticity of demand for foodstuffs with rising incomes, the tendency for processing and distribution services to become more complex and costly, and the continuing rise in the cost of production requisites from outside the farm sector relative to the value of the farm output.

The lag in the growth of the income of the farm sector, however, is at least partly offset by the marked fall in the farm population in recent years as a result of the movement of labor to other occupations, which has the effect of raising per caput farm incomes. Comparisons are given for a number of important countries of the magnitude of these changes during the past decade.

A reduction in the disparities between farm incomes and those in other occupations is a main policy objective in most economically more developed countries. In the light of the above trends, some discussion is therefore attempted of how far and in what circumstances farm incomes can be raised by agricultural price and other support measures, and of the influence on farm incomes of imports and exports and of the various types of transfer payment from other sectors of the economy now employed in many countries.

Consumer prices

The long-standing upward movement of retail food prices continued in 1960, and the index of retail food prices was higher than in 1959 in about two thirds of the 71 countries for which figures are available. Indices of retail prices as a whole also generally moved upward, but over the past six or seven years there appears to have been no general trend for food prices either to run ahead or to fall behind consumer prices as a whole. In Latin America, although inflation has slowed down in many countries, in some the rapid rise in prices still continues, while strong inflationary pressures also persisted in some countries of the Far East in 1960.

Institutional agricultural credit

Statistics of farm credit from institutional sources regularly assembled by FAO indicate a gradual rise in its availability both in the more and in the less developed countries. In the latter, short-term production credit is generally the more important, while in more developed countries long-term loans account for a larger share of institutional credit. Although very few reliable data are available, institutional credit is known to represent only a small fraction of the total, especially in less developed countries. In most of these countries by far the greater part still comes from private sources, including relatives, landlords, merchants and moneylenders, usually at high interest rates.

Agricultural policies and development plans

The rather numerous modifications in agricultural policies and programs in 1960/61 were mostly in essence attempts to match production more closely to the level and pattern of demand at prevailing prices, which for some years now has implied an opposite approach in the more and less developed countries.

In the more developed countries, the increase in demand for most agricultural products is now little greater than the rate of growth of population, because of the high levels of income and food consumption already reached. Agricultural production, in contrast, tends to increase rapidly in these countries, for technical progress has been substantial and its adoption in farm practice is encouraged by agricultural support policies. In these circumstances, surpluses tend to emerge, first in one commodity, then in another. Moreover, the slow growth of demand also makes it difficult to prevent farm incomes and levels of living from falling further behind those in other sectors of the economy.

In the less developed countries, on the other hand, agricultural production is more difficult to expand and has responded rather sluggishly to the rapidly rising demand for food that comes with the accelerating population growth and with any increase in the prevailing low levels of income. Because production, especially for the market, has lagged, food prices have tended to rise, and many countries have had to import more food or export less. Paradoxically, the most rapid headway in expanding production in these countries has been made with some of those commodities grown primarily for export to the more industrialized countries where, as just noted, the growth of demand has been slow.

In western Europe, there were a number of modifications in price policies in 1960/61, relating chiefly to grains and dairy products. In some countries price supports for dairy products were raised, and it is hoped to restrict production by other forms of control, such as limiting imports of feedingstuffs or establishing production quotas. To help maintain farm incomes in the present increasingly competitive conditions, western European countries have also continued to emphasize the raising of efficiency through government assistance for improved practices and for the rationalization and improvement of farm structures and organization. A similar approach underlies the Basic Agricultural Law enacted in Japan in June 1961, which is designed to help family farms to become economic units, mainly through structural improvements. In Australia, the transfer of less efficient dairy farms to other branches of production has been advocated, and in Canada the Agricultural Rehabilitation and Development Act would, *inter alia*, permit the transfer of marginal land to alternative uses.

The new administration in the United States is undertaking a major reappraisal of existing agricultural policies. Several new features which it is hoped will be more effective in preventing the further accumulation of surplus stocks have already been included in new legislation and in proposals that are still before Congress. In keeping with the greatly increased interest in utilizing surplus foods for economic development, the new administration has also proposed the extension on a longer-term basis, together with a considerable increase in funds, of Public Law 480, which has been the major instrument of surplus disposals under special terms. Proposals have also been made for the establishment of a multilateral framework for the disposal and utilization of part of the existing surpluses.

In the less developed countries, most of the new development plans are more comprehensive and wider in scope than previous plans. In some of the countries of the Far East, the urgent need to increase agricultural production has induced a shift of emphasis toward agriculture. There are also signs that some of the less developed countries are now reconsidering their price policies in order to give stronger incentives to producers to raise their output for the market. Increasing attention has continued to be given to reducing or eliminating restraints on producer incentives due to institutional weaknesses, especially in land tenure systems.

There have been further increases in the supply of foreign aid for the economic development plans of the less developed countries. The effects of financial aid to these countries can, however, only too easily be wiped out by deteriorations in their terms of trade, while fluctuation in the prices of their agricultural exports also make it difficult for them to maintain a steady rate of investment for economic development. They are therefore particularly interested in international measures for the stabilization of world prices of agricultural commodities. The main developments in this respect that have taken place in the period under review relate to coffee and cocoa.

In the U.S.S.R., following the failure to reach the 1960 production targets, state investment in agriculture is to be increased, and the system of state procurements has been tightened up. In Mainland China, where agricultural production has been very severely affected by bad weather, absolute priority has been ordered for agriculture in the annual plans which have replaced the five-year plan, and there has been a considerable decentralization of commune organization.

The continuing trend toward greater regional economic co-ordination concerns both more and less developed regions. In western Europe, both the European Economic Community (EEC) and the European Free Trade Association (EFTA) have accelerated the process of liberalization of their intra-Community trade, while in the EEC countries a common agricultural policy is gradually being worked out. Twelve newly independent French-speaking African countries have joined to form the African and Malagasy Organization for Economic Co-operation. In Latin America, the Free Trade Association has been formally inaugurated, and a new Central American Economic Integration Treaty, providing for a common market, has also been signed.

Short-term outlook

It is still uncertain to what extent the recovery from the mild 1960 recession in the United States will be followed by a vigorous further improvement. In most of western Europe and in Japan, although there are signs in some countries that the expansion, which continued throughout 1960 and early 1961, may be slowing down, most forecasts are for a continued rapid growth of industrial production and economic activity. If a rapid expansion gets under way in North America, and if this is accompanied by a continued high level of economic activity in western Europe and Japan, there should be quite a substantial rise in the demand for agricultural raw materials.

Only fragmentary data are so far available on the probable level of 1961/62 crops, but most indications are that the rise in world agricultural production may again be comparatively small. While it is still too early to judge their final effect on production, setbacks due to bad weather appear to be rather numerous in several regions of the world. In particular, further droughts and floods in many areas of Mainland China are reported to have followed the crop failures of 1960. The Canadian wheat crop is likely to be halved, as a result of prolonged drought in the Prairie Provinces.

The chapter is concluded by short notes on the prospects for the main agricultural commodities and for fishery and forestry products.

Chapter III. Land reform and institutional change

Progress in different regions

There are regional contrasts in respect of land reform between the Mediterranean countries and north and northwestern Europe. In the latter, technological progress and full employment have led to concern with the consolidation and enlargement of farms and the improvement of farm communities. The prevailing pattern, however, is still that of small and medium-sized farmers, owners as well as tenants, who in general are sufficiently strong to take care of themselves. The Scandinavian countries are mainly concerned with working towards an optimum size of holding for a farmer, and on the whole this policy is producing good results.

Italian land reform is aimed at maximizing productivity and thereby raising the level of living of the farmers and bringing about greater income parity between workers in agriculture and industry. Large-scale land reforms were carried out in Yugoslavia after the war, and about 25 percent of available land was incorporated into state or co-operative farms but, as results were disappointing, the move to collectivization has since been halted and emphasis placed on voluntary membership and self-management of co-operative farms. In 1958, co-operative farms contained only 3.4 percent of the cultivated land. But the objective of agrarian policy is still collectivization or a higher degree of co-operative farming.

In eastern Europe and the U.S.S.R., there is also a tendency toward larger farm units. For example, the average size of the U.S.S.R. collective farm is increasing. Of the other countries of eastern Europe, only Bulgaria and Czechoslovakia follow full collectivization, and elsewhere incomplete forms of collectivization prevail, involving returns on ownership of land, cattle or equipment.

In Canada and the United States, where there are few problems of land tenure, there is a definite preference for owner-cultivation aided by efficient institutional services and credit facilities.

Problems of land reform, however, are very much to the fore in Latin America. *Latifundia*, i.e., large holdings mainly run by absentee-owners with indifferent standards of cultivation, still characterizes countries in Central and South America. It has been abolished only in Mexico, Bolivia and Cuba by the expropriation of large plantations and redistribution of the land. In many South American countries, where there is scope for " colonization ", settlements of migrants or immigrants to follow more progressive farming receive more attention than " conventional " types of land reform. Large holdings as such do not appear to arouse opposition, but efforts are being made to counteract the indifferent or wasteful use of potential resources. Most Latin-American states have adopted comprehensive measures of tenancy legislation, but their implementation leaves much to be desired, since the lack of resources and knowledge of the average tenant is so great that the protection given by law is rarely effective.

In the Near East, too, there are noticeable differences in regard to the content and enforcement of land reform measures. For example, land reform in Iran has three aspects: distribution of part of the crown lands (of which 50 percent had been distributed among 30,000 families by April 1961), the distribution of state lands, and the redistribution of surplus private lands under the Land Reform Law of 1960. The two latter schemes are in their initial stage.

In Iraq, the implementation of the comprehensive agricultural Land Reform Law of 1958 has only begun. Allotments made so far to 10,000 families cover some 75,000 hectares. The Sudan presents a large variety of farming and tenurial patterns: in the north and south, shifting cultivation and nomadic stock raising can be found, while the highly developed agriculture of the Gezira district is found in the center of the country. Here there is a tendency for registered tenants to turn into intermediaries, and administrative action is needed to prevent it from gathering strength. There is widespread appreciation of the need for tenancy legislation in the United Arab Republic (Egyptian Region). Much of Egypt's land reform was based on the dictum " Low yields are a greater enemy to the cultivator than the landlord, " and this emphasis on high productivity is important in that the welfare objectives of land reform measures cannot be realized if they do not increase productivity. Throughout the United Arab Republic, farmers to whom land is allotted are required to join a co-operative association, designed to supply them with all the necessary aids and services.

In the Far East, all measures of reform tend to come up against time-honored vested interests and well-established social taboos. In addition to the direct evils of defective land tenure systems, high rents and low productivity, there are other attendant defects such as compulsory labor by tenants for the land-lord-owner and the enforced sale of the tenant's share of the produce at unfavorable prices to the owner or to merchant intermediaries. Recent measures of reform, therefore, have to extend to a variety of aspects of agrarian organization at one and the same time. Governments have generally introduced comprehensive agrarian programs, with the objective of establishing an advanced pattern of social as well as economic reorganization. Land in excess of certain area was expropriated against compensation, as in Burma, while Ceylon has organized cultivation committees to direct the activities of the tenants.

Japan, after its comprehensive agrarian reform, successfully prevented land ownership from returning to the former situation, and the general level of productivity on the smallholder farms is steadily rising. Local agricultural committees, composed of land holders, have succeeded in creating an economically progressive and socially responsible atmosphere in the new rural society which has been created by the reform.

In India, the land and village gift movement is symptomatic of social opinion favorable to a more equitable distribution of employment opportunities, and particularly of access to land for agricultural workers. The conventional methods of protection to agricultural workers through adequate tenancy legislation have been accepted as a policy over the whole country. Since land available for cultivation is limited, the principle of a land ceiling has been adopted by all the states. In the third five-year plan, provision is made for experiment in tenure arrangements by the establishment of a few state farms, a fair number of co-operative farms, and an almost universal system of extension and co-operatives for small farmers.

In Pakistan, by a basic ordinance of 1959, a land reform program has been introduced with such features as imposition of ceilings on individual ownership of land, abolition of certain feudal privileges of land revenue collection, restriction of subdivision of holdings and compulsory consolidation of fragmented holdings. The second five-year plan ensures full occupancy rights to tenants and envisages legislation for the protection of share-croppers.

In Africa, standards of cultivation and patterns of land use vary from intensive cultivation of cash crops, in some areas by European settlers, to the traditional system of shifting cultivation. Where shifting cultivation or stockbreeding in wide grazing areas is the normal pattern of land use, tribal tenure with customary rights has assured an equitable distribution of opportunities among all members. With increasing population pressure and with the introduction of progressive farming methods, however, identifiable titles to particular pieces of land are in demand. Prospective holders are likely to lack resources and experience and would be an easy prey to the usurer or the financing merchant. To avoid the risk of titles passing into the hands of nonfunctioning landowners, the registered allotments have been made nonnegotiable.

Basic aspects of land reform measures

The second part of the chapter deals with the major aspects of land reform programs, which generally have two specific objects: to remove such impediments to agricultural production as arise from a rural structure inherited from the past, and secondly to eliminate elements of exploitation and social injustice within the agrarian system, to provide security for the farmer and raise the status of all sections of the rural population. Both the productive and welfare aspects of agrarian reform are kept under review by governments.

The problem of ensuring the most productive use of available land resources is of great importance for the less developed countries. The social objective of preventing exploitation, and of offering a reasonable share of available opportunities of employment to all rural families, necessitates a wide distribution of available land. But the average size of holding which can be so allocated is often too small to satisfy the minimum requirements of efficiency.

Even those who value individual initiative in agriculture are in certain circumstances led to prefer some integrated or co-operative pattern of work so that the advantages of an efficient scale of farming should not be lost. There are types of land use where public or collective ownership is generally considered the best safeguard for efficiency.

In less developed countries with large populations depending on agriculture, land reform in some cases makes for the prevalence of uneconomic holdings. It would be acting against normal policies of agricultural improvement not to envisage some form of co-operative association in which physical and technological conditions favorable to efficient agriculture can be created. In some cases even state-conducted farms, such as the administrative farm in Israel, have been accepted as necessary and beneficial in democratic societies. With the abolition of large landowners, all the functions which they discharged have to be taken over by institutional services organized by the State or public institutions.

A special problem of land reform is that of tribal communities who have a traditional and collective claim to land use. In Africa, the whole way of life of large population groups is in the process of rearrangement. Reform of land for such communities entails an education and development effort for which a special organization becomes necessary.

Great emphasis is placed on the fact that in overpopulated and economically backward countries the bargaining position of workers and tenants, as compared with those of the employers and landowners, is very weak. The just claims of tenants have to be assured by protective legislation, the enforcement of which must be treated as a responsibility of the State. Security of tenancy, fairness of rent and compensation for improvements made by tenants are now widely prescribed. Often, however, the enforcement of tenancy laws is at the instance of the aggrieved party, which means that violations are not cognizable offences. Experiences of recent tenancy reforms are therefore not always reassuring. To strengthen the tenants' position, widespread and well-equipped extension services are necessary.

As a result of land reform, the responsibility for development devolves on the farmers whose first need is for capital. Being small farmers, they have few assets in the eyes of commercial credit institutions, especially after a land reform which limits the transferability of land. In the absence of institutional credit the farmer is either starved of finance or he is constrained to resort to usurious credit. Adequate institutional credit is therefore an important corollary of agrarian reform. The full potentialities of economic development by land reform cannot be realized unless a suitable price policy is adopted and unless appropriate institutions are set up for processing and marketing the farmers' produce.

The effectiveness of community development in bringing about agricultural progress depends on a number of social readjustments. Of the utmost importance for the success of land reform and land settlement is the re-education of the farmer on the social and civic side. Social education as well as civic education are the foundation of the new community which land reform in its varied forms seeks to create.

Fragmentation presents considerable problems where land varies in quality and advantage. Experience has shown that if some balancing role is played by a common fund of land and resources, and if consolidation is a preliminary to a program of major agricultural reform, the natural disinclination of even the small farmer can be overcome. There is no doubt that land consolidation is an important feature of an agrarian reform program and that, along with the program of land distribution, consolidation operations should be carried out in order to realize the full advantages of progressive agricultural technology. Consolidation is one of the spheres of land reform where taxation may well be used to ensure its speedy and widespread acceptance, and it may be worthwhile according a tax preference to this process.

Comprehensive and systematic planning of the settlement services and careful selection of the areas where it is planned to site the settlements are important aspects of land settlement. Experience has shown that it is difficult to sustain a purely agricultural settlement, and that both the agricultural and industrial components of settlement have to be pursued together.

Chapter IV - Agricultural extension, education and research in Africa, Asia, and Latin America

Efforts on the part of governments to effect agricultural development are manifold. The organization and operation of agricultural extension, education and research services have been of primary importance in such efforts. Governments appear to be convinced that these three services are closely interrelated and must be developed simultaneously for maximum effectiveness in serving the farm population.

Agricultural extension

Agricultural extension services have been organized in most of the countries of Africa, Asia and Latin America. Most of the services are government-financed and -administered. Very few countries have agricultural extension services organized and administered by farmers' associations or as semiautonomous bodies. The majority of the agricultural extension services cover all subject-matter fields under one administrative unit. There is a significant number of countries, however, which have agricultural extension services operated separately by the individual technical departments of the Ministry of Agriculture. In certain other cases, extension is one of the main activities included in community development schemes.

Little fisheries extension work is being carried out in the countries covered by this study. The exceptions are such countries as Indonesia, Japan, South Korea and the Philippines. Forestry, although in most of the countries a part of the Ministry of Agriculture, is seldom dealt with by the agricultural extension services. Forestry and agricultural extension may usefully be linked together in range management. Veterinary services very rarely carry out extension programs and, wherever they do, it is through their own service rather than through an agricultural extension service.

The needs of farmers in less developed countries do not appear to be adequately met, as yet, by the extension services. Lack of funds, lack of an appropriate organization, limited numbers of trained agricultural extension workers relative to the numbers of farmers to be served, inadequate transportation facilities, lack of supervision and technical subject-matter assistance and lack of planning, can be considered among the main reasons for the limited assistance available to farmers. Another factor reducing effectiveness and efficiency of agricultural extension programs is the reluctance of most agricultural extension staff to work in the field with the farmers. In some countries, the headquarters extension personnel is almost equal in numbers to the field extension personnel and the larger portion of the budget is devoted to serving the extension headquarters needs as against serving the needs of the staff in the field.

Most of the extension services offer training to their technical staff. Induction and in-service training offered in the extension services themselves are the most usual forms. Promotion training is less frequently offered to prepare experienced extension staff for more responsible positions. Preservice training in agricultural extension, where available, is usually given by the agricultural education institutions.

In the majority of the developing countries, agricultural extension is concerned with the farm family as a whole. It assists adult farmers to improve farming methods and technology and to increase production and income; through home economics extension it helps farmers' wives to improve the management of the farm home with a view to bettering the living conditions of farm people so that they can work and produce better, enjoy a satisfactory family life and contribute their best to the family and the community of which they are members; through rural youth programs it trains youth of both sexes, technically as well as socially, thus contributing to the growth and expansion of the adult extension work in the future.

Local leadership has been recognized by almost all extension services as one of the important factors contributing to the success of extension work. Significant effort is being made by countries to develop and train local leaders who command the respect and confidence of their neighbors.

Agricultural education

Agricultural education institutions have been established by all countries of the regions covered in this study, with the purpose of training agricultural extension workers, agricultural research technicians, teachers for all kinds and levels of agricultural education, and for other government and private employment. The number of agricultural education institutions has been steadily increasing in almost all countries. No clear-cut standards have been set, however, for education and training in many of these institutions. As a result, standards of teaching, admission requirements, curricula and forms of organization vary considerably to the extent that institutions of nominally the same level may turn out graduates of quite different caliber.

Agricultural education is divided into higher, secondary or intermediate, and elementary levels. Forestry is usually taught separately in special forestry schools although in some instances forestry subject matter is included in the curricula of higher agricultural education institutions. Fishery skills and veterinary medicine are taught in separate training institutions in practically all countries where such training is offered.

Training facilities and programs for agricultural extension and research have developed at an increasing rate since 1945 in most of the agricultural education institutions.

Agricultural research

Agricultural research services have been organized in almost all countries with a view to contributing effectively to a rapid agricultural development. Efforts are primarily concentrated on obtaining results within a fairly short time. Consequently, applied research proves to be more essential for the newly developing countries.

The organizational structure of agricultural research varies considerably. In most of the countries agricultural research services are organized within the Ministries of Agriculture either under a single administration or separately under each of the specialized departments or divisions. Some countries entrust agricultural research to colleges, semiautonomous organizations or even private organizations. Significant contributions to the development of agricultural research have been made by technical assistance from international organizations, bilateral programs, and private foundations.

Appraisal of agricultural extension, research and education

Funds, scientists, technicians, equipment and supplies have been made increasingly available to agricultural extension, education and research since 1945. Governments appear to have been convinced that these three services have a dynamic influence on agricultural development and are giving them increasing support. There is still much, however, to be desired.

Among the difficulties and obstacles delaying progress in the development of these three services are lack of funds, of trained staff and of a clearly articulated organization structure. Equipment and supplies are still insufficient. Co-ordination between agricultural research, extension and education, although highly desirable, has not been generally achieved. Greater emphasis might, with advantage, be placed on the training of staff to promote better understanding and preparation for the job expected of them. Higher priority should be given to field work as opposed to office work if farmers are to be served effectively.

Chapter II - WORLD REVIEW AND OUTLOOK

Agricultural production

In 1960/61 there was only a small increase in the total volume of agricultural production, and preliminary FAO estimates for the world excluding Mainland China show a rise of no more than 1 percent over the previous season. This is less than the estimated annual population growth of 1.6 percent, but taking the last two seasons together, production appears to have continued to increase slightly faster than population.

Production trends in the different regions of the world[1] diverged markedly in 1960/61 (Table II-1). The most encouraging development was an increase estimated at about 3 percent in the Far East (excluding Mainland China), where production per head of the population is the lowest in the world. Production in this region has now expanded substantially in each of the last three seasons, with the result that in 1960/61 the region's food production per caput is estimated finally to have regained the average level of the immediate prewar years. Even though this level was very low, and although, because of larger imports and smaller exports, actual supplies of food per head have for some years been a little greater than before the war, this is nonetheless a landmark of considerable significance.

There were also fairly large increases in agricultural production in 1960/61 in Oceania and western Europe, both regions where, although the problem of surpluses is much less acute than in North America, a few commodities have for some years tended to be in oversupply. In Oceania, the rise in food production was as much as 6 percent according to preliminary figures, but total agricultural production increased rather less. In Latin America and in eastern Europe and the U.S.S.R., however, widespread bad weather brought a fall in production in 1960/61. In each of the remaining regions for which FAO indices are calculated, including the other economically less developed regions, where a larger supply of agricultural products is so badly needed, production increased by approximately 1 percent in 1960/61.

TABLE II-1. - INDICES OF AGRICULTURAL PRODUCTION

	Prewar average	Average 1948/49-1952/53	Average 1953/54-1957/58	1958/59	1959/60	1960/61 (Prelim.)
	......*Indices, average 1952/53-1956/57 = 100*......					
ALL AGRICULTURAL PRODUCTS						
Western Europe	82	86	103	109	113	116
Eastern Europe and U.S.S.R.	82	86	106	129	132	130
North America	68	93	100	106	109	111
Oceania	78	90	101	117	118	120
Latin America	73	89	103	117	120	117
Far East (excl. Mainland China)	86	86	103	111	114	118
Near East	72	84	104	116	117	118
Africa	70	88	102	109	110	111
ALL ABOVE REGIONS	77	88	103	113	116	117
FOOD PRODUCTS ONLY						
Western Europe	82	86	103	110	113	116
Eastern Europe and U.S.S.R.	83	86	106	130	133	132
North America	66	92	100	110	111	113
Oceania	81	93	100	117	113	119
Latin America	70	88	103	116	115	114
Far East (excl. Mainland China)	84	86	103	111	116	119
Near East	72	83	104	115	116	117
Africa	72	89	102	106	107	108
ALL ABOVE REGIONS	76	88	103	114	117	118

NOTE: These indices have been calculated by applying regional weights, based on 1952-56 farm price relationships, to the production figures, which are adjusted to allow for quantities used for feed and seed. For Mainland China no estimates are included until more complete data are available. The indices for food products exclude coffee, tea, tobacco, inedible oilseeds, animal and vegetable fibers, and rubber.

[1] Much of the analysis in this chapter is in terms of the regions shown in Table II-1. While the coverage of most of them is self-explanatory, it should be noted that western Europe is defined as including Yugoslavia, and the Near East as extending from Cyprus and Turkey in the northwest to Afghanistan in the east and including from the African continent the United Arab Republic (Egyptian Region), Libya and the Sudan.

In Mainland China, which it is not yet possible to include in the index of world production, the 1960 harvests were disastrously small, in sharp contrast to the rest of the Far East. No official figures of agricultural production have been announced, but there are reports of a series of grave natural calamities affecting more than half of the farmland. The rationing system has been further tightened up, and there have been heavy imports of food. Mainland China contains more than one fifth of the world's population, and if an agricultural production index could be calculated for the whole world, it would probably show a decline in 1960/61. Reports of further crop failures in Mainland China in 1961 are discussed in the section on the short-term outlook at the end of this chapter.

Food production and population

Except for the impressive increase in the Far East (excluding Mainland China), per caput production showed a temporary decline in each of the less developed regions in 1960/61 (Table II-2). World production per caput has changed very little since the big increase two years ago in 1958/59.

Over a longer period, food production fell behind the growth of population during the war years in every region except North America. The main features of the situation are set out in Figure II-1, where the indices are shown on a prewar base. Per caput food production for the world as a whole (excluding Mainland China) regained the prewar level in the years 1948/49 to 1952/53, and is now some 14 percent above this level. The improvement, however, has been largely in the more developed parts of the world, where population growth is tending to slow down, in contrast to the accelerating rates in less developed countries. The Near East is the only one of the less developed regions where production has been consistently maintained during recent years at more than the prewar level per head, though in each of these regions this level now seems to have been reached or exceeded at some time during the postwar period. Total agricultural production, including nonfood products mainly for export, has remained above the prewar per caput level in Africa as well as in the Near East, but in Latin America and the Far East (excluding Mainland China) the relationship to prewar per caput production is less favorable than for food.

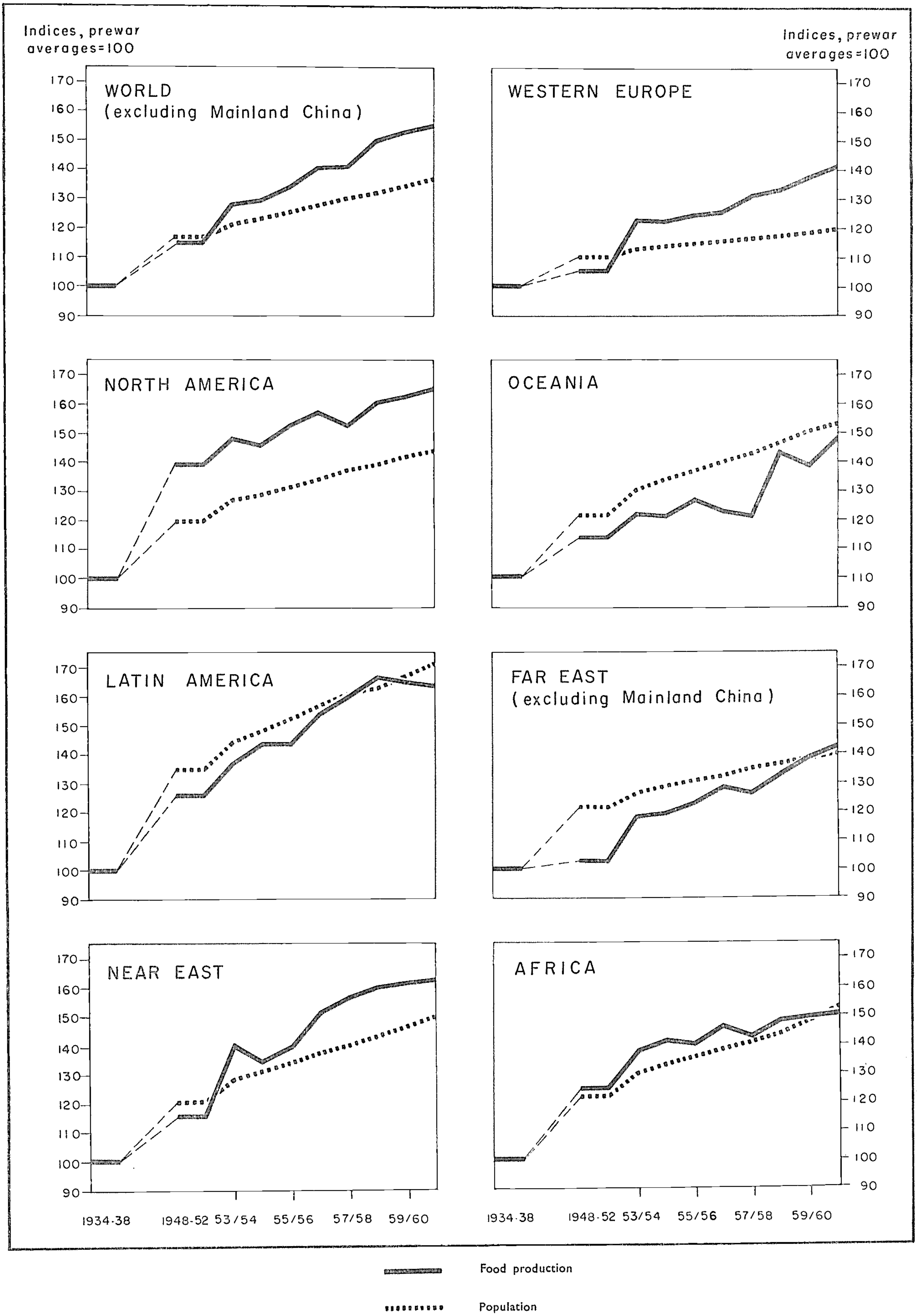
In the Far East (excluding Mainland China), food production per caput was still in 1957/58 some 6 percent less than before the war, and with the rapid growth of population in this region, together with its massive proportions in absolute terms, the prospect of recovering the prewar level seemed remote. However, as noted above, this is in fact estimated to have been achieved in 1960/61. In Africa, in contrast, per caput food production returned to the prewar level in the early postwar years and by 1954/55 was some 6 percent above it, but there has since been a decline, which appears in 1960/61 to have taken it to fractionally less than before the war. In Latin America, where the population is estimated to be rising by 2.5 percent a year, which is faster than in any other region, the prewar level was approximately regained with the big expansions in output obtained in the three years 1956/57 to 1958/59, but per caput food production has subsequently fallen back again to as much as 5 percent less than before

TABLE II-2. - INDICES OF PER CAPUT AGRICULTURAL PRODUCTION

	Prewar average	Average 1948/49-1952/53	Average 1953/54-1957/58	1958/59	1959/60	1960/61 (Prelim.)
	..... *Indices, average 1952/53-1956/57 = 100*					
ALL AGRICULTURAL PRODUCTS						
Western Europe	93	89	102	106	109	110
Eastern Europe and U.S.S.R.	84	92	104	122	123	120
North America	88	100	98	99	100	99
Oceania	103	99	99	107	105	106
Latin America	109	98	101	106	106	102
Far East (excl. Mainland China)	110	92	101	104	106	108
Near East	94	91	101	106	105	104
Africa	92	95	100	100	98	97
ALL ABOVE REGIONS	95	94	101	107	107	107
FOOD PRODUCTS ONLY						
Western Europe	93	89	102	106	109	110
Eastern Europe and U.S.S.R.	85	92	104	123	124	121
North America	85	99	99	102	102	101
Oceania	108	102	98	106	101	105
Latin America	104	97	101	105	102	99
Far East (excl. Mainland China)	108	92	101	105	107	109
Near East	94	91	102	105	104	103
Africa	95	96	100	97	95	94
ALL ABOVE REGIONS	94	94	101	107	108	107

NOTE: See explanatory note to Table II-1.

FIGURE II-1. - TRENDS IN REGIONAL FOOD PRODUCTION IN RELATION TO POPULATION GROWTH, PREWAR TO 1960/61



the war. In the Near East too, the situation has deteriorated recently, though there still appears to be a large margin over the prewar level.

Per caput food production is far larger in the economically more developed regions. It has risen to well above the prewar level in each of these regions except Oceania, where the population is growing very fast and production has fluctuated somewhat widely from year to year. In western Europe, per caput food production has increased considerably in the last four seasons, but in North America the main expansion was during the war and the immediate postwar years, and more recently production per caput has leveled off, reflecting attempts to prevent the further accumulation of surplus stocks in the United States.

The prewar statistics of both production and population in eastern Europe and the U.S.S.R. are less comparable with the postwar series than those for other regions. It seems, however, that per caput food production in this region has increased more rapidly since the war than in any other region. This appears to be largely attributable to the recent growth of production in the U.S.S.R., whereas progress has been slower in most of the eastern European countries.

The regional indices discussed above conceal wide differences among individual countries. Indices of agricultural production and of per caput food production are shown in Annex Table 1 for all those countries for which an FAO production index is calculated. In many of these countries per caput food production has fluctuated so sharply from year to year that a trend or average rate of change would not be significant for the short period of eight years for which the indices are available. In a few countries, however, a fairly definite upward or downward movement is discernible in per caput food production between 1952/53 and 1959/60.

It is noteworthy that, of the western European countries where per caput food production has risen markedly during this period, the majority (Greece, Italy, Spain and Yugoslavia) are in the economically more backward southern part of the region. In the less developed regions of the world, there has been a particularly rapid upward movement in Brazil, the United Arab Republic (Egyptian Region), the Federation of Malaya, Iran, Israel, Japan and Mexico. In each of these countries, except Japan, population growth is particularly rapid, so that the progress achieved in per caput production has meant a very high rate of expansion of total production.

At the other end of the scale, per caput food production appears to have declined over the period 1952/53 to 1959/60 in Sweden and in four countries in Latin America (Guatemala, Honduras, Peru and Uruguay). In Guatemala, Honduras and Peru the population is rising very rapidly, but in Sweden and especially Uruguay total food production has shown a declining trend.

Before leaving the subject of per caput food production it must be emphasized that too much should not be read into these indices. Except for the world as a whole, they do not show trends in the supply of food that is available for consumption. Changes in exports and imports of foodstuffs considerably alter the picture, and in a number of countries restricted exports or increased imports have made good the lag in per caput output. In others, a good deal of the production of recent years has not been consumed but has accumulated in unsold stocks. Some estimates later in this chapter attempt to take these factors into account.

Regional agricultural production in 1960/61

The main features of the 1960/61 agricultural production season are discussed in more detail below, region by region. Statistics of the regional production of the principal commodities are to be found in Annex Tables 3-10.

Western Europe

Agricultural production in western Europe changed little from 1953/54 to 1956/57, but there has now been a big increase in each of the last four seasons and, according to preliminary estimates, production in 1960/61 was about 11 percent more than in 1956/57. During this period the output of livestock products has increased slightly faster than crop production.

Total grain production in 1960/61 increased fractionally over the high level of 1959/60. The production of coarse grains, especially barley, rose still further, but there was a decline in wheat and rice harvests. The production of wheat, and of grains as a whole, expanded in northwest Europe, though in many countries too much rain at harvest time reduced the quality of the wheat crop. In southern Europe, however, both wheat and total grain production were smaller than in 1959/60, with particularly large reductions in the wheat harvest in Italy, Spain and Yugoslavia.

Sugar production rose by more than one third from the low level of 1959/60. The potato crop also increased substantially, but in many countries quality was affected by blight. The production of apples and pears, which tends to fluctuate sharply, was much larger than in 1959/60 and came close to the record level of 1958/59. Grapes and wine, however, suffered from bad weather in several countries. Citrus production also declined, bad weather diminishing production by 13 percent in Italy and 10 percent in Spain. Olive oil output was only slightly below the record level of the previous year. The supply of vegetables increased heavily in most parts of the region.

The rapid increase in milk production continued in 1960/61. The wet summer of 1960 brought ample feed supplies, and most countries except Sweden reported more cows than in the previous year at their 1960/61 censuses. As the demand for liquid milk rose little, more milk became available for manufacture, in particular of butter, of which 1960 production was 11 percent more than in 1959. Egg production expanded sharply in Western Germany but was reduced in several other countries. The production of poultry meat continued to increase very rapidly, and " broiler " numbers doubled in both Denmark and the United Kingdom during the course of 1960. There have been further substantial increases in cattle numbers and in the output of beef and veal. Pig numbers and pigmeat production also rose in most countries, with the major exception of the United Kingdom.

Eastern Europe and the U.S.S.R.

Agricultural production in eastern Europe and the U.S.S.R. is estimated to have declined by about 1 percent in 1960/61. In most of the eastern European countries the slowly rising trend appears to have continued. In the U.S.S.R., however, where there had earlier been large increases, especially in the period 1953/54 to 1956/57, production fell slightly in 1960/61, mainly because the output of livestock products failed to maintain the high level reached in the previous year.

Bad weather was widespread in the U.S.S.R. in 1960/61, with prolonged frosts and dust storms in the central and southern zones and a cold summer in Kazakhstan. Crop production nevertheless increased slightly. Grain production rose by 7.3 million tons to reach 133.2 million tons in 1960/61, though this must be compared with the year's target of 152 million tons. Maize production increased, but wheat harvests fell for the second year in succession. Cotton output declined, in spite of a larger area, and there was also a drop in potato production. Sugar beet, the production of which improved substantially, was the only major crop for which the annual target was exceeded in 1960/61. Soviet meat production, which had jumped from 7.7 million tons in 1958 to 8.8 million tons in 1959, was slightly below the latter figure in 1960, as a result of a sharp reduction in output toward the end of the year. While pig numbers continued to increase rapidly in 1960, cattle rose only slightly and sheep declined. Milk output also was lower in 1960, continuing to increase rapidly at the beginning of the year but falling considerably later. Poultry fared better than the rest of the livestock sector in 1960, and egg production, of which about 80 percent is from privately-owned birds, rose by 3 percent to slightly more than the planned target.

Most of the eastern European countries also experienced bad weather at some time during the sowing or harvesting period, and except in Poland the increase in agricultural production in 1960/61 was less than had been planned. Sugar beet harvests were at record levels almost everywhere, however, and for eastern Europe as a whole there was an increase of nearly 45 percent over 1959/60, though in some countries this mainly represented a recovery from low production in that year. Grain production fell slightly, with favorable harvests in Czechoslovakia and Eastern Germany, and lower production in Hungary and Romania. Some crops of which 1960/61 harvests were particularly large include potatoes in Eastern Germany, and sunflowerseed, cotton and tomatoes in Bulgaria. Livestock production increased slightly in 1960, but in most countries the rate of increase was not regarded as satisfactory, and in Bulgaria there was a decline. Poland's meat supply difficulties of 1959 were largely overcome during 1960, and pig numbers rose by 12 percent.

North America

Agricultural production in North America in 1960/61 was about 1 percent above the record level of the previous season. Livestock production is estimated to have fallen slightly in 1960, and the main increase was in the output of wheat.

In the United States, production rose by about 2 percent in the calendar year 1960, to reach a new record. The wheat harvest recovered by more than one fifth from the low level of 1959/60, but was still about 7 percent less than in 1958/59. Groundnuts and linseed also recovered sharply, though they too remained below the levels of earlier years. Coarse grain production, which has recently expanded very rapidly, changed little in 1960/61.

Cotton production was fractionally lower than in 1959/60, when it had increased very sharply. The three-year build up in cattle numbers appeared to be easing off, with an increase of only 1 percent in 1960; during this build-up period slaughterings had been reduced, but in 1960 there was a substantial increase in beef and veal production. The production of pigmeat, eggs and milk declined.

Canada's agricultural production increased by 8 percent in 1960, largely because of a rise of 18 percent in wheat production. The barley harvest was about 8 percent less than in 1959/60, but there were substantial increases in the production of oats, tobacco, rapeseed and linseed. Milk production expanded in 1960, though the output of pigmeat and also of eggs was reduced.

Oceania

With a very large increase in grain output, food production is estimated to have risen by as much as 6 percent in Oceania in 1960/61. Because of a smaller wool clip, however, the increase in total agricultural production was limited to about 2 percent.

Australia's wheat harvest was 13 percent more than in 1959/60, while barley production almost doubled and the production of oats also increased sharply. Mainly as a result of droughts in some parts of the country, the production of wool, beef and veal, and milk declined. In New Zealand, there was a slight increase in the wool clip in 1960, and the output of milk and of mutton and lamb was also higher.

Latin America

Preliminary estimates indicate that agricultural production in Latin America fell by about 2 percent in 1960/61 to approximately the same level as in 1958/59. For food products the decline was smaller but was for the second year in succession. Bad weather was widespread in 1960/61, especially in Argentina, Brazil, Haiti, Mexico, Nicaragua, and southeast Peru.

The region's total grain production declined slightly in 1960/61. Wheat production fell by more than 30 percent in Argentina, though there were increases in Brazil and Chile, the other main producers. Argentina's production of rye and barley also fell sharply, though its maize production increased, and for the region as a whole both maize and rice production were more than in 1959/60. Other crops of which the region's production increased quite substantially in 1960/61 include groundnuts, soybeans and cotton. Cuba harvested considerably more sugar than in 1959/60. The production of linseed was lower, with a sharp reduction in Argentina, and citrus fruit and banana output also declined. The sharpest declines of all were in cocoa and coffee production in Brazil, both of which dropped by around 30 percent from the record levels of 1959/60. There was a further increase in cocoa output in Ecuador in 1960/61, and Colombia's coffee production showed little change.

In contrast to the fall in total crop production, there appears to have been a small rise in livestock production in 1960. The main increases seem to have been in mutton and lamb and pigmeat, but beef and veal output also rose slightly, a further moderate reduction in Argentina being offset by increases in Uruguay and some other countries. Wool production was fractionally higher than in 1959.

Far East

Agricultural production in the Far East (excluding Mainland China) expanded by a further 3 percent in 1960/61, bringing the total increase since 1957/58 to about 11 percent. Although most of the main commodities have contributed to this increase, especially in 1960/61 a large part has come from higher grain production. As already noted, the expansion in 1960/61 finally, after two decades, took per caput food production back to the prewar level.

Food grain harvests were good almost throughout the region in 1960/61, the main exception being Mainland China, which is discussed separately below. India's foodgrain production reached a record of about 76 million tons, though even this was below the plan target of 80 million tons. Japan had its sixth successive heavy crop of rice. The region's production of sugar rose substantially, and the output of copra and cotton recovered sharply from the poor harvests of the year before.

The jute crop in Pakistan was some 7 percent larger than in 1959/60, but in India there was a drop of 12 percent. Tea production also fell sharply in India as a result of droughts in the northeast. The region's rubber production was somewhat lower because of a considerable reduction in Indonesia. Little reliable information is available on livestock production, though there seems to have been a drop in 1960 in Japan's meat production, which had increased rapidly in the previous few years.

Mainland China's agricultural production suffered a disastrous setback in 1960, when apparently more than half of the total farmland was affected by severe drought, typhoons, floods, insect infestation or other damage. Production figures have not been announced, but it is clear that the " grain " target of 275 million tons (including potatoes, sweet potatoes, and pulses) was far from reached and that production was much less than in 1959, which was already a bad year. Although widespread famine appears to have been averted, possibly as a result of stocks remaining from the bumper 1958 harvests, there were famine conditions in many areas and very great hardship almost everywhere. Indications of the severity of the situation include the progressive reduction of the grain ration since July 1960, the lifting of all restrictions on the receipt of food parcels from abroad, and massive imports of food grains from early 1961.

Near East

As in the previous season, the increase in agricultural production in the Near East in 1960/61 is estimated to have been no more than about 1 percent. Grain production failed to increase, and most of the slight rise in the region's agricultural production came from a further expansion of cotton production.

For the third successive season there were serious droughts in Iraq, Israel, Jordan and the United Arab Republic (Syrian Region), and in 1960/61 these drought conditions extended to parts of Iran as well. The United Arab Republic (Egyptian Region) and also Turkey had good harvests, however, except for a slight reduction in rice output in the former, so that the region's total production of most grain crops fell only slightly and that of barley and maize increased. The rapid expansion of sugar production was temporarily halted, production declining by about 15 percent. Cotton production rose by a further 4 percent, most producing countries sharing in the increase. The slow rise in the region's small output of livestock products appears to have continued in 1960. Outbreaks of African horse sickness caused losses in the horse populations of many countries of the Near East during 1960/61.

Africa

Agricultural production in Africa is provisionally estimated to have risen by only about 1 percent in 1960/61, so that per caput production appears to have fallen and for food products to have gone slightly below the prewar level. The small increase in total production was almost entirely in crops grown mainly for export, especially olive oil, cocoa and coffee. The output of most basic food crops, of which, however, statistics are particularly poor, appears to have declined or stagnated.

The region's production of grains is estimated to have fallen slightly in 1960/61. For the past four seasons, in fact, grain production has remained below the level of 1956/57, and even in that year production was only a fraction more than in the previous peak year of 1954/55. In 1960/61 grain production in northwest Africa was approximately at the low level of the year before. South of the Sahara, drought in Kenya sharply reduced the maize crop, causing famine conditions in some areas. In the rest of East Africa the effects of the drought were less severe, but some food products were in short supply in Uganda and there were crop failures in parts of Tanganyika. Apart from production failures, for a short time in late 1960 and early 1961 the disorganization resulting from political disturbances caused famine in parts of the Congo (Leopoldville). In South Africa, wheat production was reduced, though maize production rose by 14 percent to surpass the 1956/57 record. The region's sugar production declined, owing to the loss of almost half of the crop in Mauritius through cyclone damage.

On the other hand, there was a further jump of about one quarter in cocoa production, towards which almost all producing countries contributed. Coffee production continued its rapid increase with a rise of nearly 10 percent. The two-year cycle in olive oil production in northwest Africa brought a rise of 85 percent in 1960/61. The output of groundnuts and of oil palm produce showed some increase. Statistics of the livestock sector are rudimentary, but once again there seems to have been only a very small increase in livestock production in 1960.

Main agricultural commodities

Summaries of the commodity situation are omitted this year from *The state of food and agriculture*, in view of the separate publication of the first of a series of annual commodity reviews.[2] The main commodities are therefore treated in more detail than usual in the body of the chapter, and a final section includes a brief account of commodity prospects.

World production (excluding the U.S.S.R., eastern Europe and Mainland China) increased substantially for comparatively few products in 1960/61. Apart from sharp recoveries in the production of apples, copra and oats, only sugar, cocoa, olive oil and rice, among the principal commodities, showed increases of more than 5 percent, according to preliminary estimates. The output of wheat, barley, cotton and soybeans rose by 4-5 percent. For bananas, coffee and tea there were sharp falls in production in 1960/61, and the production of citrus fruit, wine, jute, rubber, wool and eggs was also lower than in 1959/60 (Figure II-2 and Annex Table 2-A).

World wheat production, which had fallen in the previous season, is estimated to have risen by about 4 percent in 1960/61. Much larger harvests in three of the major exporting countries (United States, Canada and Australia) more than offset lower production in Argentina and a number of important producers in western Europe and the Near East. The increase in rice production in 1960/61 was probably as much as 6 percent, with large crops in India, Japan, Pakistan and a number of smaller producing countries.

There was a further small rise in the total production of coarse grains. The biggest increase was in oats, which recovered from the small crop of 1959/60. Barley production recovered sharply in Australia, and also rose substantially in France, Western Germany and Turkey, but harvests were lower in Argentina and Canada. United States maize production increased much less than in the last two years, and sorghum production rose only slightly.

The below-average increase in sugar production in 1959/60 was followed by a particularly large expansion in 1960/61. The biggest increases were in western Europe. Brazil, Cuba, India and Turkey also had much larger crops, but in Mauritius there was an abrupt decline as a result of cyclone damage.

Apples and pears were almost the only major fruit crops to register an increase in 1960/61, western European production recovering very steeply from the low level of 1959/60. The rapid increase in the production of citrus fruit was temporarily halted, and harvests are estimated to have fallen slightly in 1960/61. The production of bananas and also of raisins appears to have been sharply reduced, while wine output was below the record level of 1959/60.

The production of vegetable oils and oilseeds recovered in 1960/61. Although copra production in the Philippines and other Far Eastern countries rose well above the drought-affected levels of the last two years, it remained lower than the previous peak. Olive oil output rose sharply, Greece being the only major producer to have an "off-year". There was also an increase in soybean production, while groundnut production rose sharply in Nigeria and Senegal, the two main exporters.

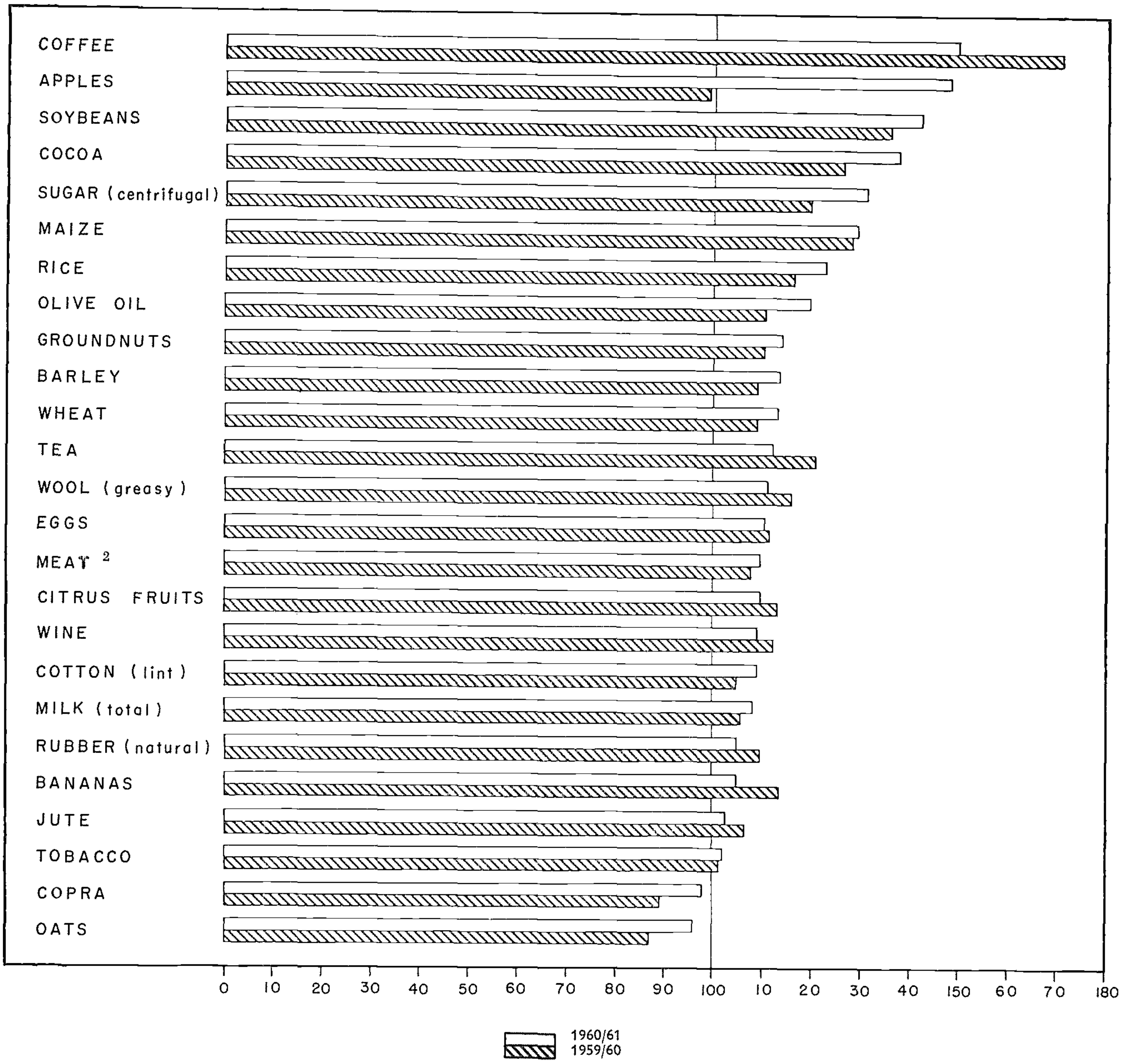
Total milk production is estimated to have increased by about 2 percent in 1960. The rise was particularly marked in the more developed countries, where it could not be absorbed by increased liquid consumption alone, so that the output of butter and other manufactured products increased sharply. Meat production also rose by about 2 percent. The increase was mainly in the production of beef and veal in the United States and western Europe, and the total output of pigmeat, which in the last few years has expanded faster than other categories of meat, was somewhat lower in 1960. Egg production is also estimated to have declined slightly, mainly in North America and western Europe.

Some of the biggest changes in production in 1960/61, as compared with the previous year, were for cocoa and coffee. Cocoa production rose by 9 percent, and has now registered an increase of 44 percent since the rapid expansion of production got under way in 1958/59. Production increased by about one third in Ghana and Nigeria in 1960/61, but Brazil's crop declined by one quarter because of adverse weather. The rapid increase in coffee production, on the other hand, was interrupted, and the world crop fell by about 12 percent, almost entirely because of a reduction of 30 percent in Brazil. Tea production also fell, mainly as a result of drought in north India and Pakistan. Tobacco production hardly changed in 1960/61.

The production of cotton is estimated to have risen by a further 4 percent in 1960/61; there were large increases in Mexico and the United Arab Republic (Egyptian Region), but in the United States the crop was a little lower than in 1959/60. A slight

[2] *FAO commodity review 1961*, FAO, Rome, May 1961.

FIGURE II-2. - WORLD[1] PRODUCTION OF MAJOR COMMODITIES, 1959/60 AND 1960/61
(Indices, average 1953/54 - 1957/58 = 100)



[1] Excluding U.S.S.R., eastern Europe and Mainland China. - [2] Beef and veal, mutton and lamb, pork.

decline in wool output in 1960/61 resulted mainly from drought in parts of Australia and South Africa. Jute production also fell slightly because of a smaller crop in India. The production of hard fibers in 1960 was at about the same level as in 1959; abaca production declined slightly with the closing down of all Central American plantations, but there was some increase in East African sisal production and in the output of henequen in Cuba and Mexico. Natural rubber production was lower than in 1959, chiefly because of a sharp drop in smallholders' output in Indonesia.

It should be repeated that the above discussion of the production of the main commodities in 1960/61 excludes the U.S.S.R., eastern Europe and Mainland China. The production of a number of commodities in the world as a whole, especially grains and oilseeds, was sharply affected by the decline in total agricultural output in these regions, and above all in Mainland China, in 1960/61.

Figure II-2 also enables a comparison (again for the world excluding the U.S.S.R., eastern Europe and Mainland China) of the production of the main commodities in 1959/60 and 1960/61 with the average level in 1953-57. Except for apples, the production of which fluctuates especially sharply from year to year, the most rapid expansions of production from 1953-57 to 1960/61 have been in coffee, soybeans, cocoa, sugar, maize and rice. Between 1953-57 and 1959/60, the record year, coffee production registered a remarkable rise of no less than 70 percent, and in Brazil, the world's largest producer, the increase was still greater. Coffee is a commodity that not many years ago was relatively scarce, but the case of cocoa is even more striking. Production, especially in Ghana and Nigeria, had for a long time stagnated at scarcely more than the prewar level, but there has now been a very substantial increase in each of the last three seasons in these and other African producing countries, so that the 1960/61 output was more than one third greater than in 1953-57. The main causes are more effective disease control, and the new planting that took place during the years of very high prices.

Sugar production has expanded rapidly throughout the postwar period, but there has been a considerable acceleration in the last few years, especially in the Far East and Near East. A very large part of the rise in maize production since 1953-57 has been in the United States, though it should be noted that the production statistics are very unreliable in most of the less developed countries where maize is a staple food. For rice, on the other hand, there has been little change in the small production in the more developed regions and an encouraging expansion in the Far East (excluding Mainland China).

Oats and copra are the major crops where production fell since 1953-57. There has been a tendency for the replacement of oats by barley in France and a number of other countries. The production of tobacco, jute, bananas and rubber has expanded only slowly since 1953-57. Tobacco production has changed little in the United States and other more developed producing countries, and the small increase has been almost entirely in the less developed regions. The demand for both jute and rubber has been affected by the development of substitutes.

Fishery production

The upward trend of fish production continued in 1960. According to preliminary estimates the world catch rose to about 37.5 million tons, or some 6 percent more than in 1959 (Table II-3 and Annex Table 11).

A large part of the expansion in the world catch was again in Peru, where there was an increase of more than three-quarters to over 3.5 million tons in 1960. This figure was exceeded only in Japan and Mainland China, so that Peru, whose catch was less than half a million tons as recently as 1957, is now the third largest fish producer in the world. The rapid increase in production is reported to have continued in the U.S.S.R. and in Japan, where fish production is estimated to have reached 6 million tons in 1960 for the first time.

In a number of important fisheries of western Europe and North America, on the other hand, catches were smaller in 1960. In western Europe this was primarily because of reduced abundance of fish in traditional fishing areas in the North Sea

Table II-3. - Estimated world catch of fish, crustaceans, and mollusks

	1938	Average 1948-52	1953	1954	1955	1956	1957	1958	1959	1960 (Prelim.)
	Million metric tons, live weight									
Western Europe	5.44	6.19	6.77	7.24	7.35	7.77	7.33	7.18	7.5	7.3
Eastern Europe and U.S.S.R.	1.70	1.99	2.28	2.58	2.84	2.99	2.94	3.04	3.2	3.2
North America	3.15	3.60	3.62	3.83	3.78	4.12	3.79	3.75	4.0	4.0
Oceania	0.09	0.09	0.11	0.11	0.11	0.12	0.13	0.13	0.1	0.1
Latin America	0.24	0.50	0.73	0.80	0.97	1.08	1.33	1.83	3.0	4.5
Far East	9.10	7.42	9.78	10.46	11.29	11.62	13.06	13.93	15.5	16.0
Near East	0.33	0.38	0.43	0.43	0.41	0.44	0.43	0.43	0.4	0.4
Africa	0.45	1.03	1.52	1.56	1.60	1.71	1.82	1.81	1.9	2.0
World total	20.50	21.20	25.24	27.01	28.35	29.85	30.83	32.10	35.6	37.5

and the waters off the United Kingdom and Iceland. The herring fishery, in particular, was a failure in 1960. Western Germany's deep sea and coastal herring fishery yielded about 30 percent less than in 1959. Decreased landings in Iceland, Norway and the United Kingdom were also primarily because of a reduction in the herring catch, but other species too were less abundant than the year before, including cod in Norway and redfish in Iceland.

In both the United States and Canada, landings were lower than in 1959, though the reduction in the United States was slight compared with the fall of almost 15 percent in Canada. Catches used exclusively for fish meal production were lower on the Atlantic and Pacific coasts of North America, chiefly because of marketing difficulties for fish meal. The Californian tuna fishery recovered, however, reflecting the gradual changeover from long-lining to purse-seining. The United States shrimp fisheries did well in the principal producing region of the South Atlantic and Gulf area, but there was a decline in northwest Pacific waters. In Canada's Atlantic coast fisheries, larger landings of lobster, redfish and herring more than offset the lower landings in the cod and haddock fisheries. On the Pacific coast, however, catches dropped by almost 50 percent, as a result of the lowest salmon landings on record and reduced herring production.

While in western Europe and North America the proportion of catches used for human consumption was somewhat higher in 1960 than in 1959, the outstanding feature of the increase in world production was again the spectacular advance in fish meal production in Peru. With a rise in production from 332,000 tons in 1959 to 570,000 tons in 1960, Peru became the world's largest producer of fish meal. Among other major producers, only South Africa, Japan, Spain and Chile increased production in 1960, and a number of countries curtailed their output of fish meal in view of the sharp drop in prices.

Salted cod production, which had been on the decline for the past three years, increased in 1960. The production of salted herrings was lower, however, in Norway and Western Germany because of the poor results in the herring fisheries. Canning operations were affected to some extent by the lower production in the salmon fisheries off the northwest coast of America, as well as in the European herring fisheries.

Forestry production

World roundwood removals are estimated to have increased by about 3 percent in 1960 to 1,770 million cubic meters (Table II-4). Fuelwood production appears to have remained relatively stable, but a 5 percent increase is estimated to have taken industrial wood production above 1,000 million cubic meters for the first time.

Table II-4. - Estimated world roundwood removals and production of forest products

	Average 1948-52	1953	1954	1955	1956	1957	1958	1959	1960 (Prelim.)
	Million cubic meters								
Roundwood removals									
Total industrial wood	730	774	839	908	939	930	935	990	1 040
Fuelwood	711	697	714	723	730	740	728	730	730
Total removals	1,441	1,471	1,553	1,631	1,669	1,670	1,663	1,720	1,770
Production of forest products									
Sawnwood	240.1	267.7	275.3	296.9	295.9	290.7	301.9	314.2	321.3
Plywood	5.9	8.3	9.0	10.8	11.3	11.7	12.9	14.6	15.2
	Million metric tons								
Fiberboard	2.0	2.4	2.9	3.2	3.3	3.4	3.6	4.0	4.3
Wood pulp	33.1	39.1	42.4	46.6	49.8	50.3	50.2	55.2	57.4
Newsprint	8.6	9.8	10.4	11.2	12.0	12.3	12.1	13.1	14.0
Other paper and board	32.6	38.5	40.8	45.7	48.2	49.2	50.6	56.0	58.0

The strong demand brought substantial increases in fellings in western Europe and the U.S.S.R., though in eastern Europe fellings were held below peak levels in order to avoid overcutting. In North America, after an increase of 9 percent in roundwood production in 1959, a weakening market kept 1960 production to about the same level. Pulpwood production, however, increased by a further 10 percent in North America in 1960. The demand for tropical woods in Europe brought increased log production in Africa, including a greater output of lesser-known species. There was little change in roundwood production in Latin America, but some increase in the Far East and Near East.

For sawnwood, also, the greatest increases in production in 1960 were in Europe and the U.S.S.R. European sawnwood production reached capacity, and in the U.S.S.R. production has now doubled in the course of a decade. In North America, however, sawnwood output fell as a result of the lower activity in the construction and packaging industries. In Africa, in spite of a considerable increase in South Africa, sawnwood production declined slightly in 1960.

World pulpwood production is estimated to have increased by a further 5 percent in 1960. By the end of the year pulp mills in western Europe were operating close to capacity, and in view of expected shortages of coniferous pulpwood increasing attention was being given to broadleaved species. Production continued to increase in North America. In the Far East, Latin America, Oceania and to a smaller extent Africa, new pulping capacity came into production in 1960, many of the new mills being designed to use nonwood fibrous material, including bagasse, esparto grass, bamboo, rice straw and reeds.

Newsprint production, which hardly changed from 1955 to 1958, rose by about a million tons in each of the past two years. The expansion in 1960 was mostly in Europe and North America. Capacity was almost fully utilized in western Europe, and newsprint production continued to increase in North America at a time when demand for other kinds of paper showed a much weaker growth. Other paper and board is somewhat more sensitive to economic fluctuations than newsprint and was therefore more adversely affected by the North American recession of 1960. The advance of 2 million tons in world output was much less than the 5.4 million tons recorded in the previous year.

The production of plywood continued to increase, though more slowly than before. North American production rose by about 3 percent for the year as a whole, but there were production cutbacks in the second half of 1960 and by the end of the year the industry was operating at less than half of its installed capacity. Plywood manufacture in western Europe was stimulated by high levels of construction and furniture manufacture, but in spite of its growing use, the ratio of plywood used per unit of sawn softwood in western Europe is less than half that in North America. Fiberboard production also rose in 1960, though most of the increase was in western Europe, as a result of the increase in construction, and North American output fell slightly. The particle board industry, the newest major forest industry, continued its rapid expansion, especially in Western Germany, the largest producer, where production reached 850,000 tons, as compared with only 28,000 tons a decade ago.

Changes in stocks

Stocks of many agricultural products continued to increase in 1960/61. There were particularly large increases in the stocks of coarse grains, butter and sugar. Wheat stocks rose again, after remaining comparatively stable the previous season, and coffee stocks increased substantially, although the large expansion of 1959/60 was not repeated (Table II-5).

The unsold stocks still consist mainly of temperate zone products, the output of which has increased rapidly under the influence of technical improvements and price support policies. In the last few years, however, the tendency for stocks to accumulate has spread to certain tropical tree crops, whose production has increased sharply as a result of extensive new plantings in earlier years of high prices, together with the use of higher-yielding varieties and improved disease control and other cultivation methods. Coffee was the first product to be so affected, and it now appears that plantings of cocoa, which until a few years ago was considered a potentially scarce product, have expanded to the point

TABLE II-5. ESTIMATED STOCKS OF MAJOR AGRICULTURAL AND FOREST PRODUCTS

	Month	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961 (Forecast)
		Million metric tons									
WHEAT											
United States	1 July	7.0	16.5	25.4	28.2	28.1	24.7	24.0	35.2	35.7	38.4
Canada	1 Aug.	5.9	10.4	16.8	14.6	15.8	19.9	17.4	14.9	14.6	14.5
Argentina	1 Dec.	0.1	2.0	1.6	2.4	1.2	1.6	1.5	1.4	1.2	0.5
Australia	1 Dec.	0.5	1.0	2.6	2.6	2.4	1.1	0.4	1.7	1.6	1.6
Total 4 major exporters		13.5	29.9	46.4	47.8	47.5	47.3	43.3	53.2	53.1	55.1
RICE (milled equivalent)											
Asian exporters [1]	31 Dec.	0.7	1.4	1.6	0.8	0.5	0.6	0.5	0.5	0.3	0.6
United States	31 July	0.1	—	0.2	0.8	1.1	0.6	0.6	0.5	0.4	0.2
Total of above		0.8	1.4	1.8	1.6	1.6	1.2	1.1	1.0	0.7	0.8
COARSE GRAINS [2]											
United States	1 July [3]	18.5	24.7	29.4	37.3	39.3	44.4	53.5	61.4	68.0	77.5
Canada	1 Aug.	3.6	5.1	5.6	3.7	4.3	6.6	5.0	4.8	4.2	3.7
Total 2 major exporters		22.1	29.8	35.0	41.0	43.6	51.0	58.5	66.2	72.2	81.2
BUTTER											
United States		0.03	0.13	0.17	0.07	0.01	0.04	0.03	0.01	0.03	...
Canada		0.02	0.03	0.04	0.05	0.04	0.03	0.04	0.05	0.05	...
European countries [4]		0.04	0.06	0.05	0.04	0.10	0.12	0.08	0.06	0.12	...
Australia and New Zealand		0.05	0.05	0.06	0.06	0.05	0.06	0.06	0.05	0.07	...
Total of above	31 Dec.	0.14	0.27	0.32	0.22	0.20	0.25	0.21	0.17	0.27	...
CHEESE											
United States	31 Dec.	0.11	0.20	0.25	0.24	0.20	0.19	0.13	0.14	0.15	...
CONDENSED AND EVAPORATED MILK											
United States	31 Dec.	0.18	0.12	0.10	0.10	0.11	0.10	0.09	0.10	0.10	...
DRIED SKIM MILK											
United States [5]	31 Dec.	0.08	0.23	0.06	0.04	0.04	0.05	0.06	0.04	0.14	...
LINSEED AND OIL (oil equivalent)											
United States	1 July	0.41	0.38	0.29	0.17	0.10	0.22	0.13	0.18	0.07	...
Argentina	1 Dec.	0.30	0.23	0.08	0.03	0.06	0.06	0.06	0.04	0.10	...
Total of above		0.71	0.61	0.37	0.20	0.16	0.28	0.19	0.22	0.17	...
LIQUID EDIBLE VEGETABLE OILS AND OILSEEDS (oil equivalent)											
United States	1 Oct. [6]	0.24	0.63	0.52	0.35	0.29	0.29	0.35	0.57	0.40	0.30
SUGAR (raw value)											
Cuba	31 Dec.	2.2	1.5	1.9	1.6	0.6	0.7	0.5	1.2	1.1	...
World total	31 Aug.	11.0	10.2	11.8	11.4	10.4	9.9	9.5	12.5	13.6	17.6
COFFEE											
Brazil		0.18	0.20	0.20	0.20	0.63	0.44	0.85	1.45	2.66	...
Total [7]	30 June	0.53	0.51	0.49	0.38	0.84	0.69	1.17	1.85	3.25	3.5–3.6

(continued on next page)

TABLE II-5. ESTIMATED STOCKS OF MAJOR AGRICULTURAL AND FOREST PRODUCTS (*concluded*)

	Month	1952	1953	1954	1955	1956	1957	1958	1959	1960	1961 (Forecast)
		Million metric tons									
TOBACCO (farm weight)											
United States	1 Oct.[8]	1.56	1.66	1.69	1.83	1.89	2.00	1.89	1.81	1.74	1.73
COTTON (lint)											
United States		0.60	1.22	2.11	2.43	3.14	2.47	1.89	1.93	1.63	1.63
Other net exporters		1.00	1.08	0.78	0.80	0.56	0.65	0.85	0.76	0.67	...
Importers		1.34	1.21	1.26	1.26	1.08	1.30	1.32	1.14	1.28	...
World total[9]	31 July	2.94	3.51	4.15	4.49	4.78	4.42	4.07	3.83	3.58	3.69
NATURAL RUBBER											
World total[10]	31 Dec.	0.73	0.72	0.73	0.76	0.74	0.76	0.75	0.70	0.76	...
NEWSPRINT											
North America[11]	31 Dec.	0.89	0.80	0.77	0.69	0.92	0.92	0.99	0.98	0.96	...
		Million cubic meters									
SAWN SOFTWOOD											
European importers[12]	31 Dec.	5.74	6.19	5.10	6.10	5.32	5.63	5.42	5.17	6.25	...
European exporters[13]	31 Dec.	4.31	3.63	4.05	4.50	4.26	3.75	4.42	3.90	3.80	...
North America	31 Dec.	14.25	16.05	14.60	14.79	16.84	16.42	15.66	16.10	18.00	...
SAWN HARDWOOD											
European importers[14]	31 Dec.	1.29	1.13	1.06	1.22	1.29	1.24	1.25	1.19	1.26	...
European exporters[15]	31 Dec.	0.31	0.28	0.27	0.32	0.47	0.45	0.41	0.39	0.38	...
North America	31 Dec.	7.90	7.90	9.54	7.85	8.76	8.64	8.53	9.21	9.42	...

NOTE: Quantities shown include normal carry-over stocks.
[1] Excluding Mainland China. - [2] Barley, oats, maize, sorghum and rye. - [3] Maize and sorghum, 1 October. - [4] Austria, Belgium, Finland, Western Germany, Ireland, Netherlands, Norway, Sweden, Switzerland, United Kingdom, and (from 1957) France. - [5] Manufacturers' stocks and CCC uncommitted supplies. - [6] Cottonseed, 1 August. - [7] Including also Colombia, Ivory Coast, Uganda and United States. - [8] Flue-cured types, 1 July. - [9] Excluding the U.S.S.R., eastern Europe and Mainland China, and including estimates of cotton afloat. - [10] Including estimates of rubber afloat, but excluding strategic stockpiles. - [11] United States and Canadian mills and United States consumers. - [12] Belgium-Luxembourg, Denmark, Western Germany, Netherlands, Switzerland, United Kingdom. - [13] Austria, Norway, Sweden, Yugoslavia. - [14] Belgium-Luxembourg, Western Germany, United Kingdom. - [15] Austria and Yugoslavia.

where consumption, although rising, is lagging behind production.

The wheat stocks of the four major exporting countries are expected to have increased by about 4 percent to a new record level by the end of the 1960/61 season. With increased exports, including substantial shipments to Mainland China, Canada and Australia should end the year with their stocks unchanged, in spite of large 1960/61 crops. In Argentina, a small crop may bring a sharp fall in the level of stocks. The stocks in the United States, however, where the harvest was the second largest on record, are expected to rise by another 2.7 million tons.

United States stocks of coarse grains, which have increased by an average of some 6-7 million tons a year over the past decade, are likely to have risen by almost 10 million tons during 1960/61. Maize and grain sorghum again account for almost all of the additional carry-over. Although, in relation to both production and domestic consumption, the stocks of coarse grains are less heavy than those of wheat, they bulk much larger in relation to the comparatively small international trade in coarse grains. Their disposal in international markets is also rendered more difficult by the fact that 80 percent of all exports of coarse grains go to western Europe, where production is rising.

The chronic tendency of dairy production in the more developed countries to exceed consumption at current prices, which had been temporarily halted in 1959 by the effects of drought in Europe, reasserted itself in 1960. Most of the additional milk production was converted into butter, and butter stocks rose steeply in all main producing countries, particularly in western Europe, where they doubled during 1960. United States Government stocks of dried skim milk, which had been temporarily exhausted in 1959, increased again in 1960, and donations from them were resumed in April 1960. By the end of 1960, the total stocks of dried skim milk (commercial and government) held in the United States had reached their highest level since 1953.

The interruption of the trade between Cuba and the United States in 1960 was followed by a substantial increase in imports of sugar from Cuba by the U.S.S.R. and Mainland China. There was, however, a large excess of world production over consumption in 1960/61, and it is estimated that world sugar stocks will have increased by nearly 30 percent by the end of the season.

Coffee production has now reached so high a level that stocks continued to accumulate even though the 1960/61 world crop was nearly one sixth lower than that of 1959/60. The regulation of exports by quotas under the International Coffee Agreement has succeeded in avoiding a collapse of the market, but at some 3.5-3.6 million tons, the carry-over is now well in excess of the annual world consumption. In 1960/61, moreover, for the first time since the war, stocks of coffee were beginning to accumulate also in the *Robusta* producing countries of Africa.

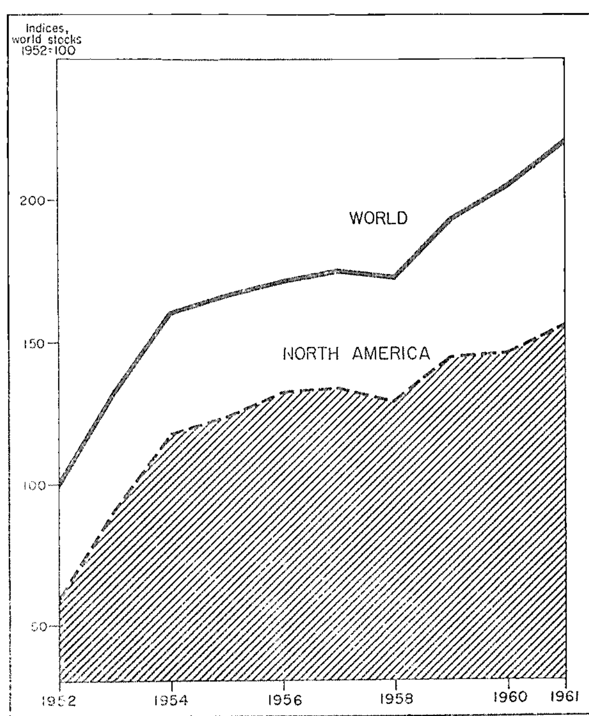
Cocoa consumption had by 1960 recovered from the adverse effects of the high prices in 1957-58, and the continuing fall in prices induced a further rise in 1961. Production has, however, risen very rapidly over the past three seasons, and the 1960/61 crop is estimated to have exceeded the grindings in 1961 by some 150-170,000 tons. There are no reliable statistics of stocks of cocoa beans, but stocks in importing countries have risen and manufacturers' stocks in the main consuming countries may be estimated to have reached at least four months' consumption requirements by the end of 1960.

Cotton stocks have now fallen to what may be considered normal proportions (6-7 months' consumption), though they are still unevenly distributed among the principal exporting and importing countries, with the result that there are local surpluses and shortages.

For forest products, the demand for sawnwood was lower in North America in 1960, reflecting the reduced level of economic activity, and total stocks of sawnwood in the United States rose by 7 percent. Markets were also unfavorable for Canadian producers, in spite of increased exports to Europe, and mill inventories increased to the point where there were some reductions in production. In Europe, with softwood trading at high levels, stocks in exporting countries fell, and by the end of the year importers had large stocks of sawn softwood on hand. Hardwood stocks were on the high side in both exporting and importing countries in Europe.

Figure II-3, based on a price-weighted index of all the stocks (except forest products) included in Table II-5, gives a rough indication of the overall world stock situation. It appears that the increase in 1960/61 was slightly larger than the year before, and that world stocks are now more than twice as great as in 1952, which was approximately the beginning of the postwar accumulation of surpluses. With the rise in stocks of butter in western Europe and of coffee in producing countries in the less developed regions, there has been some reduction in the proportion of total stocks located in North America, but it is estimated that this proportion is still about 70 percent. In the United States, the total value of stocks held by the Commodity Credit Corporation has hardly changed since the sharp increase of 1958/59, as decreased holdings of cotton and tobacco have offset the continued rise in grain stocks (Annex Table 12).

FIGURE II-3. - INDICES OF THE MAIN STOCKS OF AGRICULTURAL PRODUCTS IN THE WORLD AND IN NORTH AMERICA



NOTE: Indices based on stocks shown in Table II-5 only, and excluding forest products.

Economic activity and the demand for agricultural products

Recent trends in economic activity have diverged sharply as between North America and most of the other industrialized countries. In 1960 the two North American economies tended to be stagnant or in a mild recession, but in most countries of western Europe, as well as Japan, economic activity continued to expand rapidly. During the first half of 1961, however, the United States recession appeared to have run its course, while in some European countries there were signs that economic expansion was slowing down.

In the United States, the gross national product in 1960 was only about 3 percent (at constant prices) more than in 1959, when it had recovered by 7 percent. Industrial production, which after the 1957-58 recession had risen by 14 percent in 1959, fell gradually during 1960 and reached a bottom in the first quarter of 1961 at a level some 7 percent less than a year earlier. In April and May 1961 it was rising again. In spite of particularly severe unemployment (nearly 7 percent in March 1961), personal incomes have continued to increase with the help of emergency measures, and consumer expenditures have been maintained, though they have not risen since the first quarter of 1960. In Canada, industrial production has been nearly stagnant since early 1960, unemployment has risen, and the balance of payments has been under pressure. So far there have been no signs of a resumption of the earlier rate of economic expansion, but newly announced changes in economic policy are expected to boost industrial development and export trade.

In western Europe, the boom which followed the recession of 1957-58 continued through most of 1960. Total output of all goods and services in the region rose by 6 percent in 1960, as against 4.5 percent in 1959. The industrial production of the European Economic Community (EEC) increased by 12 percent, with rates as high as 15 percent in Italy and 14 percent in France. Rapid expansion was registered also in many countries of the European Free Trade Association (EFTA), but the unchanged industrial output in the United Kingdom since the second quarter of 1960 and in Denmark since the first quarter limited the total increase for the group to 6 percent. In the latter part of 1960 and the early months of 1961, signs appeared of a slowing down in the rate of expansion in western Europe. In some countries this reflected policies to reduce domestic demand so as to lessen the pressure on the balance of payments. The export demand was also leveling off, and in a number of countries there were increasing shortages of labor and high rates of capacity utilization in certain industries. In Japan, industrial production, which had already risen by nearly a quarter in 1959, increased by another 25 percent in 1960 and continued to rise rapidly in the first half of 1961.

Mainly as a result of these tendencies in the industrialized countries, the rapid expansion of world trade in evidence since the end of the previous recession leveled off in the second half of 1960. Nevertheless, the total for the year averaged about 10 percent more than in both 1959 and 1957. The value of imports into the United States actually fell in 1960, because of reduced quantities of certain raw materials and a smaller volume of imports of some manufactures. In western Europe, the value of imports, which had risen by more than one fifth between the first half of 1959 and the first half of 1960, increased only slightly from the first to the second half of 1960.

It was the primary producing countries who were mainly affected by the reduced growth of imports, and their exports fell somewhat between the first and the second half of 1960. As their imports at the same time remained at the high level reached in the first half of the year, many of these countries experienced balance of payments difficulties. In Australia, New Zealand and South Africa, the expansion of imports was the main reason for a deficit in the balance of trade, and in South Africa there was also a heavy net outflow of capital. Among the less developed primary producing countries, reductions in gold and foreign exchange holdings were particularly widespread in Latin America. The less developed sterling area countries generally fared somewhat better, though India's foreign exchange reserves fell sharply, particularly in the first half of 1960.

A substantial disequilibrium has emerged in the payments systems of some of the major trading nations. In the United States, where there have been substantial losses of gold, the resulting pressure for import restrictions and for the curtailment of foreign aid has been successfully resisted, but balance of payments considerations limited the possible range of antirecession measures and may thus have delayed or slowed down recovery. Other repercussions of balance of payments problems have been the modest revaluations of the deutschemark and the guilder, and a renewed emphasis on the need to widen the pool of countries providing financial aid to the less developed parts of the world. In the United Kingdom, the inflow of short-term funds obscured the effect on the balance of payments of the steep rise in imports in 1960, which was not met by a corresponding expansion in exports.

As with the recession of 1957-58, the slowing down in the growth of economic activity appears to have had little effect on the demand for foodstuffs. The available indices of retail food sales indicate no appreciable slackening in the rate of increase, and the import demand for foodstuffs has also generally remained strong. However, for a number of raw materials of agricultural origin and for some forest products, the slower expansion had quite substantial effects on the level of demand.

In North America, the reduced activity in motorcar manufacturing brought a decline in the total demand for rubber in 1960, while increased inroads from the synthetic product accentuated the effect on the consumption of natural rubber. In most western European countries, although the total consumption of rubber increased in 1960, the consumption of natural rubber generally fell or remained stationary. United States demand for low-grade henequen also fell off sharply with the decline in motorcar manufacturing, while purchases of abaca were affected by a lower demand for industrial ropes. The demand for wool declined in 1960 in the United States, Canada and the United Kingdom, but consumption increased substantially in Japan and the EEC. For cotton the demand appears generally to have been well maintained, though United States consumption in 1960/61 is likely to have been about 10 percent less than in 1959/60.

For forest products also, such reductions in demand as took place were mainly in the United States, where the tapering off in building construction had an adverse effect on the lumber market and caused a fall of 4 percent in sawnwood production in 1960. In the U.S.S.R., however, residential construction rose by as much as 15 percent. Construction generally remained at a high level in western Europe in 1960, though the rapid expansion of 1959 in the building trades lost some of its force. Also in western Europe, the demand for furniture and thus for hardwoods was brisk. The demand for wood-based packaging materials increased further in Europe, but in North America the trend away from sawnwood as a packaging material, as well as for furnishing, continued. In western Europe the rapidly increasing popularity of self-service food stores has contributed to a continued rise in the demand for packaging grades of paper and board.

Food supplies and consumption

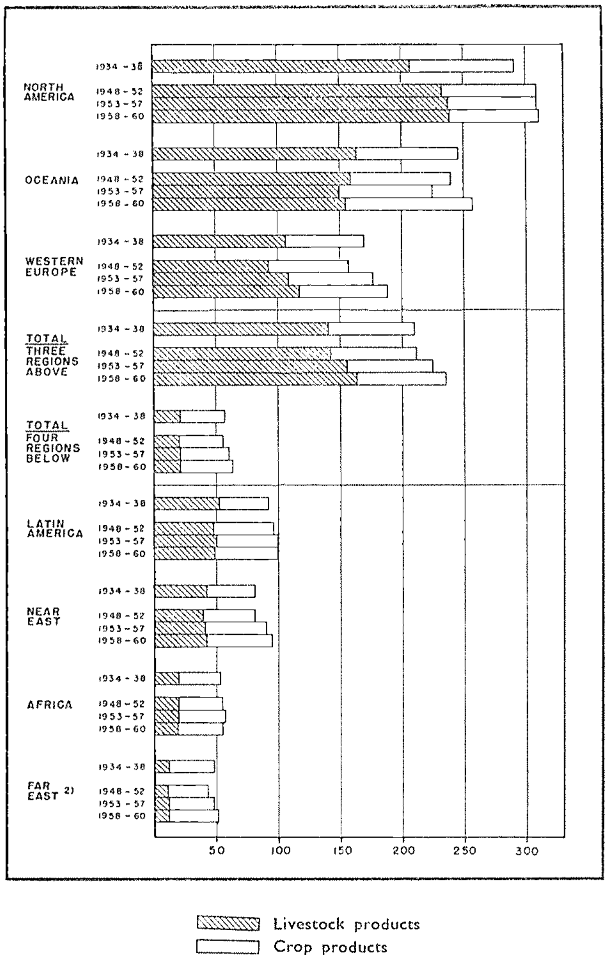
Figure II-4 brings up to date the indices of the per caput availability of food in the different regions that were shown in last year's issue of this report. As was stressed at that time, they must be regarded as no more than very rough approximations. Together with the limited available data for individual countries, however, they represent the only means of making some broad assessment of the over-all food supply situation and of determining the extent to which the trends in per caput production discussed earlier in this chapter are likely to have been reflected in consumption.

The indices are based on production data (net of feed, seed and waste), adjusted for imports and exports, and weighted according to 1952-56 farm price relationships. Deductions for imports of animal feedingstuffs have been possible only for western Europe, and allowances for stock changes only for North America, but these are of much less importance elsewhere. The indices are shown as averages for periods of several years in order to minimize the effect of short-term crop fluctuations and changes in stocks.

It appears that, as a result of changes in imports and exports, the trend of food supplies in each of the less developed regions has been more favorable than that of production. Imports of food into each of these regions have grown steadily since the war, while exports have generally grown more slowly or declined. Both the Far East and the Near East have changed from net exporters of food before the war to net importers in the postwar period. Thus the prewar level of per caput food supplies seems to have been exceeded for some years in each of the less developed regions, in spite of the lag in production in some of them.

FIGURE II-4. - ESTIMATED PER CAPUT FOOD SUPPLIES, BY REGION

(Price-weighted indices, world[1] average for all food, 1948-52 = 100)



[1] Excluding U.S.S.R., eastern Europe and Mainland China. - [2] Excluding Mainland China.

In the Far East (excluding Mainland China), where per caput food production is estimated to have regained the prewar level only in the past season, food supplies appear already to have reached this level by the period 1953-57. Comparing 1958-60 with 1953-57, there has been some increase in exports but the rise in imports has been much greater, so that in this period also food supplies have improved rather more quickly than production.

In Latin America, it will be recalled, the prewar per caput food production was briefly recovered in 1957/58 and 1958/59, and there has since been an abrupt decline. Because of smaller net exports, however, per caput food supplies have been larger than before the war throughout the postwar period. Since 1953-57 the increase in exports has been much greater than in imports, so that there has been no further rise in per caput supplies, while in 1960 supplies may have declined slightly in view of the fall in total production.

Per caput supplies appear to have increased faster in the Near East than in the other less developed regions. Until recently this was due to a rapid increase in production as well as in net imports. For the last three years, however, per caput food production has been declining, and only a very sharp rise in imports and a slight fall in exports brought a further rise in supplies in 1958-60. In Africa, also, per caput production has declined recently, and is provisionally estimated to have gone below the prewar level in 1960/61. Imports have increased further, but the fall in per caput production seems to have been reflected in food supplies in 1958-60. It should be stressed, however, that in most African countries the statistics of crops for local consumption are liable to a very wide margin of error.

The data in Figure II-4 are probably less valid for comparisons between regions, especially as the price-weighted indices reflect mainly the relative cost of the diet, which gives no indication of its calorie content, though this is roughly related to its quality. Even so, some broad comparisons between the more and less developed regions as a whole should not be too far from the truth.

The increase in per caput supplies since 1934-38 seems to have been about the same in percentage terms in the less developed group of regions as in the more developed group. In absolute terms, however, the rise in the latter group was very much greater. Although food supplies have improved in the worse-fed parts of the world, they are consequently lagging still further behind the levels in the better-fed areas. It is noteworthy also that the improvement in the less developed regions has been entirely in crop products. In the more developed group, on the other hand, it is livestock products that have increased as rising incomes have brought a shift from such commodities as grain toward increased consumption of livestock products and other more expensive foods. In most of the less developed countries, however, the statistics of livestock production are particularly suspect.

Annex Table 13 shows the usual estimates of the food supplies available for human consumption and their calorie and protein content in those countries for which food balance sheets can be calculated. These data cover rather few of the less developed countries, but where they exist they too indicate that the consumption of grains, sugar and other food crops has generally continued to increase in these countries, especially in those with quantitative deficits in their average diets. The increased consumption of carbohydrates has brought slightly higher intakes of calories, but intakes of protein, and especially animal protein, remain stationary or have even declined.

In a number of Latin-American countries, a significant decrease in the consumption of meat can be observed in relation to the early postwar years. Exceptions include Mexico and Venezuela, where meat consumption has increased. In the Far East, also, the consumption of animal products has decreased in several countries. In Japan and Taiwan, however, animal protein intakes are now double the low levels prevailing in 1948-50, and still show a steady upward trend.

International trade in agricultural products

Although the expansion of world agricultural trade slowed down somewhat in the course of 1960, both the volume and value of exports showed further gains over 1959. The volume of exports rose by about 5 percent, compared with a gain of 7 percent in 1959 when trade was recovering from the effects of the 1957-58 recession. The increase in agricultural trade, however, was less than half the growth of the volume of world trade as a whole, which rose by 11 percent from 1959 to 1960 (Table II-6).

International prices of agricultural products as a whole, which had risen during 1959 and the earlier part of 1960, fell back somewhat during the second half of the year. Nevertheless, the average unit value at current prices for the year 1960 as a whole was about one percent higher than in 1959, and the rise in the total value of world agricultural exports was about 6 percent. The rise in prices of farm products was outweighed, however, by a greater increase of 3 percent in average unit values of manufactured goods. The "terms of trade" for agricultural exports thus declined again, for the sixth year in succession, and the "real" value of agricultural exports, as measured by their capacity to purchase manufactured goods, rose by only 3 percent.

Developments during the year thus followed the pattern which has now persisted for some time. Comparing 1960 with the average of 1948-52, the volume of agricultural exports has risen by 41 percent (compared with a rise of 80 percent in the vol-

TABLE II-6. - INDICES OF THE VOLUME, UNIT VALUE, AND TOTAL VALUE OF WORLD[1] TRADE

	Average 1948-52	1953	1954	1955	1956	1957	1958	1959	1960 (Prelim.)
	Indices, average 1952-53 = 100								
TOTAL VOLUME OF WORLD TRADE[2] (agricultural and nonagricultural) ...	87	103	108	118	128	135	133	143	158
TRADE IN AGRICULTURAL PRODUCTS									
Volume of exports	95	102	102	109	119	122	120	128	134
Volume of commercial exports[3] ..	95	102	102	103	110	113	113	121	126
Average price (unit value) at current prices	100	97	99	94	92	94	87	85	86
Average unit value in real terms[4] (terms of trade)	103	99	103	97	91	90	84	82	80
Total value of exports at current prices	94	100	101	102	109	114	105	108	114
Total value of exports in real terms[4]	98	102	105	105	108	110	101	104	107
Value of commercial exports in real terms[3,4]	97	101	105	100	100	102	95	99	101

[1] Excluding the U.S.S.R., eastern Europe and Mainland China. - [2] United Nations index of volume of world trade adjusted to 1952-53 base. - [3] Excluding shipments under special terms. - [4] Deflated by United Nations index of unit value of exports of manufactured goods.

ume of world trade as a whole), but their value has risen by only 21 percent as measured in current prices, and by no more than 10 percent in real terms, i.e., in terms of their capacity to buy manufactured goods. It should be noted further that these figures of agricultural exports include shipments under special terms, which during the past six years are estimated to have accounted for roughly 6-9 percent of the world total. If commercial exports only are taken into account, the rise during the past 10 years has been about 33 percent in the volume of exports, their value at current prices has risen by about 14 percent, while their value in real terms has risen by barely 4 percent. The rise of about one third in the volume of commercial exports has thus brought little benefit to agricultural exporters as a whole.

The rise in the volume of agricultural trade in 1960 was due to a variety of causes. A decline of some 6 percent in North American imports as a result of the mild recession was more than offset by increased imports into western Europe, where there was a high level of economic activity. As shown later, however, there has been a steady decline over the past decade in North American imports of some agricultural products, particularly of agricultural raw materials, and this region is much less significant than formerly as an agricultural importer. About half the rise in western European imports represented increased trade between the European countries themselves. Nevertheless, net imports into the region continued to expand.

The increase in European imports was matched by a comparable increase in imports into the Far East (excluding Mainland China), of which about one half represented food and most of the balance agricultural raw materials. Much of the increase of about 5 percent in world trade in agricultural raw materials in 1960 resulted from a sharp increase in purchases of United States cotton, partly in the expectation of less favorable export terms, which probably led to advance buying for stocks.

Another important contribution to the increased volume of agricultural trade came from the sharp increase in imports into the U.S.S.R. and Mainland China. Both Mainland China and the U.S.S.R. have become major importers of sugar since the breakdown of the sugar agreement between the United States and Cuba. Shipments from Cuba to these countries in 1960 amounted to some 2 million tons. Moreover, following the disastrous 1960 harvest, Mainland China purchased large quantities of wheat and barley, mainly from Canada and Australia. Total grain purchases to mid-1961 amount to over 10 million tons for delivery from 1961 to 1963; very little was shipped during the calendar year 1960. The crop failures in Mainland China had a considerable effect on world trade in oilseeds and vegetable oils in 1960. In recent years one of the world's largest exporters of these products, Mainland China, has now begun to import them, while at the same time the U.S.S.R. and eastern European countries, which formerly obtained large supplies from Mainland China, have had to increase their purchases from other regions. These developments are likely to have an even greater effect on world trade in vegetable oils and oilseeds in 1961 than in 1960.

Mainly because of a strong western European demand, there was also a steep rise in the volume of trade in forest products. In particular, world exports of sawnwood rose by 10 percent, to 39.9 million cubic meters, and comparable increases were registered for wood pulp and paper. Roundwood exports showed less advance, a stronger demand for pulpwood and tropical logs being partly offset by a fall in shipments of pitprops. Trade in plywood and fiberboard rose only nominally.

Unit values (at current prices) of agricultural products as a whole (excluding forest products) averaged about 1 percent higher in 1960 than in 1959, but this reflected a balance between a rise of almost 10 percent for agricultural raw materials, and a fall of about 4 percent for the group beverages and tobacco which resulted largely from the decline in prices of cocoa and African coffees. Unit values of foodstuffs as a whole were also about 1 percent lower in 1960, somewhat lower values for sugar and oilseeds being not quite counterbalanced by rises in the unit values of meat and fruit.

The increases in both the volume and real value of exports in 1960 were largely confined to western Europe and North America. The real value of western European exports rose by about 7 percent, mainly because of an increased volume of intraregional trade, while a sharp increase of 16 percent in the real value of North American exports was due mainly to the sudden increase in commercial shipments of cotton. By contrast, both the volume and real value of agricultural exports from Oceania fell by some 4-5 percent, while the real value of African exports fell by about 6 percent because of lower prices of cocoa, coffee and oilseeds, though the total volume of agricultural exports was unchanged. There was a small decline in the export earnings of Far Eastern countries, but other regions showed relatively little change in real terms.

Volume of trade for main commodities

The growth of the volume of world agricultural exports by main groups of commodities is shown in Table II-7, and in greater detail in Annex Table 2 B. All main groups of commodities shared in the rise, though much the largest increase of 10 percent occurred in forest products (not included in the general index). For the rest, food- and feedingstuffs rose by about 6 percent, and beverages and tobacco and agricultural raw materials each showed an increase over 1959 of around 4 percent.

In the food group the most significant increases occurred in wheat and sugar. For wheat, commercial demand had, if anything, fallen in 1960, following generally good crops in western Europe, the main commercial importing region. This reduction, however, was more than offset by a larger volume of exports on concessional terms from the United States. In the crop year 1959/60 such shipments of wheat and wheat flour rose by about 2 million tons to a total of 9.8 million tons, equal to about 70 percent of the total wheat exports from the United States, and nearly 30 percent of the entire world trade in wheat (excluding shipments from the U.S.S.R. and eastern Europe). There were particularly large increases in government-financed exports to India, Pakistan, the United Arab Republic (Egyptian Region), Brazil, and Poland.

The increase in the world sugar exports was an unexpected result of a chain of events started by the interruption, in mid-1960, of United States imports from Cuba. Cuba found alternative markets in the U.S.S.R. and Mainland China, and together these countries imported a total of about 2 million tons of Cuban sugar in 1960 as against one quarter of a million tons in 1959. This quantity was well in excess of the reduction of 0.7 million tons in Cuba's shipments to the United States. There were also larger shipments from other exporters, in part to make good the smaller exports from Cuba to the United States, and the total volume of sugar exports rose by nearly 20 percent to 15.8 million tons.

There was a significant increase in exports of fats and oils, despite smaller supplies of groundnuts from West Africa and India and a sharp reduction in shipments from Mainland China toward the end of the year. Factors contributing to the increase included a strong demand for fats and oils in western Europe and North America, the recovery of copra production in the Philippines after the end of the prolonged drought, and exceptionally large shipments of olive oil from Spain to Italy.

A poor fruit crop in western Europe at the end of 1959 led to increased requirements in importing countries and this, together with the continuing growth of world shipments of bananas, accounts for the small rise in exports of fruit.

Table II-7. - Indices of the volume of world[1] exports by main commodity groups

	Average 1934-38	Average 1948-52	1953	1954	1955	1956	1957	1958	1959	1960 (Prelim.)
	Indices, average 1952-53 = 100									
All agricultural products	98	95	102	102	109	119	122	120	128	134
Food and feedingstuffs	97	93	102	103	111	124	127	128	134	142
Cereals	103	94	97	94	100	124	120	120	126	135
Sugar	82	90	110	99	111	112	122	118	110	131
Oilseeds and vegetable oils (edible)	111	97	103	117	128	143	146	147	158	170
Fruit, fresh and dried.	88	83	106	107	116	107	122	120	134	139
Livestock products	91	93	104	109	117	123	130	132	142	141
Beverages and tobacco	86	95	104	97	106	115	114	112	121	126
Agricultural raw materials	109	99	102	104	106	114	119	110	123	128
Forest products[2]	92	91	102	117	131	128	128	123	133	146

[1] Excluding exports from the U.S.S.R, eastern Europe and Mainland China. - [2] Not included in the index of all agricultural products.

The smallest increase among food exports occurred in livestock products. There was little increase in exports of meat, as the continuing growth of European intraregional trade was partly offset by smaller exports from the Southern Hemisphere. Exports of dairy products declined slightly, mainly because of lower exports from Oceania. The recovery of milk production in western Europe from the setback caused by drought in 1959 led to smaller butter and dried milk imports into several countries, but the region's total imports of butter were unchanged.

The increase in exports in the group beverages and tobacco mainly reflects larger shipments of cocoa. In the 1959/60 and 1960/61 crop years, record crops of cocoa were harvested in Africa and in the former year in Latin America as well. With the fall in price, consumption has more than recovered from the effect of high prices in 1957/58, but remains below the increased level of production. As a rule, no substantial quantities of cocoa are stored in the tropical producing countries and the volume of trade therefore moves closely in line with production. In 1960, exports exceeded those of 1959 by fully one fifth. There was, in addition, some rise in the world exports of tobacco. It resulted partly from larger shipments from the United States under Public Law 480, while Rhodesian exports, too, continued to rise. Little change took place in the volume of exports of coffee and tea.

As already noted, the rise of some 4 percent in shipments of agricultural raw materials reflects the balance between a decline in North American imports, and a sharper rise in imports into western Europe and the Far East. There was, however, a shortage of jute throughout the second half of the year, and of rubber in the early months. By May 1960, rubber prices had risen to a very high level, which improved the competitive position of synthetic rubber and permitted, under the price-calibrated sliding scale of monthly sales established for the purpose, large disposals from the strategic stockpiles of the United States and United Kingdom governments. The import demand for natural rubber, already reduced by the recession in the United States automobile industry, was thus still further curtailed and rubber exports in consequence fell by more than one tenth below the 1959 volume. There was also some fall in exports of wool, jute, sisal and linseed oil.

All these reductions, however, were more than offset by a spectacular increase in exports of cotton from the United States. Mill consumption of cotton in the world was generally higher in 1960 than in 1959, importers' stocks were low, and export supplies from most other major exporters had been reduced by smaller crops. An added inducement was an expected reduction in the United States export subsidy, which would raise export prices. The cumulative effect of all these factors was to double the volume of cotton exports from the United States, with only a minor increase in the concessional sales under Public Law 480. The total volume of world cotton exports rose by about one quarter. Some of the additional imports went to rebuild the stocks held in importing countries, but only a moderate decline in world cotton shipments is expected in 1961.

Similar trends were evident in world trade in forest products. North American intraregional trade was subdued in 1960, but the rising consumption in western Europe, together with favorable ocean freight rates, resulted in a substantial increase in shipments from North America to Europe. Thus the Canadian softwood deliveries to the United Kingdom were double the 1959 volume. Shipments of pulp from North America to western Europe also increased, but trade in the opposite direction declined strongly, more than offsetting the rise in European exports to regions other than North America. Of other regions, Latin America recorded an increase of 5 percent in its exports of broadleaved logs and sawn softwood. The exports of broadleaved logs from the Far East (mainly to Japan and Europe) rose by 11 percent in volume, and those from Africa (mainly to Europe) by fully one quarter.

The outstanding development in world trade in fishery products in 1960 was the further spectacular advance in fish meal exports by Peru, now the largest producer in the world, from 281,000 tons in 1959 to about 520,000 tons in 1960. South Africa was also able to raise its fish meal exports, but other traditional producers were adversely affected by the low prices and curtailed their output and exports.

To compensate for the poorer fish meal markets, many producers tried vigorously to promote their exports of other fish products, particularly for human consumption. Thus, for instance, Norway, Iceland and Denmark were able to raise their exports of iced fish and, in the case of Norway, of frozen fish. Canada, too, maintained its frozen fish exports, despite somewhat smaller output. Trade in salted cod, which had declined for the past three years, expanded again, with good demand in southern Europe and Latin America.

REGIONAL TRENDS IN THE VOLUME OF TRADE

The above developments in trade in the main agricultural commodities were reflected in the geographical pattern of trade. Apart from a fractional rise in exports from Latin America, the whole of the increase in agricultural exports came from western Europe (largely because of the growth in intraregional trade) and North America. Developments in 1960 thus carried further the postwar trend for agricultural exports to come increasingly from the economically more developed regions, though the fast postwar

TABLE II-8. - REGIONAL INDICES OF THE VOLUME OF GROSS AND NET TRADE IN AGRICULTURAL PRODUCTS

	Average 1934-38	Average 1948-52	1953	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Indices, average 1952-53 = 100									
GROSS EXPORTS (all agricultural products)										
Western Europe	105	81	103	114	125	126	138	142	141	152
North America	61	101	92	89	91	126	137	124	129	158
Oceania	79	97	103	93	105	111	113	104	125	120
Latin America	105	100	109	103	108	117	110	117	126	127
Far East (excl. Mainland China)	160	96	100	102	112	112	112	108	113	112
Near East	83	87	114	108	104	103	113	105	126	123
Africa	76	90	103	113	121	127	129	130	138	138
GROSS IMPORTS (all agricultural products)										
Western Europe	113	95	104	106	112	122	126	122	129	134
North America	80	100	99	86	93	96	96	97	108	101
Oceania	66	99	104	122	128	123	129	137	129	125
Latin America	58	91	102	106	106	102	120	121	112	116
Far East (excl. Mainland China)	106	81	99	98	99	119	128	122	127	149
Near East	50	91	99	96	116	132	142	146	171	177
Africa	66	86	103	108	119	130	134	129	147	152
NET EXPORTS (all agricultural products)										
North America [1]	(2)	(2)	(2)	(2)	(2)	100	140	91	65	201
Oceania	80	97	103	91	103	110	111	101	125	119
Latin America	115	102	111	102	109	120	108	116	130	130
Far East (excl. Mainland China)	484	191	106	125	192	70	11	23	26	(2)
Near East	118	82	130	121	92	72	82	62	79	67
Africa	80	91	103	115	121	126	127	130	135	134
NET IMPORTS (all agricultural products)										
Western Europe	116	100	105	104	108	120	123	117	125	128
North America [3]	227	26	100	(4)	61	(4)	(4)	(4)	(4)	(4)
NET EXPORTS (food and feeding stuffs)										
North America	(2)	94	89	65	87	142	126	119	142	162
Oceania	87	95	107	94	106	115	106	97	122	115
Latin America	174	120	117	124	126	144	146	161	155	171
Africa	96	95	107	136	123	127	116	146	108	88
NET IMPORTS (food and feeding stuffs)										
Western Europe	125	106	103	94	103	129	119	122	134	131
Far East (excl. Mainland China)	(4)	60	99	80	57	101	124	144	119	145
Near East	(4)	109	56	(4)	166	212	240	263	472	433

[1] 1956 = 100. - [2] Net importer. - [3] 1953 = 100. [4] Net exporter.

growth of exports from Africa is somewhat of an exception (Table II-8). In the period from 1948-52 to 1960, the volume of gross agricultural exports from more developed regions has increased by about 56 percent (commercial exports by less than 40 percent), compared with an increase of about 30 percent in gross exports from the less developed regions. The share of the less developed regions as a whole in the total volume of world agricultural exports has thus fallen over this period from 57 percent to 53 percent. For foodstuffs alone the comparable figures are 42 percent and 38 percent, and for agricultural raw materials 58 percent and 53 percent. Only in the group beverages and tobacco have the less developed regions maintained their share of the market at about 88 percent.

About two thirds of the exports from western Europe are usually shipped to other countries of the region. They consist preponderantly of foodstuffs (about 80 percent by value). The increase in shipments in 1960 consisted almost entirely of the foodstuffs which move mainly in intraregional trade: cattle, meat, feed grains, wine and olive oil. In North America, the large rise in cotton exports accounted for about 70 percent of the increase in exports in 1960, and larger exports of cereals (mainly wheat under special terms) for most of the remainder, though there was also some rise in exports of soybeans and tobacco, mainly to Europe.

In other regions there was some shift in the commodity pattern of exports. Thus in Oceania there was an increase in wheat shipments, but not enough to compensate for smaller exports of wool, dairy products and beef. In Latin America, large increases in exports of sugar and cocoa, together with smaller increases for some other commodities, rather more than made good smaller exports of meat and wool from the southern countries and of cotton from Central America, all due to some fall in production. There was also some decline in exports of raw materials from other regions, of rubber and jute from the Far East, of cotton from the Near East, and cotton and wool from Africa. Exports of oilseeds from Africa also declined, but these reductions were offset by the rise in the volume of cocoa exports already mentioned.

Apart from North America and Oceania, all regions increased their agricultural imports in 1960.[3] In volume, however, some 90 percent of the increase represented larger shipments to western Europe and the Far East. As in the case of exports, the developments in 1960 were a continuation of trends which have brought about a considerable change in the pattern of world imports during the past decade (Table II-9). Western Europe remains by far the largest importing region, accounting for more than half the total volume of world agricultural imports. During the past 10 years, however, this region has become a relatively larger importer of the commodity group beverages and tobacco (now considerably exceeding North America) and a marginally smaller importer of foodstuffs and agricultural raw materials.

The total volume of North American agricultural imports has shown some fluctuations, but no significant trend up or down during the past 10 years, and in all the main categories the region now accounts for an appreciably smaller share of world trade than before. The fall in the share of world trade has been particularly sharp in the raw materials group, where the volume of imports in 1960 had fallen by 40 percent from the average of 1948-52. The fall occurred mainly in wool and rubber.

In contrast, the Far Eastern region has become

[3] Oceania, however, is no more than a marginal agricultural importer of a few special products such as tea and accounts for less than 1 percent of the total volume of world agricultural imports.

TABLE II-9. - SHARE OF WORLD [1] AGRICULTURAL IMPORTS, 1948-52 AND 1960, BY REGIONS

	All agricultural products		Food and feedingstuffs		Beverages and tobacco		Raw materials	
	1948-52	1960	1948-52	1960	1948-52	1960	1948-52	1960
	Percent							
Western Europe	55	56	58	56	43	51	60	59
North America	22	16	12	11	45	37	23	11
Far East (excluding Mainland China)	12	17	16	18	2	2	13	25
Other regions [2]	11	11	14	15	10	10	4	5
TOTAL	100	100	100	100	100	100	100	100

[1] Excluding imports into the U.S.S.R., eastern Europe and Mainland China. - [2] Latin America, Oceania, the Near East and Africa.

a considerably larger importer of agricultural commodities, and now has a volume of gross imports comparable with those of North America. The growth of food imports during the past decade has appreciably exceeded the growth of world trade in these commodities, and there has been a still more striking increase in imports of raw materials. This latter rise largely reflects the growth of manufacturing industry in Japan, India and some other countries. In 1960, Far Eastern imports of agricultural raw materials accounted for one quarter of the world total and were more than twice as large as those of North America.

The reduction in the agricultural imports of North America from 1959 to 1960 was in part due to smaller consumption and stock depletion of agricultural raw materials, associated with the economic recession. Another factor was the decline in the imports of beef and cattle, which had risen temporarily during the cyclical fall in the United States cattle slaughter in 1957-59.

In the Far East, there was a rise of 18 percent during the year in total agricultural imports and of 15 percent in foodstuffs which make up about 60 percent of the total. There were some increases in imports of wheat, rice, maize, sugar and vegetable oils. Much of the increase, however, came from larger imports of cotton, mainly to India and Japan, of wool mainly to Japan, and of jute mainly to India. Of the other net exporting regions, the changes in the over-all volume of imports into Oceania, the Near East and Africa reflect minor changes in a number of commodities. There were moderate increases in the total volume of agricultural imports into the Near East, where the quantity of cereal imports again rose, and in Africa, where imports of cotton, wine and a number of foodstuffs were higher than in 1959. In Oceania, the total volume of agricultural imports was unchanged. None of these three regions, however, is from the global point of view an important agricultural importer.

In western Europe, the main agricultural net importing region, the gap between gross imports and gross exports continued to widen, despite the rapid rise in agricultural trade between the countries of the region. The volume of the region's net agricultural imports now exceeds the 1952-53 average by nearly 30 percent, about half of the increase being accounted for by larger net imports of foods and feedingstuffs (Figure II-5).

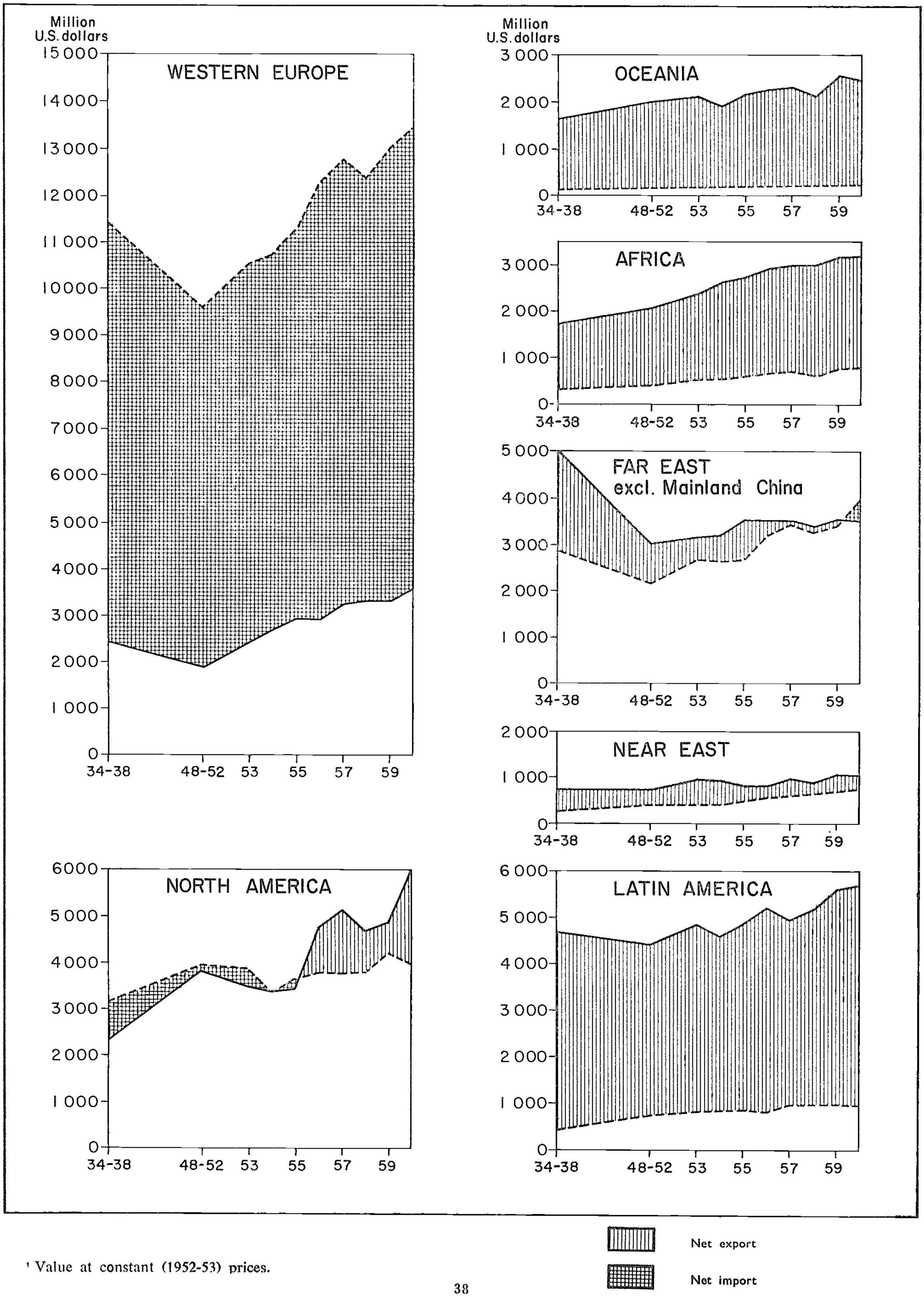
Of the net exporting regions, the steep rise in the net exports from North America, which more than trebled between 1959 and 1960, reflects both the lack of growth in the volume of imports and a resumption of the rise in agricultural exports, which had been interrupted in 1958. The beginning of the rising trend of exports coincides closely with the intensification of United States surplus disposal operations after the passage of Public Law 480 in 1954. Developments in government-assisted exports from the United States are considered later in this chapter; in the last few years they have accounted for about 30 percent of the total agricultural exports of the North American region.

The net exports of Africa, Latin America and Oceania have risen steadily although less steeply than those of North America. In the Near East and the Far East, however, exports have risen less rapidly than imports, and the margin of net exports has steadily narrowed till in 1960 the Far Eastern region became for the first time a net importer of agricultural products.

This change in the agricultural trading position of the Far East is thus the culmination of a development covering the whole postwar period. Before the war, the region was a major net exporter of agricultural products, including foodstuffs. Since the war, the growth of food production in the region as a whole has not, until 1960/61, been sufficient to make good the setback of the war years. Although the food exporting countries of the region have stepped up their shipments since the early 1950s, the region's food deficit, met by imports from outside the region, has gradually risen. At the same time, while the volume of the region's raw material exports has remained more or less constant since the early 1950s and that of beverages and tobacco has risen only moderately, its raw material imports, as already noted, have risen steeply. In 1960 the volume of gross imports of raw materials was more than twice as high as the 1948-52 average, and the region as a whole became a net importer of agricultural raw materials as well as of foodstuffs.

There was also a further reduction in the net agricultural exports of the Near East, which in 1960 equalled only two thirds of their average volume in 1952-53. The main reason for the change has been the rapid rise in the region's gross agricultural imports, which in 1959-60 exceeded the 1952-53 average by three-quarters, compared with an increase of only one quarter in the gross exports. The rise in imports is due mainly to larger imports of cereals, particularly into the United Arab Republic (Egyptian Region) and into Israel, though a number of

Figure II-5. - Net trade [1] in agricultural products, by region



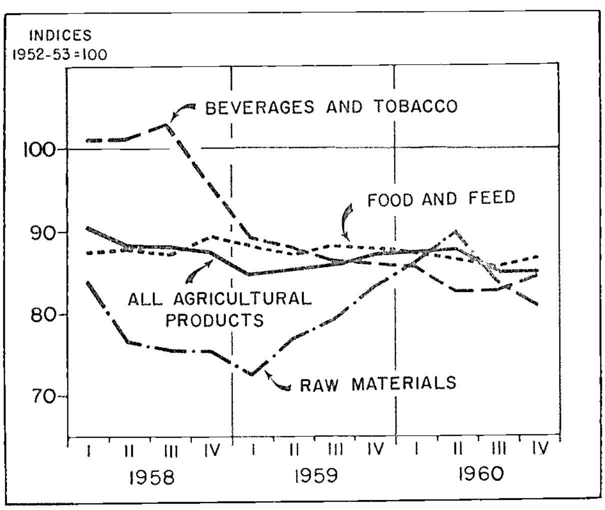
[1] Value at constant (1952-53) prices.

other countries have also had to import grains because of poor harvests during the recent drought years.

Price levels on international markets

Prices of farm products as a whole on international markets began a slow rise in the first months of 1959 which reached a peak toward the middle of 1960, but then again declined. Both the rise and the subsequent fall were due primarily to the movement in prices of agricultural raw materials (Figure II-6). Prices of food and feedingstuffs, and still more those of the group beverages and tobacco, showed an almost continuous downward trend throughout 1959 and 1960 which in general reflected the heavy supplies on world markets.

Figure II-6. - Indices of average export unit values (average prices) of agricultural products in world trade, by commodity groups



In each of the main groups there were, of course, considerable differences between individual commodities, and some of these are shown in Figure II-7 and in Annex Table 14. Thus among cereals, wheat prices remained fairly stable, while prices of coarse grains, although they averaged about the same in 1960 as in 1959, rose temporarily in early 1960 as a result of the strong European demand. Prices of rice averaged rather less than in 1959, particularly for the lower qualities, because of heavier supplies.

Unit values of sugar were also lower in 1960 than the year before. Sugar prices in the " free " market were appreciably above the low 1959 level. There was, however, a sharp fall in the average export unit values of sugar from Cuba, the largest exporter, caused by the loss of the high-value United States market for a large part of the 1960 export.

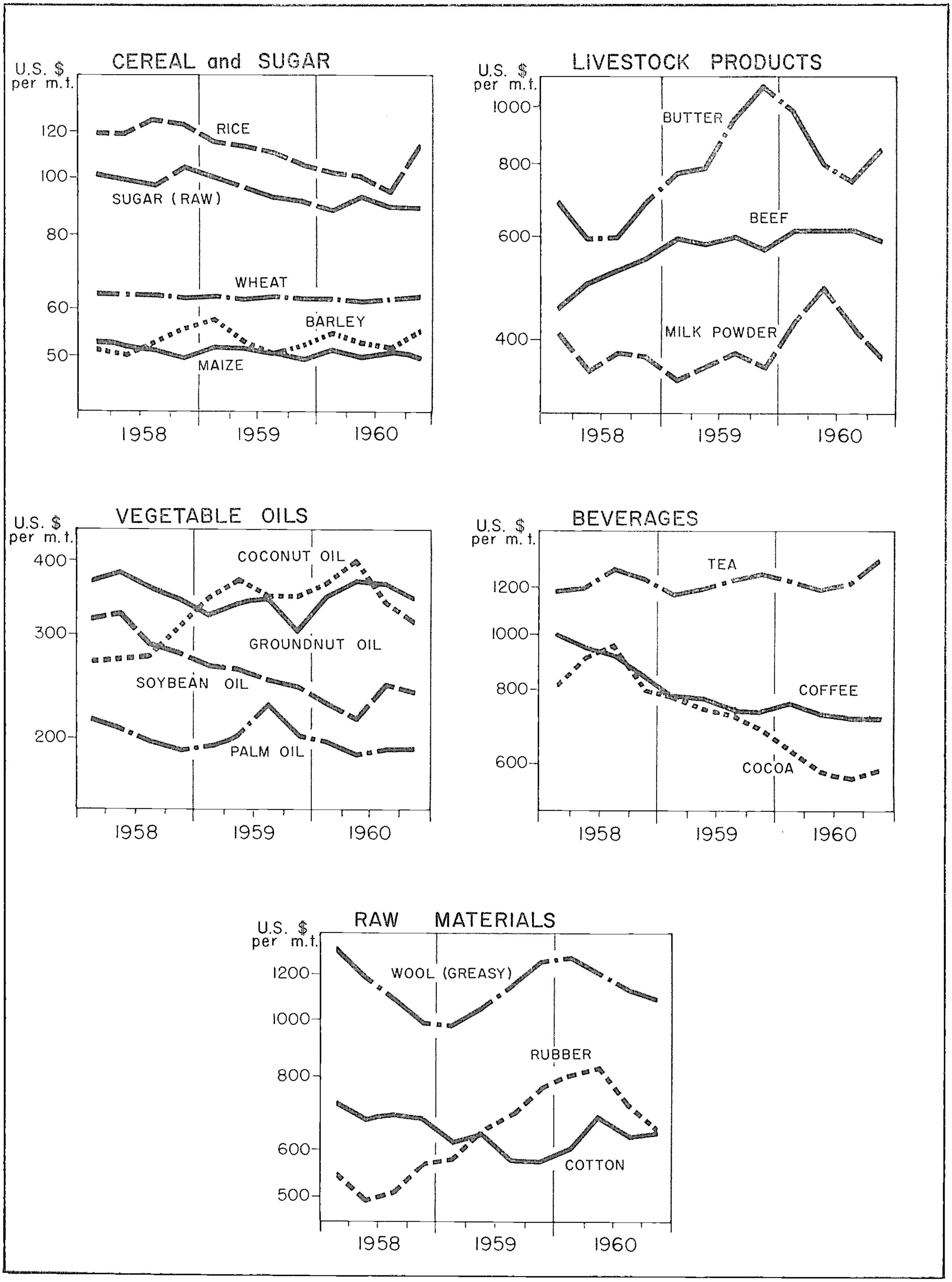
Some decline in the price level of fats and oils was mainly due to a sharp fall from the high 1959 prices of copra and coconut oil as larger supplies became available in southeast Asia. Prices of dairy products similarly declined during 1960 as western European milk production recovered from the effects of the previous year's drought.

The lower export unit values in the beverage and tobacco group were due mainly to a fall in cocoa prices following the heavy crops harvested in 1959/60 and 1960/61. The 1960 average price of Ghana cocoa at New York was, at 28.4 cents a pound, more than one fifth less than in 1959. There was also a fall in prices of *Robusta* coffees, reflecting the pressure of large supplies from the fast rising output in Africa, and active competition for markets between African producting countries who, until October 1960, were not members of the International Coffee Agreement. Prices of Latin-American coffees were well maintained owing to the regulation of exports under the agreement. Tea prices averaged slightly higher in 1960 than in the two preceding years, mainly because of concern about the effects of drought in India and Pakistan.

Prices of raw materials underwent rather marked changes during the course of 1960. In the first half of the year, the prices of both rubber and jute reached very high levels, reflecting a shortage of readily available supplies of rubber and poor crop prospects for jute. Subsequently rubber prices fell steeply as demand began to fall off and as supplies were increased by disposals from the United Kingdom and United States strategic stocks. By the end of the year, the sharp increase in prices in 1959 and early 1960 had been completely lost, and the December average price of No. 1 R.S.S. at Singapore, M$ 0.86 a pound, was 25 percent lower than in January of the same year. The average unit value of rubber exports, however, exeeded that of 1959 by about 12 percent. Jute prices, too, fell rapidly for a while in mid-1960 but, contrary to rubber, they resumed their rise again in the third quarter of the year, and reached record levels by early 1961, twice as high as at the beginning of 1960. However, as the volume of trade was low when prices were highest, the increase of about one quarter in average unit value from 1959 to 1960 was considerably less than would be indicated by price quotations.

Cotton prices, which had fallen steadily for some

Figure II-7. - Average export unit values (average prices) of selected agricultural products in world trade
(Semilogarithmic scale)



years since 1956, turned upward again in 1959. With the continued strong demand, the prices of medium staple varieties continued to rise in 1960, and those of long staple varieties maintained the level reached early in the year. The average export unit value for all cotton exceeded the 1959 level by 6 percent. World consumption of wool continued to rise in 1960, but import demand was reduced by a smaller consumption in the United States, the United Kingdom and Canada, and a reduction of stocks in these and some other countries. Prices therefore tended to fall after the first quarter of the year. For the entire year, however, they averaged rather above the 1959 level.

The price movement of forest products in 1960 reflected the divergent tendencies in the European and North American economies. In Europe, sawn softwood prices started to improve in mid-1959, and by early 1961 they stood at levels close to the 1957 peak. Over the same period corresponding prices in the United States moved steadily downward, nearing, by early 1961, the level of early 1958. Sawn hardwood and plywood prices in Europe also showed a rising trend, while pulp prices, which had remained steady through most of the year, became firmer toward the end of the year.

Prices to fishermen generally remained firm in 1960, and in some instances reduced supplies brought about significant price increases, as for instance for salmon in Canada and Japan and herring in Western Germany. There was, however, a continued steep fall in the prices of fish meal, mainly because of the rapid increase in output. A low point was reached in the United States in the summer of 1960. Toward the end of the year there were some signs of a recovery, due partly to an agreement between the leading manufacturers in exporting countries in October to establish export quotas, and partly to the expectation that consumption will, in the short run, be stimulated by the present low prices.

Earnings from agricultural exports

For most commodities in 1960, prices moved in an opposite direction from changes in the volume of trade. The two factors thus tended to offset each other to a greater or lesser extent in their influence on gross earnings from agricultural exports. For agricultural products as a whole and also for foodstuffs, prices showed no marked change, and the total value of exports therefore increased more or less proportionately to the rise in volume (Table II-10). For the group beverages and tobacco, the fall in prices roughly offset the increase in volume, and a rise of 4 percent in shipments brought only an increase of 1 percent in returns (at current prices). For raw materials, however, where there was a considerable strengthening of import demand, both the volume of exports and average prices were higher in 1960 than the year before. In this group a rise of 4 percent in volume brought an increase of 11 percent in export earnings (at current prices).

TABLE II - 10. - INDICES OF THE VOLUME AND VALUE AT CURRENT PRICES OF WORLD[1] AGRICULTURAL EXPORTS BY MAIN COMMODITY GROUPS

	Average 1934-38	Average 1948-52	1953	1954	1955	1956	1957	1958	1959	1960 (Preliminary)	Changes 1960 over 1959
	Indices, 1952-53 average = 100										*Percent*
ALL AGRICULTURAL PRODUCTS											
Volume	98	95	102	102	109	119	122	120	128	134	+ 5
Value[2]	32	94	100	101	102	109	114	105	108	114	+ 6
FOOD AND FEEDINGSTUFFS											
Volume	97	93	102	103	111	124	127	128	134	142	+ 6
Value[2]	33	94	100	96	99	110	116	112	117	122	+ 4
BEVERAGES AND TOBACCO											
Volume	86	95	104	97	106	115	114	112	121	126	+ 4
Value[2]	25	81	106	120	110	112	113	112	104	105	+ 1
RAW MATERIALS											
Volume	109	99	102	104	106	114	119	110	123	128	+ 4
Value[2]	35	105	94	95	101	103	111	87	97	108	+11

[1] Excluding the U.S.S.R., eastern Europe, and Mainland China. - [2] At current prices.

From the point of view of the producing countries, however, the current prices of their agricultural exports are less significant than their purchasing power for the goods which they customarily import, i.e., what is known as their terms of trade. A full examination of changes in terms of trade of individual countries is outside the scope of this report. A rough idea of the terms of trade of agricultural exporters in general, however, can be gained from a comparison of changes in the export unit values of agricultural primary products with those in the average export unit value of manufactured goods (Annex Table 15). The latter, as already pointed out, increased by 3 percent in 1960. As a result, the average unit value of all agricultural exports, which at current prices had increased slightly, fell by 2 percent in real terms to its lowest postwar level. The real prices of foods and feedingstuffs and of beverages and tobacco also fell, by 4 and 7 percent, respectively, and the increase of 10 percent in prices of agricultural raw materials at current prices was reduced in real terms to an increase of 7 percent. The average unit value of forest products in real terms remained unchanged from 1959.

If the total value of agricultural exports is adjusted in the same way to allow for changes in the relative prices of farm products and manufactured goods on world markets, a rough indication is obtained of the real value of earnings from agricultural exports, i.e., what volume of manufactured goods they would purchase. This is shown for each of the main regions in Table II-11. This oversimplified method of estimating real values from values at current prices does not, of course, take into account the considerable differences in the composition of the imports of the various regions, which may substantially affect their terms of trade. For example, a large part of the imports of western Europe, North America and the Far East consists of agricultural products, while the origin and composition of nonagricultural imports and their unit values will vary considerably from country to country. The indices of the real value of regional exports and the terms of trade of each region in Table II-11 are therefore no more than rough approximations. For all exporters combined and for all regions but two (the Near East and Latin America) the terms of trade for agricultural exports in 1960 were less favorable than in 1959, and thus either reduced the gains from a larger volume of exports, as in western Europe and North America, or aggravated the losses caused by a fall in volume, as in Oceania, the Far East and Africa.

Earnings in real terms from agricultural exports increased sharply in 1960 in western Europe and North America, mainly because of the larger volume of shipments, though the indices for the latter region include a considerable share of noncommercial exports. A small increase in real earnings from agricultural exports in the Near East, on the other hand, was due entirely to an improvement in price relationships. A fall both in shipments and prices contributed to a reduction of some 5 percent in export earnings in Oceania, but declines of 2 percent in the Far East and of 5 percent in Africa resulted entirely from lower prices. In Latin America, there was little change from 1959.

The short-term changes from 1959 to 1960 are less significant, however, than the longer-term trends indicated in the Table. Not too much significance should be attached to differences between regions in the rate of fall in the terms of trade, both because of the limitations of the estimates already mentioned, and because the indices are considerably influenced by the hazard of price relationships in the base period 1952-53. The widespread and continuing decline in the terms of trade, and the failure of earnings in all regions to keep pace with the growth of the volume of exports, however, are unmistakable.

Exports on special terms [4]

Government-financed exports of surplus farm products from the United States remain by far the largest component of exports of agricultural products on special terms, and such shipments account for a larger share of the agricultural exports of the United States than of any other country. Canada and Australia continue to ship wheat as donations to needy countries, and such shipments amounted to 234,000 tons and 21,000 tons respectively, in 1959/60. Quantities of dried milk are donated for international relief purposes by some of the major producing countries, among them Switzerland and Canada. The supplies from other countries, however, remain small in relation to United States shipments.

United States exports of agricultural products

[4] The exports discussed here do not include shipments assisted only by export subsidies or government credit. The special export programs are characterized by the fact that the conditions of payment are, as a rule, particularly favorable to the importer, and in some cases the exports are outright donations. For example, in the United States program under Public Law 480, Title I, payment is made in the importing country's currency, and a large proportion of the receipts are in part donated, in part lent to the receiving country on favorable terms.

TABLE II-11. - INDICES OF THE VOLUME, APPROXIMATE TERMS OF TRADE AND REAL VALUE[1] OF AGRICULTURAL EXPORTS, BY REGIONS

	Average 1948-52	1953	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Indices, average 1952-53 = 100								
WESTERN EUROPE									
Volume	81	103	114	125	126	138	142	141	152
Terms of trade	107	98	97	95	94	92	86	86	86
Real value	87	102	111	118	118	128	123	121	130
NORTH AMERICA									
Volume	101	92	89	91	126	137	124	129	158
Terms of trade	105	100	98	94	86	83	81	78	73
Real value	106	92	88	85	109	113	101	100	116
OCEANIA									
Volume	97	103	93	105	111	113	104	125	120
Terms of trade	101	107	104	96	91	96	81	82	81
Real value	98	110	97	101	100	109	84	103	97
LATIN AMERICA									
Volume	100	109	103	108	117	110	117	126	127
Terms of trade	95	100	111	97	90	91	81	73	72
Real value	95	110	114	105	105	101	95	92	92
FAR EAST (excl. Mainland China)									
Volume	96	100	102	112	112	112	108	113	112
Terms of trade	111	96	98	104	94	91	86	94	93
Real value	107	96	100	116	105	101	93	106	104
NEAR EAST									
Volume	87	114	108	104	103	113	105	126	123
Terms of trade	116	91	101	99	100	100	90	80	83
Real value	101	104	109	102	103	113	95	101	103
AFRICA									
Volume	90	103	113	121	127	129	130	138	138
Terms of trade	99	99	107	95	88	87	90	82	77
Real value	89	102	122	115	112	112	116	112	106
ALL ABOVE REGIONS[2]									
Volume	95	102	102	109	119	122	120	128	134
Terms of trade	103	99	103	97	91	90	84	82	80
Real value	98	102	105	105	108	110	101	104	107

[1] Total export earnings, deflated by United Nations index of average export unit values of manufactured goods. - [2] Excluding the U.S.S.R., eastern Europe and Mainland China.

under government-financed programs again expanded in 1959/60 and in the first half of the fiscal year 1960/61 (Table II-12). The increase was particularly steep in the latter period, when the value of such exports reached a total of $723 million, about 30 percent more than in July-December 1959. The value of exports under Title I of Public Law 480, which in recent years has accounted for 50-65 percent of all United States special exports of agricultural products, reached in the full calendar year 1960 nearly $1,000 million, the highest figure in any 12-month period since the inception of the program in 1954.

As a result of the increased rate of disposals, the $1,500 million appropriated for financing Title I shipments in the calendar year 1961 were exhausted early in the year. The continuation of a high rate of disposals was, however, assured by the allocation of a further $2,000 million for use within the calendar year 1961. The latest allocation will raise the annual amount of funds available for Title I operations in that year to a total of $3,500 million, compared with $1,000 million a year in 1954/55 to 1957/58, and $1,500 million a year in the period July 1958 to December 1960. The greatly augmented funds available for exports under special terms in 1961 reflect the greater emphasis which the United States is now placing on the disposal of its large accumulations of stocks, and particularly on their fuller use to relieve want and to encourage economic development.

Most of the increase in the total value of exports under special export programs in 1959/60 and in the first half of 1960/61 was accounted for by larger

TABLE II-12. - UNITED STATES AGRICULTURAL EXPORTS UNDER GOVERNMENT PROGRAMS IN RELATION TO TOTAL UNITED STATES AGRICULTURAL EXPORTS

	Total shipments under Public Law 480 and Mutual Security Programs							Shipments under special programs as percentage of total U.S. agricultural exports						
	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	July-Dec. 1960	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	July-Dec. 1960
	Million dollars							*Percentage of total value*						
Wheat	323	426	657	475	554	646	360	66	72	69	66	72	74	70
Coarse grains	67	235	237	119	126	150	76	29	61	66	37	22	28	28
Rice	4	45	136	45	36	73	40	7	52	73	47	36	54	59
Dairy products	138	204	177	159	95	61	21	71	75	81	79	72	54	68
Fats and oils	66	134	167	102	113	105	50	23	37	40	34	39	29	33
Cotton	221	212	455	288	260	156	131	32	55	41	34	63	19	32
Tobacco	15	57	36	26	34	69	29	5	15	11	8	10	20	11
Other agricultural products	32	54	93	38	42	44	16	4	5	8	3	4	3	2
TOTAL	866	1 367	1 958	1 252	1 260	1 304	723	28	39	41	31	34	29	29

shipments of wheat, wheat flour, and rice, though there were also some increases in the shipments of tobacco and coarse grains. Nearly three-quarters of the total wheat and wheat flour exports from the United States in 1959/60 and the first half of 1960/61 were government-financed, the highest proportion since 1955/56, while the share of special programs in total exports of rice rose to over one half. The decline in exports of cotton under special terms, however, together with the sharp increase in commercial exports of the fiber, reduced concessional sales from 63 percent of total United States cotton exports to 19 percent in 1959/60, though their share again rose to 32 percent in the first half of 1960-61. Largely because of the cotton situation, government-financed exports accounted for only 29 percent of the agricultural exports of the United States in 1959/60 compared with 34 percent in 1958/59 and a peak of 41 percent in 1956/57.

Among the recipients of exports of wheat under special terms, eight countries[5] accounted for something like three-quarters of the total shipments of 9.8 million tons in 1959/60. India, the largest importer, received about 4.3 million tons of wheat in the calendar year 1960, and concessional wheat imports are expected to remain at about this level until the conclusion, in 1963, of deliveries under the current four-year agreement. In 1959/60, imports on special terms covered nearly 90 percent of the total wheat imports of India and Pakistan (the figure includes some shipments from Australia and Canada) and 70-80 percent of those of the United Arab Republic (Egyptian Region), Turkey and Yugoslavia. There was a further large increase in wheat shipments to Poland in July-December 1960 and exports remained large during this half year to most other major importers, except Turkey and Yugoslavia, which had experienced only temporary shortages of grain. India, Pakistan and Indonesia were the main recipients of rice in 1959/60, but in the two latter cases, imports under special terms covered only a relatively small part of their total rice imports. Cotton imports under special terms are widespread.

AGRICULTURAL TRADE OF THE U.S.S.R., EASTERN EUROPE AND MAINLAND CHINA

The following review of developments in the agricultural trade of eastern Europe, the U.S.S.R. and Mainland China is based primarily on the published statistics of the countries concerned, which at the time of writing are in general available only up to 1959. Little is said, therefore, of the sharp increase in sugar imports from Cuba in 1960, and nothing of the heavy purchases of grain for delivery to Mainland China from 1961 onwards which were discussed earlier in this chapter.[6]

Eastern Europe and Mainland China remained in 1959 the main agricultural trading partners of

[5] India, U.A.R. (Egyptian Region), Pakistan, Brazil, Poland, Turkey, South Korea, and Yugoslavia.

[6] A more detailed account of the U.S.S.R.'s trade in agricultural products will be found in the *Monthly bulletin of agricultural economics and statistics*, FAO, Rome, June 1961.

the U.S.S.R. They took about three-quarters of the U.S.S.R.'s agricultural exports, about the same share as in the four previous years. Eastern Germany and Czechslovakia are becoming much the largest importers, absorbing in 1959 about 50 percent of the total agricultural exports of the U.S.S.R. If eastern European countries achieve anything like their planned growth of agricultural production, however, there may be little occasion for any further expansion in their imports from the U.S.S.R

Eastern Europe, Mainland China and the other countries in this group also supplied 56 percent of the U.S.S.R.'s agricultural imports in 1959. Their share had fallen from 67 percent in 1955 to about 50 percent in 1958, but in 1959 recovered because of increased imports of rice, oilseeds and cotton from Mainland China, which in that year supplied 37 percent of the total agricultural imports of the U.S.S.R. For the rest, Bulgaria supplied about 9 percent (mainly fruit and tobacco), about 5 percent came from Mongolia, North Korea and northern Viet-Nam, and another 5 percent from the other countries of eastern Europe.

The fall in the share of the agricultural imports of the U.S.S.R. contributed by eastern Europe and Mainland China seems likely to be resumed from 1960 onwards both because of the crop failures in Mainland China the and because of recent rapid growth of trade between the U.S.S.R. and the less developed regions of Latin America, the Near East, the Far East, and Africa. This trade seems likely to go on growing in order to permit these countries to pay for their imports of manufactured goods from the U.S.S.R., and to service loans from that country which in mid-1960 amounted to the equivalent of some $ 3,000 million.

Between 1955 and 1959, agricultural imports of the U.S.S.R. from the Far East more than quadrupled, to reach 784 million rubles, of which rubber made up 72 percent. Total agricultural imports from the Near East, which had increased fourfold since 1955 to 711 million rubles in 1958, fell back in 1959 to 566 million rubles because of smaller purchases of cotton from the United Arab Republic (Egyptian Region). There was a steep increase in 1959 in U.S.S.R. imports from Africa, excluding South Africa, from 51 million to 140 million rubles, mainly because of larger imports of cocoa. There is also some trade between the less developed countries and Eastern Europe, much smaller than the trade with the U.S.S.R. but none the less rapidly growing. For example, between 1955 and 1959 Eastern Germany's imports from India multiplied three times, from the United Arab Republic more than six times, and from Africa twelve times, from 2 to 25 million rubles. There was a comparable expansion of imports into Poland.

It should be repeated, however, that though rapidly growing, imports of most tropical products into Eastern Europe and the U.S.S.R. are still very small in relation to world trade. Although coffee imports into the whole group doubled from 1958 to 1959, they even then amounted to no more than 57,000 tons. Similarly, imports of cocoa beans in 1959 amounted to only 80,000 tons, though this was an increase of 90 percent over the previous year (Annex Table 4B.).

The most important tropical or semitropical imports are rubber, cotton, and more recently sugar. Natural rubber imports of 346,000 tons into the U.S.S.R. and eastern Europe in 1959 were smaller than in 1958 (379,000 tons), but must be compared with 103,000 tons in 1955.

The U.S.S.R. is both an exporter and importer of cotton. Its exports have recently grown rather slowly from an average of 320,000 tons in 1955-58 to 345,000 tons in 1959, of which rather over 250,000 tons went to eastern Europe. Imports, on the other hand, have risen sharply from 20,000 tons in 1955 to 190,000 tons in 1959. During the same period, total net imports of cotton of the U.S.S.R. and eastern Europe together rose from 29,000 to 276,000 tons. In recent years the United Arab Republic has been the main supplier, but in 1959 there was a sudden jump to nearly 90,000 tons in imports from Mainland China and some fall in imports from the United Arab Republic. A moderate increase of some 10 percent in cotton exports (to an average of about 300,000 tons) from the U.S.S.R. to eastern Europe is planned by 1965.

As to the foodstuffs entering into the trade between the U.S.S.R., eastern Europe and Mainland China, there was a sharp rise in U.S.S.R. exports of grain in 1959 following the good harvest of the previous year. Total shipments rose from 5.8 to 7.4 million tons, including 6 million tons of wheat, and total grain exports amounted to no less than one seventh of total state procurements. The main emphasis in the U.S.S.R. is now on improving the domestic supply of feed grains, and for the next few years, grain exports may not rise appreciably above the 1959 level.

Of the U.S.S.R.'s exports of 6 million tons of wheat, about 4.3 million tons went to the countries of eastern Europe, and this represented almost their total import of wheat. Most of them imported less rye, barley and oats than the year before. Poland, however, was an exception with imports of 362,000 tons of barley in 1959, of which three-quarters came from the United States and most of the rest from Canada, compared with only 173,000 tons in 1958. The total grain imports of Hungary and Bulgaria were larger than in 1958, but those of Romania fell by more than one half. Imports of rice into the U.S.S.R. and eastern European countries rose from 748,000 tons in 1958 to over 1 million tons in 1959, of which the U.S.S.R. took 689,000 tons.

Livestock products have been a critical sector of the agricultural economy of the U.S.S.R. for some years. Recently imports of meat and butter have been reduced and exports increased, and in 1959 the U.S.S.R. became a net exporter not only of butter but also of meat, for the first time since the war. The increased exports of meat appear to have been intended to meet a shortage in Eastern Germany, which absorbed two thirds of the total. The other countries of eastern Europe have tended to increase their rather limited imports of meat and dairy products, although Poland is at the same time a substantial exporter of bacon and ham, as well as of eggs.

Gross exports of sugar from eastern European countries rose by about one quarter in 1959 to 1.13 million tons, although at the same time imports into the U.S.S.R. were slightly reduced. Since then the situation has, of course, been radically changed by the five-year agreements of the U.S.S.R. and Mainland China with Cuba for annual imports of 1.0 and 0.5 million tons respectively. In addition, a number of supplementary agreements have been made and the combined imports of the U.S.S.R., eastern Europe and Mainland China from Cuba reached 2.3 million tons in 1960. This total comprises 1,578,000 tons to the U.S.S.R., 476,000 tons to Mainland China, 144,000 tons to Poland, 62,000 tons to Eastern Germany and 9,000 tons to Czechoslovakia. The combined imports of these countries may considerably exceed 3 million tons in 1961.

Farm prices and incomes

Many of the current problems of agriculture hinge on farm incomes and prices. As is evident from the review of recent developments in agricultural policy later in this chapter, in most of the economically more developed countries agricultural policies are aimed to a large extent at preventing a further widening of the gap between incomes in farming and those in other occupations. This end is sought by stabilizing or raising farm price levels, and by measures to increase agricultural efficiency. Dissatisfaction with present income and price relationships is widespread among farmers in a number of countries, and led, for example, to serious unrest in Denmark and France in the first half of 1961.

In the less developed countries, also, farm incomes tend on average to be much lower than those in other occupations. While agricultural policy is not as a rule primarily aimed at raising incomes, the importance of improving the lot of agricultural producers is increasingly recognized, both for social reasons and to encourage and make possible the farm investment required for increased production. The extent of the income disparities between farming and other occupations was analyzed in some detail in a special chapter in an earlier issue of this report. [7]

Developments in 1960

Up-to-date information on trends of farm prices and incomes is still rather scarce and largely confined to the economically more developed countries. Some 25 countries publish indices of farm prices, and at the time of writing indices covering all, or the greater part of 1960 are available for 17 countries. In six of these countries (Greece, Ireland, Italy, Portugal, South Africa and the United States) farm prices as a whole were rather stable and the index for 1960 differed by less than 2 points from the 1959 average. In three countries (Australia, Finland and France) farm prices rose by 3 - 4 percent, while in the remaining seven countries the index fell appreciably in 1960, notably in Western Germany where it averaged some 8 percent less than in 1959.

[7] FAO. Agricultural incomes and levels of living in countries at different stages of agricultural development. *The state of food and agriculture 1959.*

Changes in farm price levels are, however, of little significance unless they are related to other price movements. For example, some 11 countries publish indices showing the relation between the prices farmers receive for their produce and those they pay for production expenses and in some cases also for living expenses. This relationship, in effect the "terms of trade" for farmers, largely influences both the relation between gross and net returns, and the "real" value of net farm incomes (Figure II-8).

For farmers in all but four of the countries shown this ratio deteriorated in 1960, and where figures are available for the first quarter of 1961 they do not indicate much improvement. Prices received declined somewhat in 1960 in Belgium, Canada, Western Germany, the Netherlands, Norway and Switzerland, while prices paid rose. On the other hand, in Finland and France the ratio became more favorable to farmers during 1960, prices received increasing rather more than prices paid. In Japan and the United States, the price relationship in 1960 was not significantly different from 1959. For Australia, the figures available cover only the first half of 1960, but suggest that a slight improvement in the ratio may have taken place compared with 1959.

Taking the whole period since 1952-53, price relationships appear to have moved in favor of farmers in France and Finland, and the same was true in Western Germany until the sharp fall in farm prices during 1960. In Norway and Japan, the price ratio has remained rather stable at between 90 and 100. In the remaining countries the fall has been sharper. It should be noted, however, that especially in exporting countries, price levels in 1952-53 may still reflect to some extent the sudden rise which occurred at the outbreak of the Korean war.

Price relationships are not of course the only determinant of farm incomes, which also depend on the volume of sales. The most widely available information on the movement of farm incomes is to be found in estimates of the contribution of agriculture to the total national income. These estimates are discussed later. For obvious reasons, however, they are seldom very up to date. Moreover, although useful indicators, they cannot be precisely related to the incomes of farmers without further adjustment. Only a few countries publish more definite information on farm income. Among these, net farm incomes (i.e., for the agricultural sector as a whole) were higher in 1960 than in 1959 in Canada, Western Germany and the United States, despite the falls in farm price relationships in the two former countries. Net farm incomes also increased in France, where prices moved in favor of farmers, and in the United Kingdom. Data on net farm income are available at the time of writing for only four other countries, in all of which it is estimated to have declined: by 2 percent in Australia, 6-7 percent in Italy and over 7 percent in Chile and Greece. Less complete information suggests that agricultural incomes in Denmark, New Zealand, Spain and Yugoslavia also probably experienced a setback in 1960. The following details of changes during the past year in certain countries are intended to give an indication of some of the factors which account for the rather large year-to-year fluctuations in farm incomes.

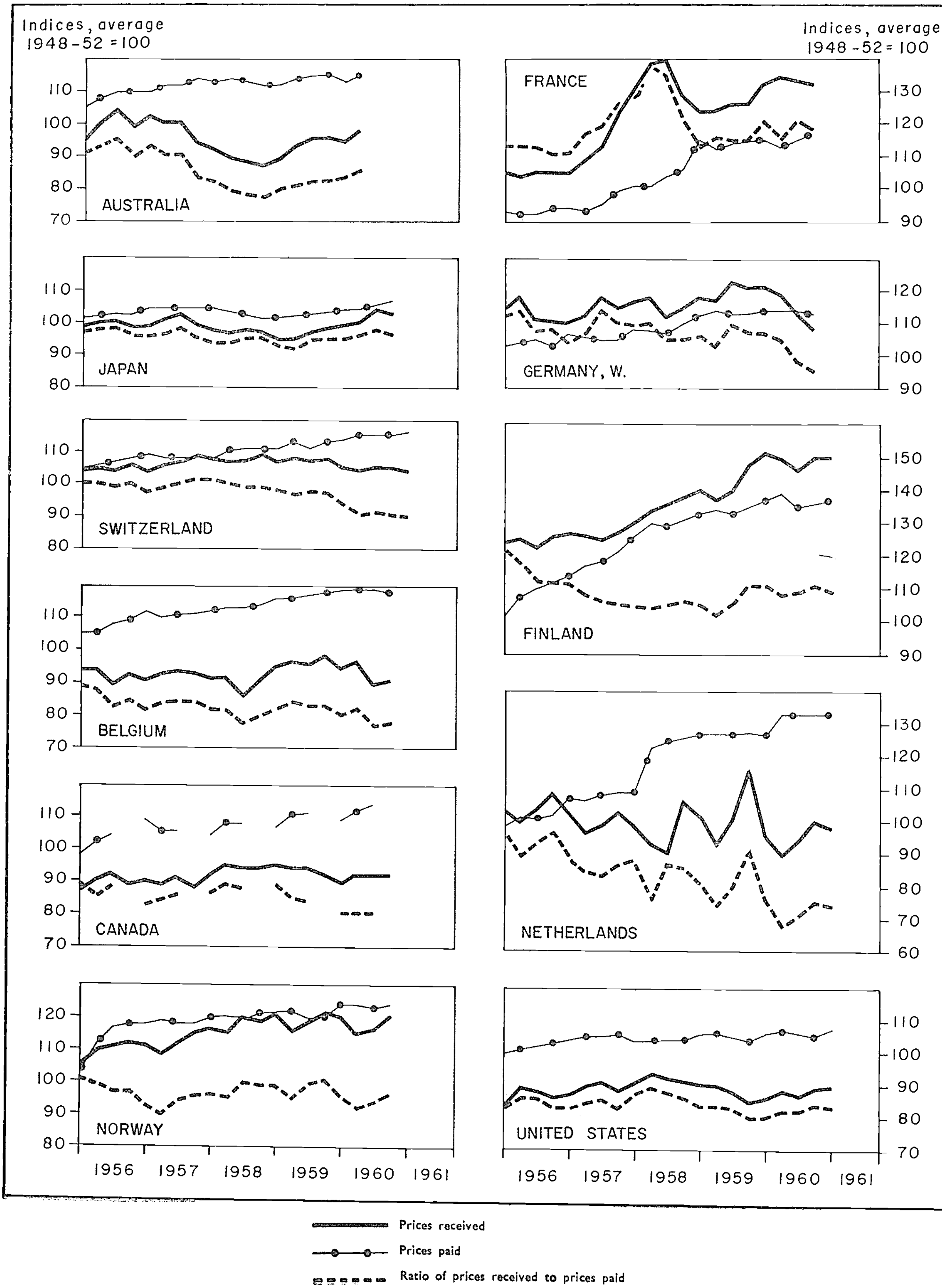
The net income of farmers in the United States increased from $11,300 million in 1959 to $11,600 million in 1960 excluding inventory changes. Although farm operating expenditures are estimated to have increased by $200 million, farmers were able to maintain their position by increased marketings, which provided $600 million more than in 1959, and by somewhat larger earnings from nonfarm sources. Net farm income in 1961 is forecast at about $1,000 million more than in 1960 because of anticipated larger marketings, higher prices for crops and increased government payments.

In spite of lower farm prices, the increase in production in Canada brought a rise in cash farm income, including all supplementary payments, to $2,861 million in 1960, a figure which has been exceeded only in 1952 and 1958. Because of the increase in prices paid by farmers, however, there may have been a fall in net farm incomes.

Preliminary estimates for 1960/61 indicate a rise of about DM1,000 million in Western Germany over the previous year. Incomes had fallen in 1959/60 as a result of drought and of poor harvests; farm sales were smaller and farm operating costs increased, largely because of the need for heavier purchases of animal feeding stuffs. In 1960/61 total farm sales were estimated to have risen by DM800 million to DM20,000 million, and production expenses (excluding investment and taxes) to have declined by DM200 million to DM11,900 million. Net cash returns were thus estimated at DM8,100 million, compared to DM7,100 million in the previous year.

In the United Kingdom, net farm income is estimated to have increased to £359 million from £356 million in 1959. Although difficulties were encountered in harvesting crops due to prolonged rains, the output of most crops increased, and sales of milk and milk products, fatstock, eggs and poultry

FIGURE II-8. - INDICES OF PRICES RECEIVED AND PAID BY FARMERS IN CERTAIN COUNTRIES, QUARTERLY



were appreciably higher. There was also an increase in the cost of goods and services used by farmers, due mainly to increased rents, wages and marketing expenditures, but this was offset by increased efficiency in farm operations.

In Denmark, despite an increase in the output of livestock products in 1960, farm returns were affected by a fall in prices of butter and eggs, coupled with an increase in farm costs. The changes made in agricultural support measures to meet this situation are summarized later in the section on agricultural policies. Agricultural production in Italy declined somewhat in 1960 due to unfavorable weather, but prices rose by about 1 percent and the value of farm sales was nearly as high as in the previous year. Production costs, however, rose and net returns to farmers fell by 6-7 percent. In Greece, prices received by farmers remained at about the same level as in the previous year, while farm costs rose by about 5 percent, but a reduction in output and farm sales resulted in an estimated decline of 7-8 percent in net receipts. Depressed conditions in the countryside led to an increase in movement to cities, and the migration from rural districts is estimated to have doubled in 1960. In Yugoslavia and Spain, a reduction in agricultural production also resulted in lower net returns to farmers in 1960.

Longer-term trends

Apart from such short-term fluctuations, a number of long-term trends have an increasingly important influence on farm incomes, especially in the economically more developed countries. Although each of the main factors is usually recognized, less attention has been given to their combined and cumulative effect, and a review of developments during the past five or ten years may be helpful in putting some of the problems of farm incomes into perspective.

Some of the main factors go back to the changes in the pattern of consumer expenditure that result from rising incomes. It has long been recognized that expenditures on food are rather closely related to the level of income. As incomes rise expenditure on food also rises, but at a diminishing rate. At high income levels a large increase in income leads to a rather small increase in the amount spent on food. Thus in families or communities where per caput incomes are high, the share of the income spent on food (and to a large extent on other agricultural products) is smaller than in less developed countries, where average per caput incomes are low. The total of consumers' expenditures on farm products, which represents the fund from which farm incomes are ultimately derived,[8] will therefore grow more slowly than the national income as a whole. In consequence, the income of the farm sector as a whole, though not necessarily that of individual farmers, tends to fall behind the income of the whole community. Food is not, of course, the only item which attracts a diminishing share of consumers' expenditures with rising incomes, but the effect is greater in agriculture than in any other *major* sector of the economy.

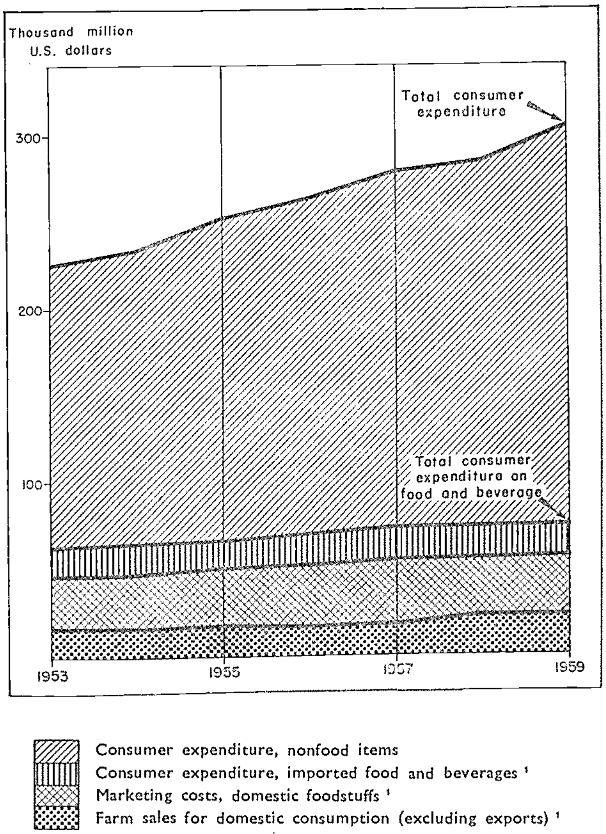
The percentage of total consumers' expenditures devoted to foodstuffs in some 26 countries is shown in Annex Table 16. A rough relationship is apparent with the degree of economic development and consequently with the level of per caput national income, though this percentage is of course also influenced by dietary habits. The Table also illustrates the downward trend of the percentage of consumers' expenditures spent on foodstuffs in most countries with the gradual rise in income levels.

The lag in farm incomes is intensified by the trend toward more elaborate processing, packaging, and other marketing services in the more developed countries. These absorb a gradually increasing share of the total consumers' expenditures on food and other farm products, and the share which goes back to the farmer is correspondingly reduced. In the more developed countries the income elasticity of demand for foodstuffs may be about 0.5-0.6 at the retail level and only of the order of 0.25 at the farm level. The small proportion which farm sales represent in total consumers' expenditures in the United States, one of the countries where the above trends have developed furthest, is evident in Figure II-9.

Only the United States publishes regular estimates of the cost of processing and marketing services and of the spread between farm and retail prices of foodstuffs. There the percentage of consumers' expenditures on domestically produced foods which went back to the farm is estimated to have fallen from 47 percent in 1950 to 41 percent in 1955 and 39 percent in 1960. A review of information available on farm to retail price spreads was published in the FAO *Monthly bulletin of agricultural economics and statistics* for November 1954. Since then, a

[8] Other sources of farm income, e.g., from exports or government subsidies, are discussed later.

FIGURE II-9. - UNITED STATES: PATTERN OF CONSUMERS' EXPENDITURE IN RELATION TO FARM SALES FOR DOMESTIC CONSUMPTION



SOURCES: UNITED STATES DEPARTMENT OF AGRICULTURE. *Marketing and transportation situation*, July 1960. - UNITED NATIONS. *Yearbook of national accounts statistics, 1960.*

[1] Data for 1959 estimated from total consumer expenditures on food and beverages.

certain amount of new information has become available, but the general picture has not significantly changed.

Some indication of the recent trend of price spreads may be obtained from a comparison of the movement of indices of farm and retail prices (Figure II-10). These comparisons of course give no indication of the magnitude of the spread. They are no more than a rough guide as to whether it was becoming wider or narrower during the period under review, 1953-60. Even for this purpose the comparison may be risky where a large part of the farm output consists of nonfood items, or where a large part of the food supply is imported.

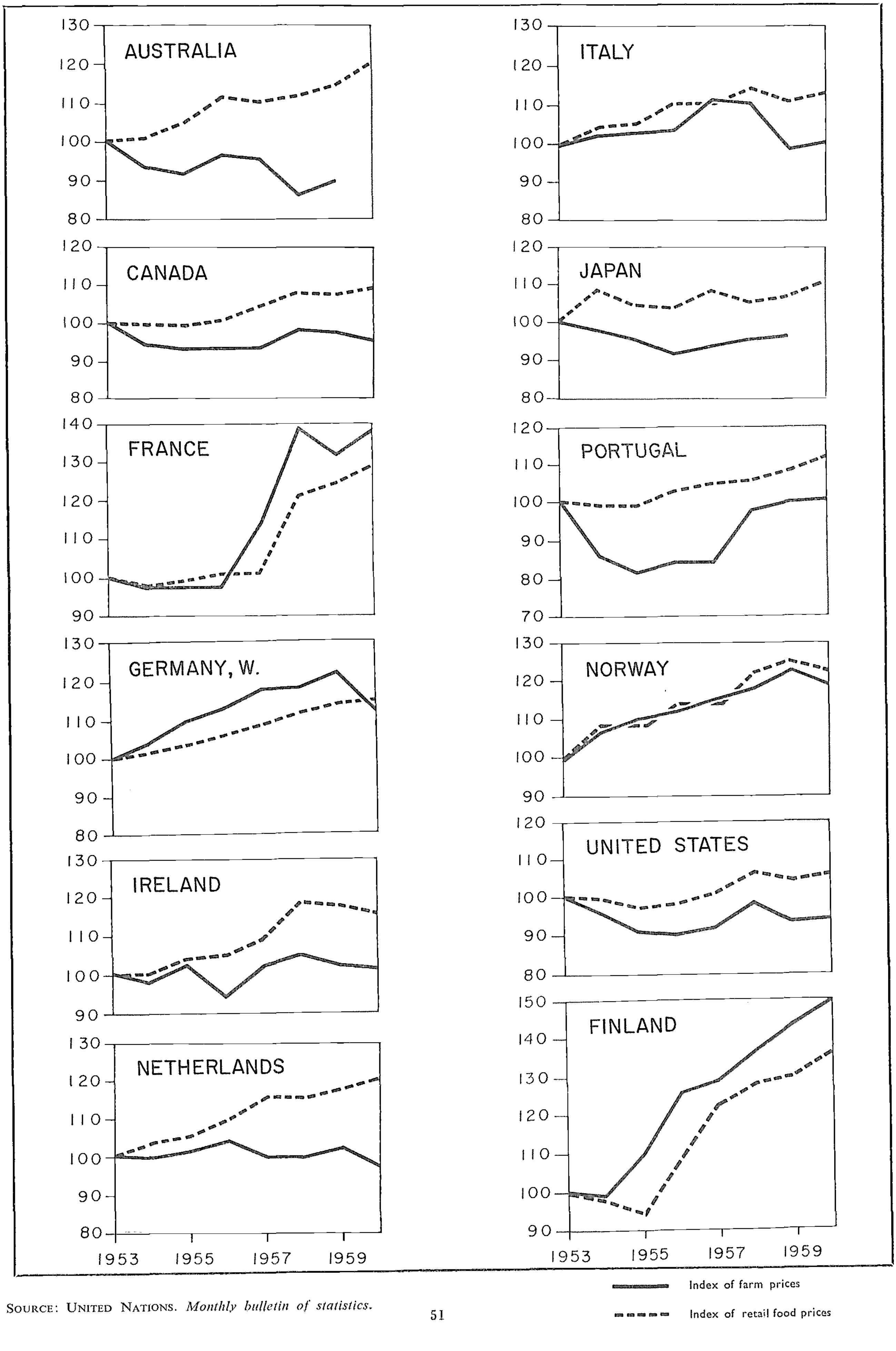
Data covering the whole period are available for 20 countries. In only three of these – France, Finland and (until 1959) Western Germany – have farm prices tended to rise faster than retail prices, indicating a narrowing of the spread. In three other countries – Norway, Switzerland and (until 1958) Italy – the two indices have shown little divergence. But in a considerable majority of countries retail prices have moved steadily ahead of farm prices, and in some instances – e.g., Australia, Canada, Portugal, the United States – have risen while farm prices were falling.

The gradually declining percentage of consumers' incomes spent on food, and the increasing cost and complexity of processing and marketing services are the two main factors which account for the diminishing share of *gross* farm returns in total consumers' expenditures. A third factor which influences the growth of the *net* income of the farm sector is the gradual rise in the proportion which production costs bear to total farm sales in more advanced agricultures. In economically less developed countries the main input in agricultural production is farm labor, and nonagricultural inputs are largely confined to the costs of the rather simple implements in general use. In more advanced agricultures an increasing proportion of the receipts from farm sales is spent on fertilizers, pesticides, fuel, lubricants, imported feeding stuffs and other requirements purchased from outside the agricultural sector or from abroad. While their increased use is an indication that they are generally profitable to individual farmers, especially in countries where labor costs are rising, they represent yet another drain into the nonfarm sector from the pool of consumers' expenditures on agricultural products from which farm incomes ultimately derive.

The rise in production costs from outside the farm sector in the more developed agricultures appears to apply more strongly to operating costs than to capital outlays. Figure II-11 shows operating costs in a number of European countries, and brings out both the gradually rising trend and the marked differences between countries. Thus operating costs account for something of the order of 10 percent of gross returns in the relatively less developed agricultures of Yugoslavia, Spain and Italy, compared with 40-50 percent in the Netherlands and the United Kingdom. In the United States, operating costs rose from 36 percent of the value of the gross output in 1950-52 and 37 percent in 1953-55 to 40 percent in 1956-58 and 42 percent in 1959. The figures are not strictly comparable with those for European countries, but they show the same general trend.

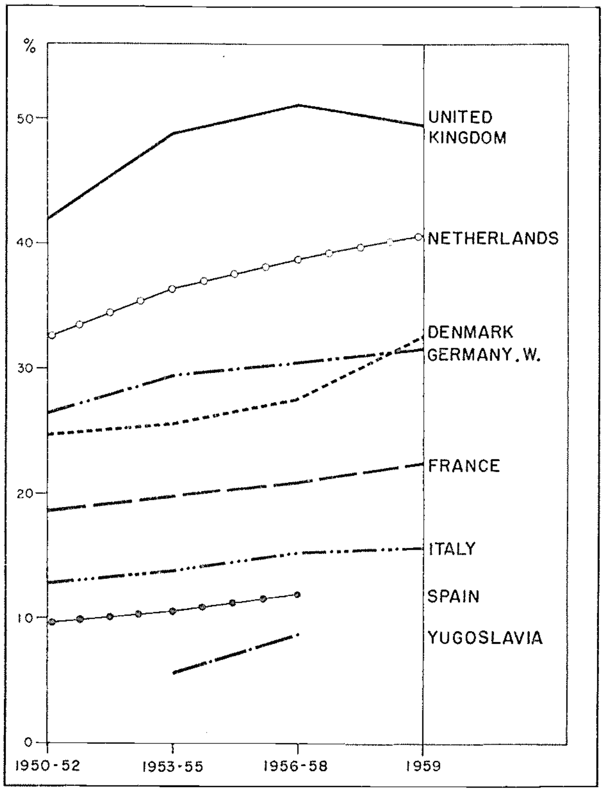
Composite figures for 14 countries of western Europe are set out in Table II-13. Because of various statistical weaknesses and some lack of comparability between countries, the data in this table,

FIGURE II-10. - MOVEMENT OF FARM PRICES AND RETAIL FOOD PRICES IN CERTAIN COUNTRIES (Indices, 1953 = 100)



SOURCE: UNITED NATIONS. *Monthly bulletin of statistics.*

FIGURE II-11. - CURRENT OPERATING EXPENSES OF AGRICULTURE AS A PERCENTAGE OF THE VALUE OF THE GROSS OUTPUT IN CERTAIN EUROPEAN COUNTRIES



SOURCE: FAO/ECE. *Output, expenses and income of agriculture.* Fourth report. Geneva. 1961.

as in Figure II-11, should be taken to indicate no more than the general order of magnitude. It appears, however, that the expenditures of the agricultural sector on goods and services purchased from other sectors (or from abroad, e.g., animal feeding stuffs) have risen nearly twice as fast as the gross output. As a result, at constant prices the net return to the farm sector has increased at little more than two thirds the rate of the total output.

TABLE II-13. - AGRICULTURAL GROSS OUTPUT, CURRENT OPERATING EXPENSES (FROM OUTSIDE THE FARM SECTOR) AND NET RETURN (VALUE ADDED) IN 14 EUROPEAN COUNTRIES[1]

	Gross output		Current operating expenses		Net return	
	1,000 million $	Index	1,000 million $	Index	1,000 million $	Index
1950-52	22.0	100	6.0	100	16.0	100
1953-55	24.5	111	7.2	119	17.3	108
1956-58	25.9	118	8.2	137	17.7	111
1959	27.8	126	8.8	146	19.0	119

SOURCE: FAO/ECE. *Output, expenses and income of agriculture.* Fourth Report. Geneva. 1961.
[1] Austria. Belgium. Denmark. Finland. France. Western Germany. Ireland. Italy. Luxembourg. the Netherlands. Norway. Sweden. Switzerland. the United Kingdom.

From the limited data available, capital expenditures in the European countries appear to vary less than operating expenses in relation to gross output, ranging from 8-9 percent in Norway and Belgium, through 10-12 percent in Poland, Yugoslavia and France to 14-17 percent in Sweden, the United Kingdom and Western Germany. Although capital outlays on farm machinery are usually proportionately larger in the more developed agricultures, this relationship does not necessarily apply to investment expenditures as a whole. One reason is that often, in the more developed countries, farms already have a large stock of capital in farm buildings, etc. Another is that the need to expand output is usually greater in the lower income countries because of the more rapid growth of demand for farm products. In some of these countries, a considerable part of the total agricultural investment represents government expenditures on land reclamation and improvement, including expenditures resulting from agrarian reforms.

To recapitulate, because of the trends discussed above there is a continuing tendency in the more developed countries for consumers' expenditures on farm products to grow more slowly and hence to lag behind total consumer incomes and expenditures, for gross farm receipts to lag behind expenditures on farm products, and for net farm receipts to lag behind gross receipts. The income of the farm sector as a whole thus grows considerably more slowly than the national income as a whole, and if the distribution of labor resources were unchanged, per caput farm incomes would grow correspondingly more slowly than per caput incomes in the whole economy.

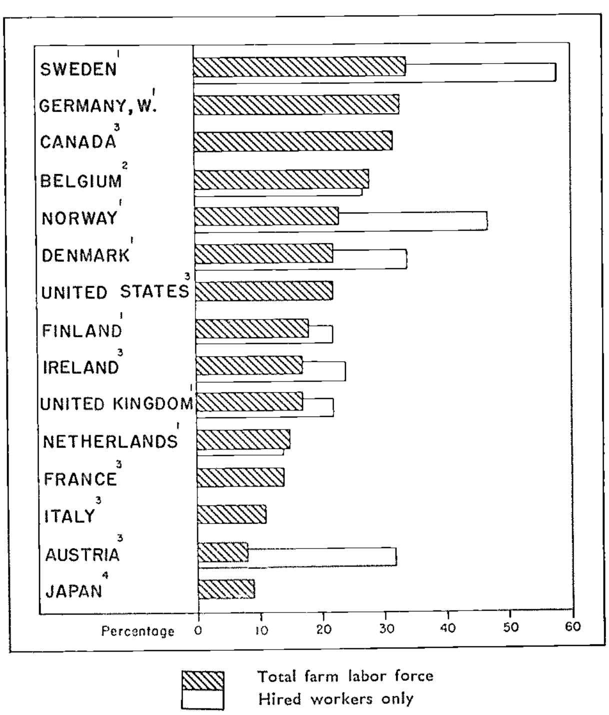
In fact, as is well known, this tendency is at least partly offset by the steady migration of manpower from agriculture to other occupations, so that the income of the agricultural sector has to be shared by fewer and fewer people. Per caput incomes in agriculture thus rise more rapidly (or fall more slowly) than the aggregate income of the sector. For the economy as a whole, on the other hand, the rising aggregate income has to be shared by more and more people because of the growth of population, and per caput incomes therefore rise more slowly than the aggregate national income.

The magnitude of the fall in the farm labor force during the past decade in the more developed countries is in fact striking, exceeding 30 percent in some countries, including Sweden, Canada and Western Germany, though in Western Germany the effect is probably influenced by the large number of refugees settled temporarily on the land in the early 1950s (Figure II-12). It may be noted that even in the United Kingdom, where the farm population is of the order of 5 percent of the total, the decline still continues.

In Japan, where the farm population had shown little rise or fall for a number of years, a definite downward trend has been evident since the mid-1950s; this is the first country in Asia to show a downward trend in the absolute numbers of the farm population.

Statistics of farm populations, however, are seldom available on a fully comparable basis, and for some countries the data shown represent the fall in the population and for others the fall in the labor input in man-years or similar labor units, which take into account changes in the number of part-time workers, members of farm families, etc. Where, for example, there has been a decrease in the amount of farm work done by the wives of farm operators, the fall in the actual farm population may be rather less than is indicated by the fall in the input of labor. Separate data have been included where available for the fall in the number of hired workers. In most countries, this is substantially larger than the fall in the total agricultural labor force. The fall in the percentage of farm operators has been greater, however, in a few countries including the United States, where there has been a considerable grouping of farms into larger units.

FIGURE II-12. - ESTIMATED PERCENTAGE DECLINE IN THE FARM LABOR FORCE, IN CERTAIN COUNTRIES 1950-59



SOURCE: FAO/ECE. *Output, expenses and income of agriculture.* Fourth report. Geneva. 1961. and national statistics.

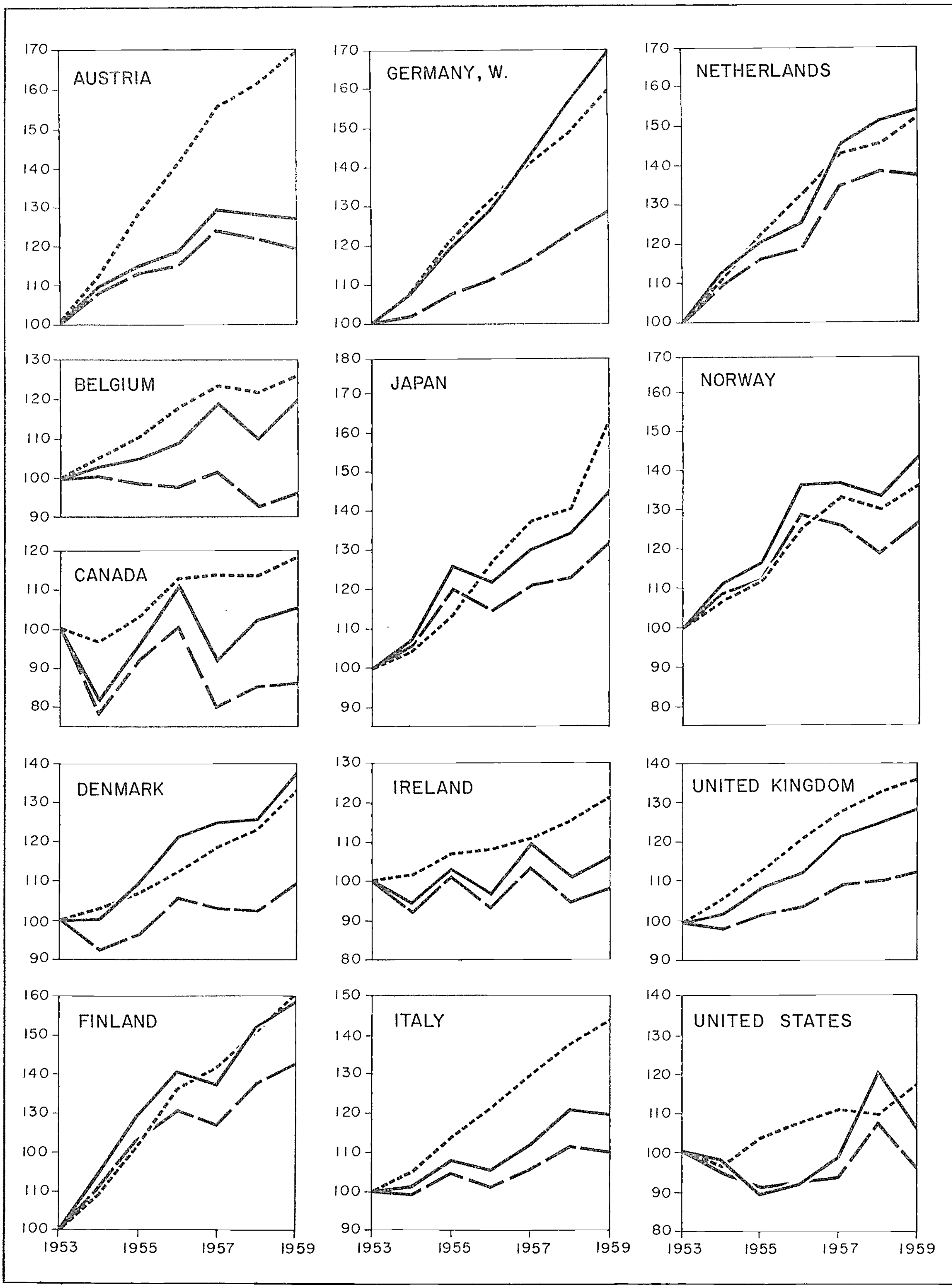
[1] Man years. - [2] Active population. - [3] Labor force. - [4] Population dependent on agriculture.

Consideration may now be given to how far the fall in the farm population in the economically more developed countries has prevented per caput incomes in agriculture from falling further behind those in other sectors. No categoric answer can be given to this question, but some broad indications may be obtained by combining the data on the fall in the farm labor force in Figure II-12 with the estimates of the output of the agricultural sector included in national income statistics. These are the most widely available statistics on a reasonably comparable basis for a considerable range of countries. They represent the net return to the farm sector after deducting the value of inputs from other sectors of the economy or from abroad (value added).[9]

Indices of the growth of total and per caput income originating in the agricultural sector, in comparison with indices of the growth of the per caput product for the whole economy, are shown in Figure II-13 for 13 countries, for which data are available from 1953 to 1959. In all these countries per caput income originating in agriculture has grown significantly faster than the total agricultural income. It appears more or less to have kept pace with the growth of per caput product of the economy as a whole in Denmark, Finland, Western Germany, the Netherlands and Norway. In the remaining eight countries the gap between farm and national incomes appears to have widened, though much less than if there had been no migration from agriculture. It should be stressed, however, that the data do no more than indicate how income has grown in the

[9] It should be noted, however, that although this represents the main part of the income of the agricultural population (including hired workers and landowners), it is not the whole farm income. In particular, it does not include income accruing to the farm population from other sectors, including earnings from part-time work or investment outside agriculture, and it omits also direct transfer payments from other sectors, such as the subsidies and other payments made under certain agricultural support measures. Though this qualification, as well as the limitations of the farm population data, should be borne in mind, the comparisons are nonetheless of considerable interest.

FIGURE II-13. - AGGREGATE AND PER CAPUT INCOMES ORIGINATING IN AGRICULTURE IN COMPARISON WITH PER CAPUT NATIONAL INCOME FOR THE WHOLE ECONOMY
(Current prices. Indices 1953 = 100)



Per caput gross national product (whole economy)

Per caput gross product, agricultural sector

Aggregate gross product, agricultural sector

SOURCE: UNITED NATIONS. *Yearbook of national accounts statistics 1960.*

farm sector relative to the whole economy. They give no measure of how actual incomes in agriculture compare with those in other sectors. Such a comparison is difficult, and for a discussion of the methods which may be employed reference should be made to Chapter III of *The state of food and agriculture 1959.*

In the United States, where very complete analyses of farm incomes are published regularly, the same trends are evident. Over the decade from 1949 to 1959 the aggregate income originating in farming fell by nearly 8 percent (at current prices), but the per caput income rose by about 10 percent because of the fall in the farm population. At the same time, income from nonfarm sources rose considerably, and if these are taken into account the increase in per caput farm incomes during the decade was 26 percent. The rise in per caput incomes in other occupations, however, was still faster. The per caput income of the farm population from all sources was estimated to be about 51 percent of the average nonfarm income in 1949, but by 1959 this figure had fallen to 44 percent.

A few of the countries included in Figure II-13 make estimates of the growth of the national product and of the fraction originating in agriculture at fixed prices as well as at current prices. When this information is available a similar calculation to that in Figure II-13 enables a rough comparison to be made of the relative growth of productivity per man in agriculture and in the economy as a whole. The results (Table II-14) show that in the economically more developed countries productivity in agriculture has often kept pace with and sometimes exceeded the growth of productivity in the economy as a whole.

TABLE II-14 - GROWTH OF PRODUCTIVITY IN AGRICULTURE AND IN THE ECONOMY AS A WHOLE, 1953-59

(Output per caput at fixed prices in 1959 in relation to 1953)

	Whole Economy (1)	Agriculture (2)	(2) as percentage of (1)
	.... *Indices 1953 = 100*		*Percent*
Denmark	109	133	122
Norway	110	121	110
Germany, Western	139	147	106
Finland	122	125	102
Belgium	113	115	102
Italy	132	124	94
Austria	144	121	84

Finally, it may be useful to compare the above situation in the more developed countries with that in the less developed countries. There the position differs in at least two important respects. At the low levels of per caput income in less developed countries, the income elasticity of demand for food at the retail level is still fairly high, ranging up to something of the order of 0.8. A considerably larger share of any rise in income is spent on food, as also on textiles. Expenditures on agricultural products therefore lag behind total incomes and expenditures less than in the more developed countries.

Secondly, in almost all less developed countries, farm populations are still rising, though usually at a slower rate than the population as a whole. The migration to other occupations is not yet fast enough to offset the natural growth of the farm population. Thus the total net income of agriculture has to be shared among a gradually increasing farm population and, as in the economy as a whole, per caput incomes rise more slowly than aggregate incomes.

In short, in economically less developed countries, the disparity between the rate of growth of the agricultural product and the national product is likely to be smaller than in the more developed countries, but this disparity is less likely to be offset by the redistribution of the labor force between agriculture and other occupations.

FARM INCOMES AND PRICE POLICIES

The foregoing discussion appears to have a number of significant implications, particularly on the effectiveness of various measures of price support. There is no space here to develop the matter fully and it may perhaps form the subject of a later study. Especial interest attaches, however, to the data in Annex Table 16 which brings out the great regularity in all countries in the percentage of total consumer expenditure devoted to foodstuffs. This is the more remarkable in that in a number of the countries there were sharp changes in the indices of retail food prices during the period covered. These increases in price appear to have had hardly any effect on the percentage of the total expenditure devoted to food.

If the share of consumers' expenditures devoted to food is not greatly affected by a rise in food prices, the question arises how far, and in what circumstances, the general expectation is correct that higher farm price supports can be used to raise farm incomes, or at least that part (usually the major part) which derives from the domestic market.

The surprising stability of the share of consumers' expenditures devoted to food seems likely to result from a combination of two reactions:

1. A rise in farm prices may trigger off a series of increases in wages and in the prices of other goods which fairly soon restores the *status quo* and leaves the farm sector in about the same position as before.

2. If retail food prices rise appreciably, consumers even in the wealthier countries may make some adjustment in their consumption pattern toward cheaper types or qualities of food or reduced services (e.g., fewer meals in restaurants) in order to offset at least part of the effect of the higher prices.

If this were the whole story, it would appear that while changes in the level of price supports might change the returns going to producers of one type of farm commodity or another, they would not greatly influence the total return going to the farm sector as a whole.

In fact the situation is considerably more complex. In the first place, these considerations would not apply when price support measures are not implemented by e.g., import or export controls, but by some means such as deficiency payments which do not directly influence consumer prices. In that case there is a direct transfer of funds from general taxation to the farm sector, over and above total consumers' expenditures on farm products.

Of still wider application is the fact that nearly all countries are importers of at least some farm products. How much of the total of consumers' expenditures goes back to domestic producers will thus also depend on what share of the market is met by domestic production and what share by imports. This proportion may be considerably influenced by agricultural support measures, not only when domestic price levels are regulated by e.g., import or export controls, but also if price or other agricultural supports (e.g., subsidies on fertilizers) lead to an increased domestic output. In recent years it is probable that, in many countries, the contribution of price supports to farm incomes has resulted at least as much from their effect on competitive imports as from their effect in stabilizing farm prices and encouraging increased productivity.

Price supports may also have a considerable effect on the share of consumers' expenditures which goes back to the farm sector. Processing and distribution costs tend to be inflexible and fluctuate much less than farm or retail prices. In particular, if prices fall because of reduced demand or heavier supplies, there is seldom any appreciable fall in marketing costs unless prices remain at the reduced level over a long period. In the absence of effective price supports, farm prices thus fall proportionately much more than retail prices. Marketing costs then absorb a larger share of consumers' expenditures and there is a corresponding reduction in the share which goes back to the farm sector.

So far the discussion has been concerned only with returns from sales on the domestic market. This is usually the largest part, but it is not of course the whole of the income of the farm sector. Earnings from outside agriculture are becoming important in a good many countries, but are somewhat extraneous to the present discussion. The increased income to farmers which may result from larger exports of agricultural products, however, is an aspect which should be considered. In effect the farmers in the exporting country earn part of the total consumer expenditure on food in the importing country.

As pointed out in an earlier section, the recent growth of the commercial export market for farm products has been very slow. World markets are already heavily supplied with most farm products and any appreciable increase in the total volume of exports is likely to result in lower prices. At the present time, prospects of higher farm earnings from increased exports appear to a large extent to depend on the possibility of successful competition with other exporters.

When, however, as sometimes occurs under price support systems, increased exports are facilitated by direct or indirect subsidies from general taxation, the situation appears to be somewhat different. For example, exports over and above what could be shipped on a commercial basis become possible, e.g., for famine relief or to aid economic development in less developed countries. In such circumstances the increase in farm incomes in the exporting country appears to result largely from transfer payments from other sectors of the economy. This also appears to be the case when farm support prices are maintained by continuous additions to stocks made by state purchase.[10]

To summarize, a relatively high level of price supports seems unlikely to be very effective in raising farm incomes unless it enables domestic producers to capture a larger share of the home market, or unless it can be implemented by transfer payments. It appears unlikely, except in the very short term, to lead to higher incomes through increased consumer expenditures, even in economically more developed countries. Price supports can, however, be of assistance in maintaining farm incomes at times of failing demand or excessive supply, to a large extent by helping to maintain the share of consumers' expenditures on food which goes back to the farm sector. Transfer payments appear the most direct way of raising farm incomes, whether used as a means of implementing price supports, or to reduce production costs, e.g., by subsidies on fertilizers. In the latter case they may also help to raise farm productivity.

It was noted earlier that, while raising farm incomes is seldom a direct objective of policy in economically less developed countries, the need to increase and stabilize farmers' market returns, as an incentive to increased production, is becoming more widely appreciated. The possibilities, however, are more restricted than in developed countries. Because of the general poverty, consumers' expenditures on farm products are low and inelastic, while transfer payments from general taxation are seldom feasible, because of low government revenues.

In these countries, opportunities for increasing farm incomes appear to lie primarily in increased production which, in turn, usually implies improved methods of farming, requiring larger inputs of labor and material. In most less developed countries, this is a more promising means of raising farm incomes than it might be in many of the more developed countries where an increase in output carries with it the danger of creating surpluses. Increased production in less developed countries is in fact essential, as is discussed later, because of the quickly rising domestic demand for agricultural products, under the combined influence of a rapidly expanding population, and of industrialization which leads to a proportionately still faster growth of the urban population and market. Moreover, many less developed countries are now substantial food importers, so that there is also the possibility of capturing a larger share of the domestic market.

In view of the difficulties stemming from their shortage of investment funds, the poverty and limited technical knowledge of their farmers, outdated and hampering institutions, and often rural overpopulation, the rate of growth of farm production in many less developed countries has been impressive. It should be added, however, that in these countries some basic price supports, even at a low " insurance " level, are particularly valuable. For, in spite of the great nutritional need for more food in these countries, the effect on farm prices and incomes, if output temporarily exceeds the very restricted purchasing power of their consumers, can be even more catastrophic than in higher-income countries. The surplus of sugar which emerged in India in 1955 and again in 1960, and the sudden fall in farm prices of grain in 1954-55, following good harvests, are examples of the great vulnerability of farmers in less developed countries.

Consumer prices

Many of the more important aspects of consumer purchases of farm products have already been discussed in connexion with farm incomes. It remains, however, to review retail price developments during 1960.

In general, the rise of retail food prices, and also of retail prices as a whole, still continued in most countries in 1960. Of the 71 countries for which indices of retail food prices are available, prices advanced in 1960 in comparison with 1959 in 49 countries, remained the same in 6, and declined in 16 countries. This is approximately the same distribution as in the previous year. In 25 countries, the rise was greater than 3 percent in 1960, but retail food prices declined by more than 3 percent in only 4 countries. The trend of general retail prices was even more consistently upward, and of 74 countries for which these indices are available there was a rise in 63 in 1960, a fall in only 5, and no change in 6.

[10] The operation of a buffer stock to smooth out the effect of short-term seasonal fluctuations in supplies is of another character, and need not involve transfer payments if the stock shows no tendency to continuous growth.

From the longer-term point of view, in 68 countries for which retail food price indices are available from 1953 to 1960, only 7 showed a decline over this period, while 28 showed a rise of over 20 percent. In 17 of these countries (mainly in Latin America and the Far East) the rise was more than one third. There was no uniform tendency for food prices either to run ahead of or to fall behind general retail prices during this period. In about one third of the countries, there was no significant difference between the rise in the two indices, while in approximately another one third, food prices rose rather faster and in the remaining third rather more slowly than retail prices as a whole.

In 1960, there were generally only small changes in retail food prices in western Europe and North America. It is noteworthy, however, that during the 1960 recession, as in that of 1957-58, food and other retail prices still increased slightly in Canada and the United States. In western Europe, food prices rose very sharply in Sweden and Yugoslavia, but elsewhere they were relatively stable and in Ireland, Norway and the United Kingdom there were slight declines. Among other more developed countries, prices rose significantly in Australia in 1960, despite the easing of import restrictions, and general consumer prices increased by about 5 percent during the course of the year.

Price movements tended to be greater in the economically less developed regions. In Latin America, although inflation has slowed down in many countries, in some the rapid rise in prices still continues. Uruguay showed the greatest increase during 1960, with a rise of 58 percent in food prices and of 44 percent in general consumer prices. Much of this sharp increase results from the establishment of a free and unified exchange rate and from monetary devaluation, as well as from the decontrol of wheat supplies, following which retail bread prices have risen by more than 50 percent. The large upward pressure on consumer prices in Brazil stems mainly from substantial budgetary deficits and foreign exchange reforms. In Argentina, prices are still affected by the decontrol and liberalization policy put into effect over the last two years, although the rate of price increase has slowed to about 25 percent in 1960 as compared with over 100 percent in 1959. Similarly, inflation has slowed down in Chile and Peru as the effects of government austerity programs and economic stabilization have become felt. In Chile, prices advanced 15 percent in 1960, as compared with over 30 percent in 1959. In Peru, consumer prices rose by little more than 2 percent, the smallest increase in 21 years.

Inflationary pressures also persisted in some countries of the Far East. In Taiwan, the retail food price index averaged nearly 25 percent higher in 1960 than in 1959, because of increased taxes imposed to repair the serious flood damage of August 1959, as well as the poor 1959/60 rice crop that resulted from the floods. However, prices declined later. Prices increased rapidly in South Korea in the early part of 1960, and although the inflation halted momentarily in the last quarter of the year, consumer prices rose again in the first two months of 1961. In Burma retail prices began to climb with the removal of price controls in March 1960, and by July retail food prices were more than 20 percent higher than at the beginning of the year. Controls were therefore reintroduced at the end of July and arrangements made to provide stocks of essential goods for release as a measure of price control. In Indonesia, partly because of budget deficits and a shortage of consumer goods due to import restrictions, retail food prices increased by 27 percent between January and August 1960, but monetary and trade reforms subsequently helped to bring about a slackening of the inflationary pressure. In Japan, food prices rose by 4 percent from 1959 to 1960. Pakistan had stable prices throughout 1960. In India, a decline in food grain prices resulting from a record stock of wheat and rice and the prospects of a bumper harvest halted the upward trend of the last four years. The Ceylon Government reduced the subsidized price of the rice ration, distributing imported rice at far below landed cost, and there was a 4-percent reduction in food prices during 1960.

In the Near East, Iran showed the largest increase in retail prices, with a rise of 10 percent in food prices and of 8 percent in general prices from 1959 to 1960. After a price decline in the Sudan from 1959 to 1960, prices advanced in the last half of 1960 and the first two months of 1961. A definite trend downwards in both food and general retail price indices was evident in Turkey, where food prices registered a 3 percent decline between January and December 1960. This was a sharp reversal of the 120 percent rise in both indices over the preceding seven years.

Retail prices continued to increase in most parts of Africa during 1960, though there were slight declines in food prices in Ghana and in Tanganyika.

Institutional agricultural credit

The importance of farm credit on reasonable terms is being increasingly appreciated by governments. In the economically more developed countries, where agriculture is becoming more capital-intensive, there is a parallel increase in the need for credit. In less developed countries, the need may be even more pressing. Where farmers are almost without liquid resources, credit on reasonable terms is needed to finance the preparations for their next crop, to enable them to make a modest start in adopting improved methods of farming, and often to enable them to avoid selling at the very low prices ruling immediately after the harvest, or to cover their living expenses from one harvest to the next.

Since 1951, by means of a two-yearly questionnaire, FAO has collected regular information on the availability of institutional credit in member countries. It should be emphasized that in most countries institutional credit is only a part, and often a very small part, of the total of agricultural credit. In addition to the institutional credit received from government agencies, banks, etc., farmers make extensive use of credit from private sources, including the merchants who buy their crops or sell them farm requisites, from landlords, moneylenders and often from relatives. In less developed countries in particular, interest rates on such loans are usually very high. Statistics on the extent of noninstitutional credit inevitably hardly exist, but the importance of such credit is not to be doubted. For example, in the well-known survey of rural credit carried out in 1952 by the Reserve Bank of India, it was estimated on the basis of sample surveys that institutional credit accounted for only about 7.5 percent of the credit received by Indian farmers, the balance coming from private sources.

While this is likely to be an extreme case, it should be stressed that the data on institutional credit assembled by FAO (Annex Table 17) represent only a part of the total credit available, and that this proportion varies widely from country to country. Unless this last point is borne in mind, comparisons between countries may be seriously misleading. The main interest of the data lies in the evidence they afford of the increasing supply of institutional credit now becoming available to farmers in many countries of the world.

Information received from countries includes both the amount of institutional credit issued during the past year, and the amount still outstanding at the end of the year. Not all countries are able to supply both figures but, where available, a comparison between them is of considerable interest. In many of the more developed countries, where much of the institutional credit is on a fairly long-term basis, e.g., for the purchase of farms, for farm buildings or for the purchase of machinery, the amount of credit still outstanding at the end of each year greatly exceeds the amount issued during the year, often three- or fourfold. In contrast, farm credit in most less developed countries is largely of the nature of short-term production loans and, where there is a rapid turnover of funds, issues during the year may considerably exceed the amount still outstanding at the end of the year (Table II-15). If the ratio is relatively high and more comparable to that found in economically more developed countries, it is likely that a good deal of the credit is furnished to the larger farmers on a long-term basis. In general, it appears that in the more developed countries the total amount of credit outstanding is usually of most significance. For economically less developed countries, on the other hand, more interest attaches to the amount issued during the year.

A comparison of the credit outstanding at the end of the year in a number of more developed countries from 1951 to 1959 indicates that in many cases there has been a very considerable increase in the credit available and used (Figure II-14). The data are given in current values (converted to US $)

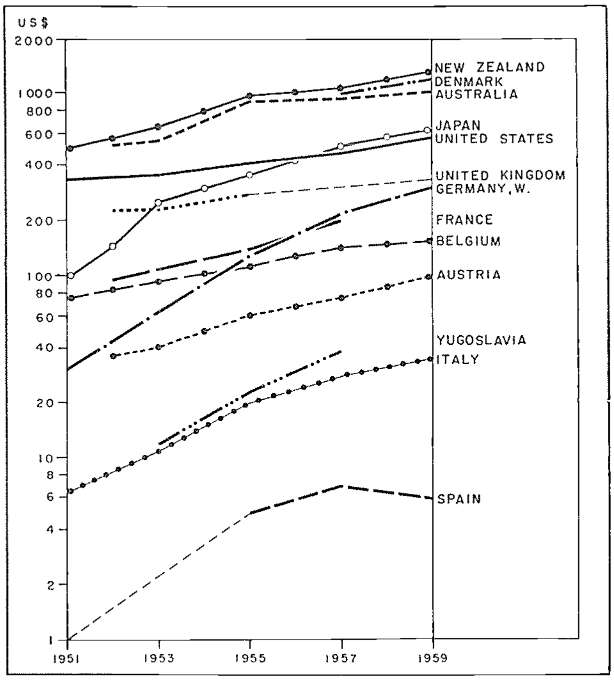
TABLE II-15. - INSTITUTIONAL FARM CREDIT: LOANS OUTSTANDING AT END 1959 (OR 1957) AS PERCENTAGE OF NEW LOANS DURING THE YEAR

Percent	Countries
Under 50	[1]Chile, [1]Mexico, Portugal, [1]Taiwan, U.A.R. (Egyptian Region)
51 - 100	Argentina, Cambodia, [1]Colombia, [1]Greece, [1]Mauritius, [1]Morocco, [1]Pakistan, [1]Panama, [1]Ruyuku Islands, [1]S. Korea, U.A.R. (Syrian Region)
101 - 150	Ceylon, Cuba, Iraq, [1]Kenya, [1]Martinique, Nigeria, Poland, Togo, Trinidad, [1]Turkey, [1]Yugoslavia
151 - 200	Cyprus, Iran, Italy, Sarawak
201 - 300	[1]France, [1]Jamaica, [1]Philippines, Spain, U.S.A., W. Germany
Over 300	Belgium, Israel, [1]New Zealand

[1] 1957.

FIGURE II-14. - INSTITUTIONAL AGRICULTURAL CREDIT: TOTAL OF LOANS OUTSTANDING AT THE END OF THE YEAR IN CERTAIN COUNTRIES

(U.S. dollars per head of population dependent on agriculture: semilogarithmic scale)



and no allowance has been made for any increase in prices. Nevertheless it is evident that in a good many countries the rate of growth far exceeds any inflation which may have occurred. For example, between 1951 and 1959, the total of outstanding loans increased ten times in Western Germany, more than five times in Italy and Japan, and roughly doubled in Australia, New Zealand, the United States and Finland. Many other countries showed rapid rates of growth. The data in Figure II - 14 are presented in relation to agricultural population, since for many countries data are not available on the number of farm operators, which might have been a more appropriate basis. It should be repeated, however, that the information relates only to institutional credit and even so in some cases is not complete. If the data for private credit could also have been included, the relative position of the countries would probably have been substantially changed.

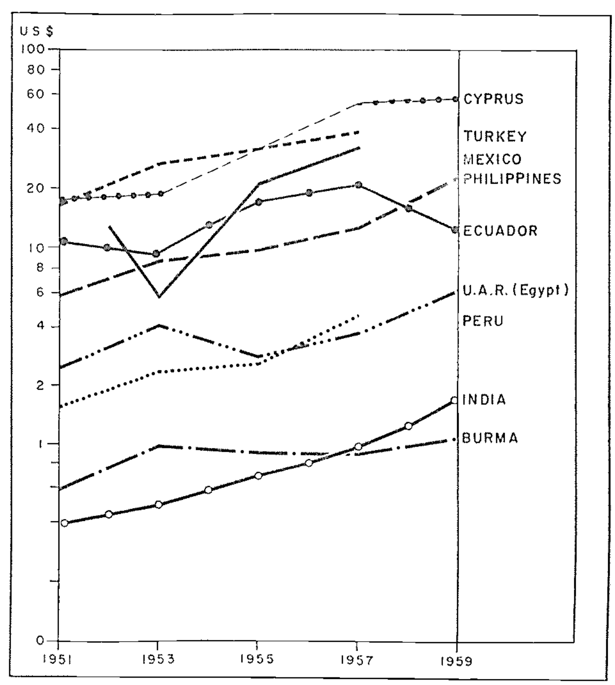
This comment applies also to Figure II-15, which shows for a number of economically less developed countries current issues of credit in 1951, 1955 and 1959, also in relation to the total agricultural population. The distortion due to price inflation may be more considerable for some of these countries than for those in Figure II-14. There is again evidence, however, that in a good many less developed countries, real though sometimes rather uneven progress is being made in providing farmers with greater availability of institutional credit. Turkey, the Philippines and Peru, for example, are among the countries which show substantial progress. India has increased the total of loans issued more than four times between 1951 and 1959, though the amounts available are still small in relation to needs.

Nevertheless, most of the less developed countries have a long way to go before institutional credit will be significant for the majority of farmers in raising productivity. As a rule the task is so great that only the government or a government sponsored institution can extend credit to a considerable number of farmers. However, in the countries where increased credit is most needed, even available government funds are often quite inadequate.

The operation of official credit agencies is often criticized as needlessly time-consuming. In addition, institutional credit often has to be secured on immovable property, which many small farmers do not have. Despite very heavy interest rates, private moneylenders can thus often compete successfully with

FIGURE II-15. - INSTITUTIONAL AGRICULTURAL CREDIT: LOANS ADVANCED DURING THE YEAR IN CERTAIN COUNTRIES

(U.S. dollars per head of population dependent on agriculture: semilogarithmic scale)



credit institutions. If real progress is to be made, loans must be available against, e.g., the security of crops, and more emphasis placed on the integrity of the borrower and his ability to repay rather than on security on property.

One characteristic of agricultural credit institutions in underdeveloped countries is that they start off slowly and that results are often discouraging for the first years. Because of the many obstacles to be overcome, progress has to be evaluated over a period of many years. For example, after more than 50 years of institutional credit operations in India, only 10-12 percent of the agricultural credit is now estimated to be extended by institutions, though this represents a considerable improvement over the figure of 7.5 percent for 1952, quoted earlier. In Japan, where co-operative credit institutions are now a main source of agricultural credit, nearly 50 years were required for them to reach this position. Although more underdeveloped countries have become interested in extending and improving institutional agricultural credit, the unorganized money market remains by far the most important source of credit to farmers. New sources of institutional credit during 1960/61 are discussed in the following section.

Agricultural policies and development plans

Modifications in agricultural policies and programs were relatively numerous during 1960/61, in both developed and less developed countries. Most were, in essence, attempts to match production more closely to the level and pattern of demand at prevailing price levels, which for some years now has implied an opposite approach in the two groups of countries. In the economically more developed countries the main problem has been to avoid the further accumulation of surplus stocks. Most of the less developed countries, in contrast, are endeavoring to expand output more rapidly in order to keep pace with the growth of demand.

The underlying reasons for this difference have been discussed in earlier issues of *The state of food and agriculture*. Briefly, in the more developed countries incomes and food consumption have reached levels where further rises in disposable income lead to only relatively small increases in expenditures on all but a few agricultural products. The effect on farm sales is still less, since part of any increased expenditures on food reflects more elaborate methods of processing and distribution. Thus the growth of demand for farm products is hardly greater than the growth of population which, although fairly rapid in North America and Oceania, is now very slow indeed in most of western Europe. Agricultural production, however, tends to increase rapidly in the more developed countries, for technical progress has been substantial and its adoption in farm practice is encouraged by agricultural support policies. In these circumstances surpluses tend to emerge, first in one commodity, then in another. Moreover, as discussed earlier in this chapter in connection with farm incomes, the slow growth of demand also makes it difficult to prevent farm incomes and levels of living from falling further behind those in other sectors of the economy.

In the less developed countries it is more often the demand that runs ahead of the supply. Population growth is usually fast and is still accelerating, and any increases in the low levels of income are largely spent on food and other agricultural products. Production, especially for the market, is difficult to expand because of backward methods of farming, while the adoption of improved techniques is retarded by widespread poverty and ignorance, and in many countries by systems of land tenure or marketing which leave farmers little incentive to produce more for sale. Because production has fallen behind the demand, food prices have tended to rise, and many less developed countries have had to import more food or to restrict exports of foodstuffs.

Paradoxically, the most rapid headway in increasing agricultural production in the less developed countries has been made with some of the commodities grown primarily for export to the more industrialized countries. Agricultural research and marketing and other improvements have tended to be concentrated on these products by governments anxious to increase export earnings, and a rapid expansion of output has often been obtained. For many of these products, however, the growth of the demand in the industrialized countries has been slow, for the reasons already mentioned. For some of them, indeed, the scope for imports has also been restricted by increased domestic production or by the development of substitutes. The increased supply for export has therefore often brought lower prices and sometimes reduced gross earnings, and for a few commodities, notably coffee and more recently cocoa, stocks have begun to accumulate in producing countries.

In western Europe there have been a number of modifications in price policies during the past year, chiefly concerning grains and dairy products, supplies of which are at present particularly heavy in many countries of the region. Price supports for dairy products have nevertheless been raised in some countries, so as to offset rising costs and maintain incomes, and it is hoped to restrict production by other forms of control, for example by limiting imports of animal feedingstuffs or by establishing production quotas. To help maintain farm incomes in the present increasingly competitive conditions, western European countries have also continued to emphasize the raising of efficiency through government assistance for improved practices and for the rationalization and improvement of farm structures and organization, though it is often found difficult to increase efficiency without an unwanted rise in output.

New proposals for the Australian dairy industry also stress measures to reduce costs, and aim at the eventual transfer of the less efficient farms to other branches of production. Similarly in Canada some of the provisions of the Agricultural Rehabilitation and Development Act at present before Parliament cover projects for the alternative use of marginal land. The Basic Agricultural Law enacted in Japan in June 1961 is designed to help family farms become viable economic units, mainly through structural improvements.

In the United States, the new administration is undertaking a major reappraisal of existing agricultural policies, which have not been conspicuously successful in preventing the continued accumulation of stocks. The Emergency Feed Grain Program introduced in March 1961 may perhaps be indicative of future lines of policy if it should prove more effective than earlier measures. Increased support prices for maize and sorghum are made conditional on a reduction in acreage and will also be limited to normal yields per acre, since more intensive cultivation has hitherto frustrated attempts to limit production through lower acreage. Other farm legislation at present before the United States Congress also has several new features, including proposals for the wider use of quotas and for the participation of producers' representatives in the formulation of commodity programs.

One of the most notable developments during the period under review is a greatly increased interest in utilizing surplus foods for economic development. The United States administration has proposed the extension on a longer-term basis, together with a considerable increase in funds, of Public Law 480, which has been the major instrument of surplus disposals under special terms. Proposals have also been made for the establishment of a multilateral framework for the disposal and utilization of part of the existing surpluses.

In the less developed regions, most of the new development plans that have been announced are wider in scope than previous plans. Many of the newly-independent African countries have drawn up new plans, several of which attempt the comprehensive programing of the whole economy, including the private sector. The latest plans for both regions of the United Arab Republic and some other countries in the Near East also include the nongovernmental sector for the first time. In Latin America, plans covering total government investment are becoming more common, in place of earlier programs confined to single sectors, regions, or commodities. In some of the countries of the Far East it appears that the difficulty of expanding agricultural production sufficiently has induced a shift of emphasis toward agriculture, in terms of the proportion of the total planned investment devoted to this sector.

In spite of their urgent need to increase production, the less developed countries can seldom afford the incentive prices that have been a main stimulant of agricultural expansion in industrialized countries. There are signs, however, that some less developed countries are reconsidering their price policies in order to give stronger incentives to producers to raise their output for the market. Now that the supply of foodgrains is becoming more secure, India and Pakistan, for example, appear to be moving gradually away from rigidly controlled prices, designed to protect consumers, toward a greater degree of price formation through market forces, coupled with a more effective basic support price to producers. In some Latin-American countries, also, producer prices for certain commodities have been raised and consumer prices allowed to move up with them.

Increasing attention has continued to be given to reducing or eliminating restraints on producer incentives due to institutional weaknesses, especially in land tenure systems. Land reform measures are discussed in detail in Chapter III of this report. Developments during the year under review in the present chapter include new programs in Honduras and Indonesia, while the implementation of earlier measures has continued in Cuba, Iraq, the United Arab Republic (Syrian Region), Venezuela, and other countries.

There have been further increases in the supply of foreign aid for the economic development plans of the less developed countries. In the United States, the new administration has proposed the establishment of a single agency to take charge of all United States foreign aid programs, and the replacement of annual appropriations for these programs by firm long-term commitments. As the first stage of a new ten-year program of assistance for Latin America, the United States Congress has voted $500 million, of which $394 million are to be channeled through the Inter-American Development Bank. Western Germany is to provide the equivalent of $1,000 million for foreign assistance in 1961, and Japan's overseas aid has also been stepped up. In the United Kingdom, a Department of Technical Co-operation is being established to co-ordinate its assistance to less developed countries. The new Organization for Economic Co-operation and Development (OECD) that is to replace the Organization for European Economic Co-operation (OEEC) from 1 September 1961, with Canada and the United States as full members, will lay additional stress on the co-ordination of aid to less developed countries.

An important new source of aid to less developed countries is the International Development Association (IDA), which came into being in September 1960 to supplement the activities of the International Bank for Reconstruction and Development (IBRD) by granting loans on advantageous terms for projects that need not necessarily be revenue-earning or directly productive. Many projects financed by the United Nations Special Fund are now under way, including preinvestment surveys, often essential for the proper planning of agricultural development, and research and training projects.

A notable instance of international assistance for economic development is the Indus Water Treaty, to which the IBRD, as well as India and Pakistan, is a party. Signed in September 1960, it follows the Nile Waters Agreement reached in November 1959 between the Sudan and the United Arab Republic. The treaty shares the waters of the Indus basin between the two countries and assigns specific construction works to each, for which aid will be given by six countries and the World Bank.

The effects of financial aid on the less developed countries can only too easily be wiped out by the deterioration of their terms of trade, while fluctuations in the prices of their agricultural exports can also make it difficult for them to sustain a steady level of investment for economic development. They are, therefore, particularly interested in international measures for the stabilization of the world prices of agricultural commodities. Following the pronounced decline in cocoa prices, proposals for an international agreement are again under discussion. For coffee, in addition to the renewal of the international agreement for another year in June 1960, an Inter-African Coffee Organization has been established to stimulate demand and secure more stable prices for *Robusta* coffee, of which the African countries are the main producers. A United Nations sugar conference is to meet in September 1961 to revise the International Sugar Agreement.

The agricultural policies of the Communist countries are akin to those of the less developed countries in that the main objective is to increase production to meet a rapidly growing demand. In the U.S.S.R., following the failure to reach the 1960 production targets, a number of important new measures have been taken. State investment in agriculture is to be increased, the functions of the Ministry of Agriculture have been reallocated, and the system of state procurements has been tightened up. In several countries of eastern Europe price adjustments have been made in order to encourage the backward livestock sector.

In Mainland China, where agricultural production has been disastrously affected by bad weather, the five-year plan has been replaced by annual plans, and absolute priority has been ordered for agriculture. There has been a considerable decentralization of commune organization, and more attention is also to be given to production incentives.

The continuing trend toward greater regional economic co-ordination concerns both more and less developed regions. In western Europe, both the European Economic Community (EEC), which includes agricultural products and provides for a common tariff against the rest of the world, and the European Free Trade Association (EFTA), which does neither, have accelerated the process of liberalization of their intra-Community trade. A common agricultural policy is gradually being worked out by the EEC countries, but there are indications that unless faster progress can be made developments in other sectors may be delayed. There has been much discussion on the possibility of some members of EFTA joining the EEC, but the situation is still unclear at the time of writing.

A group of 12 of the newly-independent French-speaking African countries have joined to form the African and Malagasy Organization for Economic Co-operation, the aims of which include the strengthening and enlargement of existing customs unions, price stabilization, and the harmonization of national plans. In Latin America, the Free Trade Association set up under the Montevideo Treaty was formally inaugurated in June 1961, and a new Central American Economic Integration Treaty, providing for a common market, has also been signed. In the Far East, studies of regional co-ordination are being made under the auspices of the Economic Commission for Asia and the Far East (ECAFE), and in July 1960 the formation was announced of an Association of Southeast Asian States, whose aims include the promotion of a common market. Discussions of the proposed Arab Common Market have continued at meetings of the Economic Council of the Arab League.

The agricultural policy developments outlined above are discussed in fuller detail below, region by region. Brief notes are also appended on the main changes that have occurred in fishery and forestry policies.

North America

United States

The new United States administration has begun a reappraisal of agricultural policy and has already introduced a number of novel features, notably in the Emergency Feed Grain Program approved in March 1961 in the farm legislation placed before Congress in April 1961, and in proposals for the more effective use of surplus stocks.

The Emergency Feed Grain Program aims at a sharp reduction in the production of maize and sorghum, of which the accumulation of stocks has been especially rapid in the last few seasons. For 1961, a farmer's eligibility for increased support prices for all feed grains is made contingent upon the withdrawal from cultivation, against compensation, of from 20 to 40 percent of his average 1959-60 acreage under maize and sorghum. In an effort to discourage more intensive cultivation of the remaining area, which has vitiated so many earlier attempts to limit output, the support price for maize and sorghum will not be paid on actual production but on the basis of the 1959-60 average yield per acre. It is also hoped that some of the feed grain acreage will be shifted to soybeans. Support prices have been raised for dairy products and for all supported crops except wheat and tobacco, but particularly steeply for soybeans, for which demand is strong at present.

The legislation proposed in April 1961, which is under discussion at the time of writing, would establish a system under which commodity programs would be developed in consultation with committees of producers and consumers. The Secretary of Agriculture would then recommend a program based on these consultations which, if approved by the President and sanctioned by Congress, as well as voted for by two thirds of the producers themselves, would become binding upon all producers of the commodity. The draft legislation provides for a variety of support measures, including producer payments, though the latter would be restricted to commodities subject to a marketing order or marketing quota. These could, however, be established for any commodity, instead of the limited group of commodities so far covered. The support price for a commodity subject to a marketing order or quota could be set at a level not exceeding 90 percent of parity, but if producers rejected such restrictions it would be limited to 50 percent of parity.

The new administration has from the outset addressed itself vigorously to the question of the greater use of surplus stocks both for domestic food programs and in support of foreign economic development. It is proposed to put the Agricultural Trade Development and Assistance Act (Public Law 480) on a longer-term basis, through a five-year extension of Titles I and II. An increase in funds has also been requested, providing for authorizations for appropriations under Title I (sales for foreign currencies) amounting to $7,500 million for the five-year period, with a maximum of $2,300 million for any single year, as compared with $1,500 million per year under the 1959 Act. Under Title II the present limit of $300 million in any calendar year plus the carry-over would remain unchanged, but the extension would include the 1960 amendment which provided on a trial basis, as part of the Food for Peace Program, for the granting of surplus commodities to promote economic development in addition to the famine and other emergency relief originally covered under this title.

Title III (donations for domestic and foreign relief and barter transactions) and Title IV (sales for delivery over long periods on a long-term dollar credit basis) have no limitations as to funds or programing period. Under Title III, pilot food-stamp programs, for the distribution of food to needy families, are being implemented in certain areas of the United States, and it is also proposed to strengthen domestic school-lunch programs. No transactions have so far taken place under Title IV since its introduction in September 1959, but stress is to be laid on the gradual building up of programs under this title. New proposals would allow the establishment of food reserves in less developed countries which would be paid for only when withdrawals were made from the reserve. Rice, however, will now be supplied under Public Law 480 only to countries experiencing a severe shortage, following the concern of some rice-exporting countries at the inclusion of one million tons of rice in the four-year agreement concluded with India in May 1960.

In order to promote the utilization of surplus stocks within a multilateral framework, as a supplement to bilateral arrangements, $40 million worth of food commodities has been offered as an initial United States Government contribution to a proposed United Nations food reserve to be administered by FAO.

Canada

The Agricultural Rehabilitation and Development Act, introduced in Parliament in December 1960, provides for important new programs for the improvement of the economic position of farmers, especially those who are unable to adjust their operations to enable them to make a reasonable living. It would enable the Federal Government, in conjunction with provincial governments and agencies, to undertake projects for the alternative use of land that is marginal or of low productivity, for the development of rural income and employment opportunities, and for the development and conservation of water and soil resources.

For the 1960/61 crop the initial payments by the Canadian Wheat Board, as well as the support prices for grain grown outside the area covered by the Board were virtually unchanged from the previous season. The Government continued to distribute an acreage payment of $1 per cultivated acre to a maximum of 200 acres to western farmers, and the Wheat Board again permitted farmers to exchange up to 400 bushels of commercial grain for seed grain.

AUSTRALIA AND NEW ZEALAND

Australia

In the 1959/60 season (December-November) the Wheat Stabilization Fund was exhausted for the first time, which will necessitate a government contribution of £A7 million ($15.7 million) to supplement its resources. Because of increasing costs the guaranteed price has had to be raised slightly, and with the large 1960/61 harvest it is probable that additional assistance will be required this season too.

A committee of enquiry has proposed a ten-year program for the dairy industry, which is designed to lead to the disappearance of the less efficient dairy farms. It recommends, *inter alia*, that future assistance should be through measures to reduce costs, rather than direct subsidies. A Dairy Development Council would be established to administer long-term, low-interest loans to assist both the improvement of potentially efficient dairy farms and the gradual transfer of the remainder into other types of activity.

An official inquiry into wool marketing is under way, including, at the request of producers, an examination of the probable advantages and disadvantages of the institution of a reserve price scheme similar to those in operation in New Zealand and South Africa.

New Zealand

Recent developments in the United Kingdom butter market have caused considerable concern in New Zealand. The rapid increase in butter production in a number of European countries has led them to try to expand sales in this market through subsidized prices and other devices, and prices have fallen sharply. The question of surplus butter and the policies of some exporting countries have therefore been raised by New Zealand both in discussions with the countries concerned, and in international forums. In respect of meat exports, the New Zealand Meat Export Development Company has been formed to promote exports to new markets.

WESTERN EUROPE

Agricultural policy measures in western Europe continue to place emphasis on structural improvements to increase the efficiency of production. In some countries there have also been further changes in price support policies, mainly for dairy products and grains, with the object of encouraging a better adaptation of production to market demand and of limiting government expenditures. A number of countries have taken new steps to promote their agricultural exports. A sense of urgency is given to these domestic policy measures by the influence expected on agricultural trade and prices as the common market of the European Economic Community gradually comes into force.

Domestic agricultural policies

A law passed in Austria in July 1960, which requires the annual preparation of a "green report" and a "green plan," aims at securing the domestic food supply and maintaining an economically sound agriculture through direct price and market control measures and the improvement of agrarian structures and the efficiency of production. It provides for the setting of standard prices for major agricultural products after the analysis of the production costs of rationally managed farms.

The Agricultural Adjustment Law adopted in France in August 1960 also calls for an annual report and plan, and indicates some of the criteria to be used for the calculation of support levels. Target prices are to be set each October, taking cost changes into consideration and aiming at maintaining the 1958 level of farmers' purchasing power. An adequate money return is to be aimed at for the manpower and capital employed on a "normal farm" operated by two persons, and aid is to be given to bring farms to this "normal" size. Provisions are included to facilitate the payment of inheritance tax, for land consolidation, and for the establishment of organizations to purchase land for improvement and resale to farmers.

In Western Germany emphasis on structural improvements is continuing, with the addition of special measures for aid to mountainous and other economically less favored regions and for the extension of small farms. In Italy, 550,000 million lire ($886 million) is to be invested for irrigation, reclamation and mechanization over the next five years.

An Agricultural Investment Fund has been set up in Belgium to grant loans at reduced rates for permanent farm improvements and for converting farm enterprises to meet changing conditions. A new institution for agricultural credit has been established in Denmark also, to grant loans for modernizing farm enterprises, and to assist young farmers to take over from the older generation. In May 1961 the Danish Government decided to grant additional support to agriculture of approximately D Kr. 450 million ($65 million) per year. The proposals include the establishment of an Agricultural Rationalization Fund, and the subsidizing of fertilizer prices. In Greece 450 million drachma ($15 million) will be made available over three years for five-year loans at only 2 percent interest for the purchase of livestock and the development of vegetable production. A five-year program has also been drawn up for the development of agricultural processing industries. A social security scheme for Greek farmers, financed by a uniform 2 percent tax on gross income, has been introduced in Parliament. A three-year land consolidation program has been begun in the Netherlands, with an annual target of 40,000 hectares.

Side by side with these measures to assist and encourage the modernization of farm structures and organization and improve the competitive position of their domestic agriculture, several countries have modified producer prices, particularly of dairy products and grains, in an effort to bring production closer to consumption trends. For dairy products, however, the change in support prices has not always been downward. Denmark departed from its traditional principle that domestic prices should conform to the average export price, and approved a proposal to raise the internal price of butter, in order to prevent a further deterioration in the profitability of the dairy industry. In France also the producer price of milk has been raised.

Belgium has taken various measures, including increased subsidies for school milk programs, an increase in the fat content of milk for liquid consumption, and taxes on imported dried milk. The Netherlands Government has reduced the support price and raised the retail price of milk, and increased the fat content of milk for liquid consumption. In Switzerland, in order to restrain the expansion of the dairy industry, import taxes on the main feed grains were increased, and farmers who do not maintain a certain balance between their livestock numbers and feed production will be penalized through a reduction in the effective price of milk and a supplementary tax on delivered milk. In Finland, selective price policies and restrictions on imports of feed concentrates are being used for the same purpose.

Countries importing dairy products have been concerned over the organization of their domestic markets. In the United Kingdom, the 1961 price review granted a modest increase in the milk price, but in return, in view of the threat of surpluses for manufacturing, the Government insisted that farmers join with it in devising a system that would bring home to the individual farmer the results of expanded production. Italy, which for two short periods in 1960 became the largest importer of butter in western Europe, continued the policy of suspending imports when the domestic price falls below a certain level.

The production of maize in France and of barley in the United Kingdom responded so strongly to high support prices that these prices have now been reduced in order to discourage further expansion. Support prices for wheat and also sugar beets have been reduced in the Netherlands. Subsidies have been granted to permit the feeding to livestock of surplus domestic bread grain in Austria.

In Italy, greater protection has been provided for beef and veal production through a decree permitting the suspension of imports whenever average prices fall below a certain level, and imports of pigs and pork products were also prohibited in 1960/61. In the United Kingdom, beef production is to receive additional encouragement. For pigs, the basic price was raised and an undertaking given not to reduce it at the 1962 price review, but in order to achieve greater stability it was decided that this price, which refers to certifications of between 10.3 and 10.8 million pigs per year, would be varied every three months according to the number forecast as likely to qualify for the guarantee in the following 12 months.

In Yugoslavia, prices are being permitted to reflect market conditions more closely, and the system of multiple exchange rates was replaced by a single rate in early 1961. Thus domestic prices are now more in line with export prices, while subsidies, for example for fuel and fertilizers, have been either abolished or substantially reduced.

Additional steps to promote agricultural exports have been taken in several countries. In Denmark, a levy on exported cattle is to be used for export promotion. In France, a nonprofit organization has been established to set up a commercial network of deep-freeze depots and retail outlets outside France and otherwise assist the expansion of exports. In Ireland, a scheme of guaranteed prices to exporters of fat cattle and beef has been introduced with the main purpose of speeding up the bovine tuberculosis eradication campaign. An Irish Dairy Produce Board was established in May 1961 with the general aims of improving export marketing, and of promoting the rationalization of the production pattern by diverting milk to the most profitable use. In principle it will be the sole exporter of all dairy products. A newly-established Poultry Production Council will concentrate on the production of broilers and day-old chicks for export, in view of the continuing decline in export outlets for eggs.

Regional economic co-ordination

In line with the decision of May 1960 to accelerate the implementation of the Treaty of Rome, on 1 January 1961 the member countries of the European Economic Community (EEC) made a further cut of 10 percent in customs duties within the Community, in addition to the total reduction of 20 percent made earlier. A decision on whether the next reduction, due at the end of 1961, shall be 20 percent, instead of the 10 percent stipulated in the treaty, has been deferred to the July 1961 meeting of the Ministerial Council. Also as a result of the acceleration decision, the first alignment of the common external tariff was implemented on 1 January 1961, and all quantitative restrictions on trade within the Community are to be abolished by the end of 1961.

Although it was decided in December 1960 to extend the acceleration decision to agricultural products, the additional reduction in customs duties made on 1 January 1961 was limited to 5 percent, and was confined to "nonliberalized" agricultural products. The acceleration of the alignment of the common tariff, and the abolition of quantitative restrictions, apply only to nonagricultural products. Quantitative restrictions on agricultural products are to be removed more slowly, and there is to be a transition period of six or seven years during which overall imports of commodities not tied by long-term agreements are to be increased by 10 percent each year.

In the future, the application of the acceleration decision to agriculture will be directed toward the common agricultural policy. The proposals of the Commission of the EEC concerning wheat, coarse grains, sugar, livestock products, fruit, vegetables, and wine were submitted to the Ministerial Council on 30 June 1960, but proposals for other commodities have not yet been completed. The Commission's proposals themselves imply an acceleration, in that the unified market for agricultural products would be established more quickly than originally envisaged.

Under the Commission's proposals for the common agricultural policy for grains, sugar, and dairy products, member countries would be asked to make successive adjustments to their domestic prices so as to achieve a common price level by June 1967, after which annual target prices would be set. Market prices would be kept at the target level by means of market operations by official marketing organizations, combined with price and quantity controls from third countries. The equalization of internal and import prices would be obtained through variable import levies. For sugar a uniform system of taxation and a pooling system to distribute the combined returns from domestic and export sales were also proposed. The production of both sugar and dairy products would be regulated if necessary, while for dairy products consumer subsidies were envisaged as a possible temporary adjustment.

For the other commodities so far considered, price equalization would be achieved through the gradual removal of trade barriers within the Community and the adoption of a common policy for external trade, and target prices were not proposed. For beef, pigmeat, poultry and eggs, the common internal market would be protected against lower-priced imports by variable import levies over and above moderate import duties and by minimum import prices. For poultry and eggs, and later for pigmeat, these levies would be based on the difference between the domestic and import prices of feed grains. The organization of the common market for fruit, vegetables and wine would be based mainly on common quality standards, rules of competition, and import duties. A long-term production plan, designed to harmonize the supply and demand for wine, would be implemented through a wine stabilization fund.

It was proposed that European bureaus should take charge of marketing arrangements for grains, for dairy products, for sugar, and for meat, poultry and eggs. They would dispose of funds from the Fonds europèen d'orientation et de garantie agricole, which would be fed mainly from the import levies and from producers' contributions, and would be used to finance market interventions. It was also proposed to set up consultative committees for the main commodity groups and for questions concerning the improvement of agricultural structures, and to adopt a common social policy for agriculture.

Most of these proposals are still under discussion. In December 1960 the Ministerial Council adopted in principle the system of variable levies on the trade between member countries and third countries and also on the trade between the member countries themselves. These levies will equal the difference between the prices in the importing and exporting countries and, for intra-Community trade, will diminish progressively as the gap between these prices is narrowed. The levies on intra-Community trade will go to the importing country. For those on the Community's external trade, a share, rising from 20 to eventually 100 percent, will go to a common fund and the remainder to the importing country. For grains, sugar, pigmeat, poultry and eggs, the levy system is scheduled to begin with the 1961/62 crop year.

It is expected that member countries will take the first steps to align domestic prices of wheat, coarse grains and sugar in 1961/62, those where they are highest (Italy and Western Germany) reducing prices and those where they are lower than the Community target (France and the Netherlands), raising them. As a first step, France has already raised by 5 percent the basic price of wheat (and hence that of rye also, which is fixed at 80 percent of the wheat price). In Western Germany, however, the prospect of lower prices has met with considerable resistance from farmers' organizations. In the Netherlands, subsidies on a number of products were reduced in October 1960, and this has tended to increase price disparities within the Community. An agreement has been reached between France and the Netherlands on long-term contracts for the delivery of grains.

In March 1961, Greece became associated with the EEC through a customs union. The draft agreement contains special clauses relating to agriculture. Greek agricultural policy will in principle be harmonized with that of the Community, but even before this stage is reached the advantages which the Six have granted to one another will be extended to Greek agricultural exports, while for tobacco and raisins, the two main exports, special advantages have been provided for, mainly through a speedier reduction of tariffs, which will be halved as soon as the treaty of association comes into effect and abolished completely by the end of 1967. Greece, however, will be allowed to maintain tariffs intact for 10 years to protect local industry and to spread their gradual abolition over the 12 subsequent years. The agreement also provides for a loan from the European Investment Bank equivalent to $125 million.

Discussions have continued concerning the possible entry into the EEC of the United Kingdom and some other members of the European Free Trade Association (EFTA). On 1 July 1960 the member countries of EFTA carried out a first reduction of 20 percent in customs duties within the association for all products covered by the Stockholm Convention.

In February 1961 they decided on a further cut of 10 percent on 1 July 1961, in order to get in line with the accelerated reduction of tariffs within the EEC. They agreed also on the association of Finland with the Seven.

The elimination of trade restrictions within EFTA applies to industrial products only. For agricultural products developments are to be considered annually by the Ministerial Council as a basis for action to be taken in pursuit of the objective of facilitating " an expansion of trade which will provide reasonable reciprocity to Member States whose economies depend to a great extent on exports of agricultural goods ". In order to encourage the expansion of agricultural trade, bilateral agreements may be concluded between members, and this has so far been done by Denmark with Austria, Sweden, Switzerland and the United Kingdom. Under the Danish-United Kingdom agreement, the latter's 10 percent duty on bacon was halved on 1 July 1960 and will be entirely abolished by 1 July 1961.

Eastern Europe and the U.S.S.R.

Following the failure to reach the 1960 production targets in the U.S.S.R., a number of new measures have been announced, including increased investments in agriculture, a reallocation of the functions of the Ministry of Agriculture, and changes in the system of state procurements. The U.S.S.R. and the eastern European countries are engaged in the preparation of new long-term perspective plans extending to 1980. In several countries of eastern Europe there have been price changes designed mainly to encourage livestock production.

Development plans

In the U.S.S.R., where the 1960 production of most commodities except sugar beets fell short of the planned targets, the targets for a number of commodities in the annual plan for 1961 have been set lower than those originally established for 1960, though they exceed the actual production of that year. These annual plans are part of the seven-year plan for 1959-65. The targets for 1965 are unchanged, and a sharp increase in the rate of growth of agricultural output will therefore be required in the next few years if they are to be realized.

Side by side with the U.S.S.R.'s seven-year plan and with the five-year plans of the eastern European countries, longer-term perspective plans are now being elaborated, which the Council for Mutual Economic Aid (COMECON) has recommended should extend for all its member countries to the year 1980. For the U.S.S.R. the 1980 production targets are to be discussed at the 22nd Congress of the Communist Party in October 1961.

In January 1961 the Central Committee of the Communist Party discussed how to speed up the growth of Soviet agricultural output and especially of state procurements, and various new measures were announced. The grain area is to be increased by opening up further virgin land and by the reversion to grain of certain areas that have recently shifted to other crops, while yields are to be raised through the increased use of fertilizer and improved seed. Maize production is to be increased by selecting 5 million hectares of particularly suitable land where yields of 5 tons per hectare can be obtained. (The average yield per hectare for the U.S.S.R. in 1958, a favorable season, was 2.4 tons.)

More care in tending livestock was recommended, and also the avoidance of excessive slaughterings of cows, since cow numbers are planned to rise from 35 million in 1960 to 50 million in 1965. Yields of maize used for silage are to be increased substantially, as well as the production of fodder beets. Minimum targets for state procurements of the various grain crops were announced, and these suggest that the 20-40 million ton increase planned in grain production from 1958 to 1965 is to consist almost entirely of coarse grains. [11]

The Central Committee also decided that the investment in agriculture originally scheduled under the seven-year plan would be augmented by using funds left over after the realization of the industrial program. Agricultural investment would be directed particularly to increasing the production of agricultural machinery and fertilizers, rural electrification, and the establishment of new *sovkhozes* (state farms) and a number of large irrigation works would be carried out to increase the production of cotton, maize, and especially rice. There have been reductions in the prices of agricultural machinery, in some taxes, and in the interest rate on long- and short-term loans, in order to stimulate investment by the *kolkhozes* (collective farms).

---

[11] The grain production target in the seven-year plan does not distinguish between the different crops. The newly-announced minimum procurement target for wheat is only 40.5 million tons, or less than the 41.4 tons procured in 1958. For maize, however, the target is 10 million tons, compared with 2.2 million in 1960.

Agricultural organization

In general, the main lines of the evolution of the agricultural organization of the U.S.S.R. have continued unchanged, including the tendency for the number of *sovkhozes* to increase and of *kolkhozes* to diminish, and the reduction of privately-owned livestock. However, the proposal made in 1960 to establish district *kolkhoz* unions has remained in abeyance. In addition, the meeting of the Central Committee already referred to resulted in a number of important modifications in organization.

The Ministry of Agriculture will no longer control the *kolkhozes* and *sovkhozes*, forestry or irrigation and drainage works, all of which will pass to the state planning organization, *Gosplan*. The accounts and statistics of the farming enterprises will now go direct to the Central Statistical Administration. For the distribution of machinery and fertilizers a new organization has been established. Thus the functions of the Ministry of Agriculture are now to be confined to the supervision of research and the dissemination of technical improvements. In order to make this work more effective a new network of model farms has been set up at the district level, one of whose functions is to co-ordinate the technical aspects of agriculture through councils grouping the agricultural specialists of the district.

The procurement system for foodstuffs has been tightened up, through the introduction of delivery contracts of two to five years between the State and the *kolkhoz* or *sovkhoz*, stipulating the quantity and timing of deliveries to the State. Such contracts were formerly made only for industrial crops. They are to be based on the production plans of the *kolkhozes*, and a new inspectorate that has been set up to supervise the delivery contract is authorized also to control the preparation and execution of these production plans. The inspectors are empowered to propose the suspension of credit advances to any *kolkhoz* that does not follow their recommendations, and part of their salary is based on the degree to which farms under their charge carry out delivery obligations. They sit with the *kolkhoz* and *sovkhoz* directors, the experts from the model farms, and other officials, on district councils which meet two or three times a year to recommend the policy to be followed by the farms in the district. These councils and those, mentioned earlier, attached to the model farms, have taken shape instead of the district *kolkhoz* unions proposed in 1960. The presence on the same council of representatives of both *kolkhozes* and *sovkhozes* may tend to hasten the gradual reduction of the main differences between the two types of organization.

In order to strengthen the control of the State over sales on the free market, sales through consumer co-operatives are to be increased. Direct sales on the free market are to be discouraged, though not prohibited. These sales are made partly by the *kolkhozes* themselves but mainly by the *kolkhoz* members from their private plots. In 1959, their total value was reported as 43,000 million rubles, of which private sales amounted to 28,000 million rubles. Sales through co-operatives, generally at about three-quarters of the price obtained by direct sales, represented only 18 percent of the total sales on the free market.

In the eastern European countries the collectivization of land has continued, and in all of them except Poland the socialized sector now accounts for well over four fifths of the agricultural land. Following the very rapid collectivization in Eastern Germany and Hungary in 1959 and early 1960, the main subsequent developments have been in Hungary, where the proportion of arable land in the socialized sector was raised from 72 percent in March 1960 to 87 percent in January 1961. Agricultural co-operatives in most of the eastern European countries have continued to approach more closely the general pattern of the Soviet *kolkhozes*.

The position in Poland, however, is somewhat different. The " agricultural circle ", a traditional form of rural association which covers 60 percent of the rural population, remains the basis of the collective use of the means of production, though it appears that the people's councils at the village level are to be given more importance. Agricultural co-operatives account for only a small fraction of the agricultural land, but it is envisaged that they will increase in line with the growth of mechanized farming, while state farms are also to be developed. Measures are to be taken for the expropriation of poorly-farmed land.

There have been price changes in some eastern European countries, designed to encourage the lagging livestock sector. In Bulgaria, the prices of beef, mutton, poultry and milk were raised from the beginning of 1961. In Eastern Germany, prices for breeding and dairy cattle and for milk were increased, while those of slaughter cattle and calves were reduced in order to encourage the growth of cattle numbers, especially of cows. Incentives for pig production have been increased in Poland.

Latin America

The movement toward closer regional economic co-ordination has continued to make progress in Latin America. Although stabilization programs remain a main feature of domestic economic policy in many countries, there is now a tendency to raise producer prices for some farm products, in order to stimulate production, and to allow consumers prices to increase in line with them. A further important change is that an increasing number of countries are formulating development plans of a wider scope than in the past.

Agrarian reform remains a big issue. The implementation of earlier legislation has continued in Cuba and Venezuela, as is described in detail in Chapter III of this report. New measures are being implemented in Honduras, and are contemplated in Colombia, Ecuador, and Peru.

Regional economic co-ordination

The Latin-American Free Trade Association, comprising Argentina, Brazil, Chile, Mexico, Paraguay, Peru and Uruguay, was formally inaugurated in June 1961. Negotiations on tariff concessions are expected to begin in August, and the free trade area to begin operations by January 1962. The Montevideo Treaty, under which the association was established, provides for the gradual elimination over a 12-year period of restrictions and discriminatory practices in the trade between member countries. Measures are also envisaged to co-ordinate agricultural production and trade policies. Bolivia, Colombia and Ecuador have announced that they will join the association, and this is also under consideration in Venezuela.

The new Central American Economic Integration Treaty, signed in December 1960 by El Salvador, Guatemala, Honduras and Nicaragua, proposes to establish a common market among these countries. Within five years of ratification, uniform tariffs will be introduced on imports from nonmember countries, and all tariff restrictions between the four countries will be eliminated. Capital and labor will be permitted to circulate freely. The establishment was also approved of a Central American Economic Integration Bank, to finance development projects aiming at the closer economic integration of the area. Costa Rica, which participated in previous agreements, has refrained from signing the treaty for the present.

Development plans

In the past, agricultural development in Latin America has been carried out primarily under separate sectoral, regional or commodity programs. While several new programs of this nature have been announced, a number of countries have recently formulated broader development plans. At the same time, planning institutions in some countries have been strengthened and reorganized.

Chile's new ten-year plan is an over-all one, covering the private as well as the public sector. Total investment is estimated at 10,000 million escudos ($9,500 million), of which 10 percent has been allocated to agriculture. During the plan period 375,000 hectares are to be provided with irrigation facilities, 150,000 hectares of new land developed for general farming and 43,000 hectares for fruit cultivation. It is hoped that by the end of the plan period agricultural production will have increased by 62 percent.

Plans covering all public capital expenditure have been begun in Colombia, Ecuador, El Salvador, Guatemala and Venezuela. Colombia's four-year investment program for 1961-64 envisages the expenditure of 7,000 million pesos ($1,050 million). Agricultural objectives include the expansion of pasture by 400,000 hectares, of the cocoa area by 9,000 hectares, and of wool production by 75 percent. Ecuador's development plan for 1961-65 calls for public investment of about 1,500 million sucres ($100 million), of which some 14 percent in the agricultural sector. In El Salvador, a new National Planning Council has been established to supervise the implementation of projects under the second five-year plan, which covers the period 1961-65. The expenditure of 170 million quetsales ($170 million), of which 17 percent for agriculture, is envisaged under Guatemala's plan for 1960-64. Venezuela began the implementation of its four-year plan in July 1960. 2,200 million bolivares ($660 million) are to be invested in the first four years, but the plan is on a " rolling " basis, so that a year will be added as each one is completed.

The new agricultural development plan of Uruguay, which is to be integrated later with a plan for the whole economy, envisages the investment of 80 million pesos ($7.2 million) from export retentions. Considerable emphasis is placed on extending the use of fertilizers through a subsidy scheme, while the program also includes subsidies for seed, credit for the purchase of irrigation equipment, and soil conservation measures. Honduras has been granted the first loan from the new International Development

Association, and is to receive $9 million, repayable over 50 years, for road construction to open up new land for settlement and increased agricultural production.

Regional development continues to be emphasized in many countries. In Chile, an agricultural development plan for the Arica region was begun in February 1961 as part of the national ten-year plan. An autonomous development agency has been established for the Magdalena and Sinu valleys in Colombia, which are among the new agricultural areas being opened up following the completion of the Atlantic railway. In Brazil, a ten-year regional plan for Rio Grande do Sul has been approved, including provisions for the establishment of additional agricultural credit facilities. The Peru-Via plan aims at opening up for development a large area in the southeastern part of Central Peru. In Mexico, a project for the development of the Balsas river basin, is under consideration. In Argentina, the Viedma development scheme for the Rio Negro area is being studied.

Many of the plans and programs referred to above are likely to benefit from a ten-year program of assistance for Latin America, announced by the United States Government in March 1961, which is intended to " attack the social barriers which block economic progress ". In May 1961, the United States Congress approved an appropriation of $500 million to start this program, of which $394 million were assigned to the Inter-American Development Bank for the issue of loans on flexible terms, particularly for land reform and other institutional improvements, $100 million to the United States International Cooperation Administration, and $6 million to the Organization of American States. As a condition of assistance, recipient coumtries will be expected to draw up programs to mobilize domestic resources for development and to improve existing social patterns and institutions, and a special conference of the Organization of American States is to meet in July 1961 to discuss such programs. Thus the movement to formulate integrated development plans in Latin America is likely to be hastened.

Price policies

In the last few years, many countries in Latin America have embarked upon austerity or stabilization programs, designed to reduce inflation and to improve the balance of payments through such measures as balanced budgets, selective and dearer credit, import restrictions, ceilings on retail and wholesale prices, consumer price subsidies, and low producer prices. In respect of food prices there has recently been some shift in emphasis, and a number of countries have either freed prices or increased prices for some commodities, in order to stimulate production, and have reduced the degree to which consumer prices are insulated.

In Argentina, the guaranteed minimum prices for linseed and wheat have been raised. Producer prices for wheat have also been increased in Brazil and Chile, while Brazil has in addition fixed minimum prices for a number of other commodities and reduced the import subsidies on wheat, fertilizers, machinery and a variety of other goods. In Colombia and Guatemala, in order to encourage domestic wheat production, it has been specified that millers must use domestic and imported wheat in certain ratios, and Guatemala has also established a Wheat Import Control Office to fix minimum prices for domestic wheat and impose a tax on imports. The support price for dry edible beans has been raised in Colombia, and soybean production is also to be encouraged through a minimum guaranteed price. In Costa Rica, higher minimum prices have been set for sesame, for which the demand has expanded, though price guarantees for white maize have had to be reduced to encourage a shift to yellow maize. The selling prices of wheat, flour, bread and bran have been decontrolled in Uruguay, thereby substantially reducing the cost of the subsidy incurred through selling wheat to millers cheaper than the floor price to producers.

At the same time, the desire to protect consumers continues to be a major influence on the price policies of many governments. In Chile, for instance, new legislation includes provisions to regulate food supplies and to authorize imports if shortages of food occur. In Mexico, a government agency has been established which will on the one hand guarantee prices of basic agricultural commodities to producers, and on the other maintain stocks and regulate supplies and prices of essential commodities.

The simplification of exchange systems and reductions in export retentions and duties have continued in several countries. Brazil abandoned the system of auctioning foreign exchange for nonluxury imports in March 1961. Argentina has reduced its export retention rate from 20 to 10 percent on barley, oats, rye and some other products and canceled it altogether on oilseeds and their by-products. Owing to declines in export prices, the export duties on coffee, bananas and rawhide in Colombia, and on groundnuts in Mexico, have been reduced, and Ecuador also has reduced export duties on coffee and cocoa and has authorized the sale in the free market of the foreign currency proceeds from cocoa exports. As a further incentive to exports a reduction in part of the duty has been offered if maize from Argentina is exported before September 1961, while in Mexico grainfed steers from approved yards exported to the United States will enjoy a remission of part of the export duty.

Far East

In September 1960 the Indus Water Treaty was finally signed by India, Pakistan and the International Bank for Reconstruction and Development (IBRD). The treaty provides for the sharing of the waters of the Indus and its main tributaries between the two countries, and for the construction of a specific program of work in each country, including a system of canals in Pakistan to replace water from rivers whose flow is assigned to India. Approximately $870 million will be spent on works in Pakistan and $200 million in India. To finance the works to be carried out in Pakistan, the Indus Basin Development Fund has been established, with contributions totaling about $640 million from Australia, Canada, Western Germany, New Zealand, Pakistan, the United Kingdom and the United States, $174 million payable by India, and a loan of $80 million from the World Bank. The United States will loan $33 million and the World Bank $23 million to cover the foreign exchange cost of the works in India.

Several important new development plans have gone into operation during the period under review, some of them giving greater emphasis than before to agriculture. A number of plans have had to be revised in the light of population censuses carried out in early 1961, which have revealed populations much higher than the estimates on which the plans were originally based. There have been a few changes in agricultural price policies, mainly designed to permit a freer market in foodstuffs in the hope that this will stimulate production. Interest is increasing in possible schemes for regional and subregional economic co-ordination. New agrarian reform measures have been enacted in Indonesia. In Mainland China, following the disastrous harvest of 1960, there has been some reorganization of the rural communes and more attention is to be paid to production incentives.

Development plans

The implementation of new development plans has begun in India, Indonesia, Japan, North Korea, the Federation of Malaya, Nepal, Pakistan, Singapore, Taiwan and North Viet-Nam, and in Thailand a new plan is to commence in October 1961. Most of these plans give high priority to agriculture, and in both India and Pakistan the emphasis on agriculture in terms of its share of total investment is greater than in the immediately preceding plan. Priority is also to be transferred to agriculture in Mainland China; these developments are outlined separately below.

The third five-year plan was approved by the National Development Council of India on 1 June 1961. Some of the agricultural production targets for 1965/66 were revised upward from those in the draft plan, and the principal targets now call for 100 million long tons of food grains, 10 million tons of sugar (as *gur*), 9.8 million tons of oilseeds, 7 million bales of cotton, and 6.2 million bales of jute. The Intensive Agricultural District Program ("package program"), initiated in seven states, is now to be extended to every state. Largely because of an increase in the latest population estimates. total investment under the third plan has been raised from 102,000 million to 118,000 million rupees (from $21,420 million to $24,780 million), of which almost two thirds in the public sector. One of the main determinants of the plan's success is the financing of the foreign exchange gap, estimated at $5,500 million. In June 1961 a consortium consisting of the IBRD, the International Development Association (IDA), Canada, France, Western Germany, Japan, the United Kingdom, and the United States agreed to lend $2,225 million during the first two years of the plan. In addition, the United States has undertaken to sell $1,300 million worth of surplus commodities for local currency during the plan period.

The same governments and institutions have made an initial commitment of $550 million toward Pakistan's second five-year plan, which started in July 1960. Total investment under this plan has been revised upward by 21 percent to 23,000 million rupees ($4,830 million). A crash program, similar in some respects to India's package program, has been begun in seven districts of West Pakistan. A concentrated effort will be made in these districts to induce cultivators to adopt anti-salinity measures, to make use of riverain and other waste land, and to improve yields. Following the recommendations of the Food and Agricultural Commission, which reported in late 1960, an agricultural development corporation is to be set up in each province to make available production requisites, technical knowledge, and supervised credit. It is envisaged that these functions may eventually be taken over by co-operatives formed at the village level.

Indonesia's eight-year plan for 1961-68 places particular emphasis on food and fiber production, with the ambitious goal of self-sufficiency in both food and clothing. Moreover it is planned to raise the per caput consumption of rice from the present level of 100 to 115 kilograms per year by 1969, entailing the expansion of production to 15.8 million tons from 8.1 million tons in 1960, and the consumption of textiles from 6 to 15 meters. Projects to expand the production of export commodities such as rubber and coconut are to receive high priority in financial allocations.

The Japanese ten-year plan aims to double the national income by 1970, and also to achieve a closer parity between incomes per person in agriculture and the rest of the economy. It is expected that a reduction of about one quarter in the number of people working in agriculture will give a strong impetus to the rationalization of agricultural production. This will be reinforced by the provisions of the Basic Agricultural Law passed in June 1960 which is designed to improve the agricultural structure and help family farms become viable economic units. Some co-operative farming projects are also to be developed. The agricultural production goals of the plan stress the expansion of fruit and vegetable production and the development of the livestock sector.

The Federation of Malaya's second five-year plan for 1961-65 projects a total investment of $M5,050 million (US$1,650 million), including $M 2,150 million (US$703 million) in the public sector, of which about a quarter is for agriculture and land development. In the agricultural sector the main emphasis is on the replanting of rubber and coconut, drainage and irrigation projects, land settlement schemes to be carried out by the Federal Land Development Authority in conjunction with state governments, and the diversification of agricultural production. Landless laborers are also to be settled on newly reclaimed land under the Group Settlement Areas Act of 1960.

Price policies

Some of the recent changes in agricultural price policies in the Far East appear to stem from a decision on the part of governments to enlarge the area of price formation through market forces, although retaining broad control to ensure that neither consumers nor producers are too adversely affected. It is hoped that a freer market in foodstuffs will induce a more rapid growth in agricultural production. In India, for instance, as the grain supply has become more secure, due to the good harvests of the last two years and the conclusion of the four-year agreement for large shipments of wheat and rice under the United States surplus disposal program, government procurement of rice and paddy has been discontinued in the deficit and marginal states and maximum control prices withdrawn in the same areas. All restrictions on the internal movement of wheat have been removed. It is also envisaged that the restrictions on the movement of rice between " zones " (comprising one or several states) will be progressively abolished, and as a first step a number of these zones have recently been enlarged.

Pakistan is pursuing a similar policy of relaxation of controls. In East Pakistan, following the abolition of all restrictions on the free movement and sale of rice and paddy in early 1960, rice procurement has been shifted to a voluntary basis. In the surplus districts of West Pakistan, government procurement of coarse rice at fixed prices for shipment to East Pakistan remains in force, but the purchase and export of superior varieties of rice is now entrusted to the private trade. At the same time the Government still stands ready to purchase at specified prices any wheat and rice offered to it, and the minimum procurement price for wheat has been increased. Grain stocks are maintained in certain strategic areas, and sales are to be made from stocks whenever prices rise above specified levels. Incentives have been offered to sugar cane growers by fixing the delivery price of cane at the factory gate, and by allowing quantities of free sugar, proportional to the cane delivered, to growers in West Pakistan, where the distribution of sugar is controlled. At the same time a rebate of 50 percent of the excise duty has been granted to sugar factories for quantities produced in excess of their highest output over the last three years. Acreage controls on jute in East Pakistan, which have been in effect since partition, were abandoned in 1960.

In Japan, as part of the objective of narrowing the gap between farm and nonfarm incomes, the government purchasing price of rice is to be based on the cost of production instead of a parity formula. It is intended to shift gradually from the present emphasis on assistance to rice production toward the improvement of vegetable, fruit and livestock production. The ration of indigenous rice was increased from January 1961 to 10 kilograms per person per month, largely in the hope of reducing government stocks. The average family, however, was already purchasing less than the official ration.

In Burma, the government buying prices for paddy are now higher for the later months after the harvest, in order to encourage storage by farmers. In Ceylon, the subsidized price of the rice ration to consumers has been reduced, to limit the rise in the cost of living.

Other policy developments

The formation of the Association of Southeast Asian States, comprising the Federation of Malaya, the Philippines and Thailand, was announced in July 1960. The co-ordination of economic planning, joint efforts to stabilize world prices for primary products, and the establishment of a common market are among the possible types of co-operation under discussion. There are also proposals for some form of economic association between Ceylon, India, Pakistan, and possibly Burma.

An agrarian reform law was enacted in Indonesia in December 1960, while in South Viet-Nam the land reform program has been almost completed. Details of these measures are given in Chapter III.

In India, a Co-operative Farming Board has been established to promote the proposed change toward co-operative farming. As a pilot project, 3,200 co-operative farms are to be organized on a voluntary basis.

The Agricultural Development Finance Corporation and the Agricultural Development Bank of Pakistan have been merged to form the Agricultural Development Bank. The new institution will specialize in long-term loans, while short-term agricultural credit is to be provided by co-operatives.

Mainland China

The disastrous agricultural production results of 1960 have had a number of important effects on agricultural policy in Mainland China. The second five-year plan has been replaced by annual plans, and for 1961 "absolute priority for agriculture" has been proclaimed, in contrast to earlier years.

It is also reported that the rural commune system is to be reorganized. In spite of attempts to reform it in August 1959, the system launched in 1958 had continued to work on a three-tiered basis of communes, production brigades and production teams. The commune was responsible for the direction of all economic activity in rural areas; the production brigade, the basic unit for the ownership and utilization of the factors of production, organized the implementation of projects; and the production team carried out the actual work without participating significantly in the main decisions. It has apparently been decided that this system was overcentralized, and the planning of agricultural production too far removed from those with knowledge of local conditions. Commune management was also criticized for having overstressed the principle of equality, with the result that surplus-producing brigades received the same in cash and kind as those which had not met their targets.

A considerable measure of decentralization of control over agriculture was reported as decided upon by the Central Committee of the Communist Party in January 1961. Henceforth, the commune's functions will be limited to the direction of industrial production and public services. While the production brigade remains the basic unit of ownership, the production team will in practice be responsible for the actual decisions on agricultural production and distribution. It appears likely, however, that this will last only for an interim period of three to five years, after which there may be a return to full collectivization under the original system.

More attention is also to be given to incentives to greater production. Under the new system, the production team will be entitled to distribute among the village families "the surplus produced above set targets." It appears that the payment of wages, 70 percent in cash, will be graduated according to the quantity and quality of work performed, which resembles the system in Soviet *kolkhozes*. A small plot of land (0.2 hectare) is to be handed back to each family for kitchen gardening and poultry keeping. This was promised in August 1959 but apparently has remained largely unfulfilled. Interest rates on agricultural credit have been further reduced.

Near East

The trend towards more comprehensive planning has continued in the Near East. Comprehensive development plans, covering the private as well as the public sector of the economy, have been launched in both regions of the United Arab Republic, and plans of similar scope are in preparation in Afghanistan, Iran, Iraq and the Sudan. The improvement of planning techniques is likely to be furthered by the establishment at Cairo in July 1960 of the National Planning Institute, the use of whose facilities has been offered to the other countries of the region. There is as yet no further progress to report in respect of the proposed Arab Common Market, but agreement has been reached on the establishment of the Arab Development Bank.

Development plans

Details are now available of the five-year plans that went into operation in both regions of the United Arab Republic in July 1960 as the first phases of ten-year plans designed to double national income. Of the total planned investment, public and private, of £E 1,697 million ($4,873 million) in the Egyptian Region over the five-year period, some 23 percent is for the agricultural sector. Most of the investment in agriculture is for land reclamation and irrigation projects. It is planned to add 350,000 hectares to the agricultural area, mainly through projects for the reclamation of desert lands, to be carried out by the General Desert Development Authority. Stress is also laid on the intensification of production, mainly of crops in the first five years, though a transfer of emphasis to raising livestock productivity is envisaged in the second phase. Targets for the value of production in 1964/65 compared with 1959/60 include increases of 94 percent for barley, 58 percent for milk, 44 percent for maize, 39 percent for pulses, 29 percent for livestock and poultry, 25 percent for both cotton and rice, and 20-30 percent for most other products.

In the Syrian Region, as much as 41 percent of the total planned expenditure of £S 2,700 million ($754 million) is to be devoted to agriculture. The irrigated area is to be increased by 50 percent over 1959/60 to a total of 750,000 hectares in 1964/65. Projects for the intensification of production mainly emphasize the raising of livestock yields. It is planned to abandon the cultivation of wheat and barley on lands receiving less than 250 millimeters of rainfall annually, and of wheat on those with 250 to 300 millimeters of rainfall so that by 1964/65 some 365,000 hectares of dry land would be taken out of wheat cultivation, though the irrigated wheat area would be doubled, rising to 115,000 hectares. In spite of the reduction in the total wheat area, the production target for 1964/65 is for an increase of 69 percent over 1959/60, though it should be noted that the latter was a drought year. The barley area is to rise by 18 percent and production by 23 percent. Sugar beet production, which has already risen very rapidly in recent years, is to be increased more than fivefold, production of tobacco is to be more than doubled, and that of cotton raised by a further two thirds. A loan of DM500 million ($125 million) has been obtained from Western Germany toward financing the Euphrates dam project.

Afghanistan's second five-year plan is in the final stages of preparation and is expected to go into operation in September 1961. The irrigated area is to be extended by 110,000 hectares and the water supply improved on a further 90,000 hectares. Four mechanized state farms are to be established, and also a mechanized station to provide services to private farmers.

In Iran, the second seven-year plan is to come to an end in September 1962, and the Economic Bureau of the Plan Organization has now prepared a plan frame for the new five-year plan, which is also to cover both public and private sectors. In the agricultural sector particular emphasis is laid on increasing the supply of credit. The cultivated area would be increased by 468,000 hectares, or 8 percent, of which one third would be under irrigation. Irrigation facilities would be improved over a further 480,000 hectares. New multipurpose river development schemes would not be undertaken, but schemes already in hand would be completed as rapidly as possible, and partially irrigated land converted to full irrigation.

In Iraq also, a very comprehensive program is in course of preparation. In the Sudan, the central organizational structure for economic planning was completed in February 1961 with the establishment of an economic council, a ministerial development committee, and a technical planning committee while provincial councils have also been set up to co-ordinate planning activities at the village, district and provincial levels. The preparation of a comprehensive development plan is under way. Irrigation projects would include the Roseires dam, the Khashm el Girba scheme, and the completion of the Managil extension. Survey work has already started for the Roseires dam, for the construction of which Western Germany has agreed to loan the equivalent of $19 million, and the IBRD and IDA, $32.5 million.

Public investment programs are in preparation in Jordan and the Lebanon. In Jordan, the formulation of a ten-year development plan for 1960-69 is nearing completion, with the objective of doubling national income and raising the proportion of imports covered by exports from 20 percent in 1960 to 75 percent in 1969. Meanwhile the first stage of the East Ghor canal has almost been completed, and finance has been obtained for the construction of the second stage, which will irrigate 3,500 hectares. In the Lebanon, a five-year public investment program for 1962-66 has been prepared, involving the expenditure of £450 million ($205 million). Work on the Litani irrigation project has had to be temporarily suspended owing to a landslide.

In Turkey, a State Planning Organization was established in October 1960, consisting of a policy-making authority (the Supreme Planning Board) and a technical unit (the Central Organization). The Ministry of Agriculture is preparing a five-year plan aiming at an annual increase of 5 percent in farm output, in view of the very rapid population growth. The major share of investment is expected to go to soil conservation measures. A new emphasis on agricultural improvement is indicated by an increase of one third in the Ministry of Agriculture's budget for 1961, in spite of a policy of limiting government expenditure. Revenues from the agricultural income tax introduced in January 1961 are to be used to finance development projects.

Economic surveys have recently been carried out in Cyprus by the United Nations and in Libya and Saudi Arabia by missions from the IBRD. The report to the Government of Cyprus recommends a five-year public investment program for 1961-65, which would mainly stress the development of water resources. The IBRD report on Libya also recommends a five-year public investment program, under which the agricultural sector would receive about one third of the total investment, mainly for water conservation, the construction of wells, and the expansion of agricultural services. In view of the rapid increase in wheat imports, the partial substitution of wheat for barley on small farms is recommended, encouraged by a price support program for wheat. The report on Saudi Arabia proposes an interim development program for 1961-62, as the basis for a future long-term program. The establishment is recommended of central planning machinery as well as of a new ministry for water resources, and of various additional departments in the Ministry of Agriculture.

Other policy developments

Studies and discussions relating to the establishment of a proposed Arab Common Market have continued. At the meeting of the Economic Council of the Arab League at Baghdad in April 1961 agreement was reached on the establishment of the Arab Development Bank, with a capital of £E25 million ($72 million).

Details will be found in Chapter III of the progress of the agrarian reform programs begun in 1958 both in Iraq and in the Syrian Region of the United Arab Republic. No new measures of agrarian reform have been introduced in the Near East during the period under review, although the Government of Turkey is considering proposals for the splitting of large holdings for redistribution to landless farmers and for the consolidation of fragmented holdings. The implementation of the land reform law passed in Iran in May 1960 is expected to begin in the near future.

There have been some changes in agricultural price and marketing policies. In Iraq, the Date Trading Company was nationalized in July 1960, and a Government Purchases Administration has also been set up to promote agricultural exports and to import commodities which are in short supply. In Turkey, an Export Promotion Center has been formed to co-ordinate the activities of public and semipublic export enterprises. The Soil Products Office has decided not to pay higher prices for the 1960/61 grain crops, despite the rise in the cost of living. In the United Arab Republic, the Alexandria cotton futures market was suspended indefinitely in June 1961.

The Government of Israel has decided to limit the expansion of deciduous fruit orchards, vineyards and banana plantations by means of acreage controls.

Africa

Most of the recent developments in agricultural and economic policies in Africa stem mainly from the rapid political evolution that has taken place in the region during the last few years and especially in 1960, when 17 countries became independent.

In particular, this has brought a new emphasis on the expansion of intraregional trade and on African economic co-operation. Governments have also usually been concerned to draw up new development plans as soon as possible after independence.

Regional economic co-ordination

The movement toward economic co-ordination and co-operation has now come rapidly to the forefront in Africa. In March 1961, at Yaoundé, Cameroun, a treaty establishing an African and Malagasy Organization for Economic Co-operation was adopted by a group of 12 French-speaking countries, namely Cameroun, the Central African Republic, Chad, Congo (Brazzaville), Dahomey, Gabon, the Ivory Coast, Madagascar, Mauritania, Niger, Senegal, and also Upper Volta. The organization is to have a ministerial council, a permanent secretariat at Yaoundé, and various technical committees. It will be concerned with such questions as the strengthening and enlargement of existing customs unions, price stabilization, and the harmonization of national plans, including the confrontation of objectives for the production, consumption and export of agricultural and industrial products, and of programs for research and for technical and higher education. The Yaoundé Conference also agreed that the 12 countries will negotiate jointly over their future relations with the European Economic Community. The independence of almost all the associate members of the EEC is likely to entail changes in the system of associate membership, while in any case a new implementing convention of the Treaty of Rome is due to be negotiated before the end of 1962.

There have also been new developments in respect of a number of more limited subregional groupings. The countries of the Equatorial Customs Union, namely the Central African Republic, Chad, Congo (Brazzaville), and Gabon, agreed in November 1960 to a statute for foreign investment. The Conseil de l'entente, comprising Dahomey, the Ivory Coast, Niger, and Upper Volta, have jointly negotiated their future relations with France. Dahomey and Togo agreed in October 1960 to establish a customs union and common purchase prices for some items. Following the Ghana-Guinea union of 1958, it was decided in December 1960 to set up a union of Ghana, Guinea and Mali, and to promote a common economic and monetary policy, while Ghana and Upper Volta announced the removal of customs barriers in May 1961. The present common market arrangements for Kenya, Tanganyika and Uganda are to be maintained when Tanganyika becomes independent at the end of 1961.

A further example of regional economic co-operation is the establishment in December 1960 of the Inter-African Coffee Organization, comprising Cameroun, the Central African Republic, Congo (Brazzaville), Gabon, the Ivory Coast, Madagascar, Portugal, and the United Kingdom. The objective of the organization is to obtain more stable prices for *Robusta* coffee by means of a co-ordinated marketing policy, involving the regular spacing of shipments and possibly the setting of flexible price differentials between various *Robusta* coffees and between *Robustas* and *Arabicas*.

Development plans

A great many countries in Africa have recently drawn up new development plans. While most of the plans cover only government capital expenditure, a number of countries, especially some of the French-speaking countries both north and south of the Sahara, are attempting the comprehensive planning of the economy as a whole. New planning machinery has been set up in some countries.

In Cameroun, a perspective development plan provides for the doubling of per caput income in 20 years. For 1961-65 an average annual investment of CFAFr. 9-11,000 million ($37-45 million) is proposed, of which nonfinancial investment would amount to almost one third. Increased exports are among the major objectives of the plan, and it is aimed to raise the production of cocoa from 60,000 tons in 1958 to 90,000 tons in 1965, of coffee from 27,000 to 50,000 tons, of palm kernels from 13,000 to 20,000 tons, and of rubber from 4,000 to 5,500 tons.

Morocco's five-year plan for 1960-64 was approved in November 1960. About one half of the total net investment of 6,600 million dirhams ($1,304 million) is expected to come from the private sector. The largest share, about 31 percent, is to be devoted to agriculture. It is hoped to raise the gross national product by 7 percent a year and agricultural production by an average of 3.5 percent a year. The plan lays much emphasis on measures needed to enable a rapid expansion of production in the future, including agrarian reform, improved credit facilities, reorganization of the agricultural services, the establishment of co-operative farms, the reduction of agricultural underemployment, and a crash program for the training of extension personnel. During the five years covered by the plan an additional 70,000 hectares are to be put under irrigation.

In Senegal, the four-year plan for 1961-64 envisages a total investment of CFAFr.92,000 million ($375 million), of which 54 percent is to come from public funds. It is hoped to increase the gross national product by 8 percent a year. By 1975, the objective is to double the standard of living and quadruple the level of marketed production. In the first four-year period, rural production is to receive 18 percent of public investment and 13 percent of total investment. New local organizations are to be set up for the promotion of rural development. It is planned that the marketed production of livestock products and fish shall be more than doubled.

Few details are yet available of the other new development plans. In the Central African Republic, a three-year interim plan for 1960-62 has been approved; agricultural production targets include the expansion of cotton production to 45,000 tons. The three-year plan of Congo (Brazzaville) is reported to devote 22 percent of a total public investment of CFAFr.10,000 million ($41 million) to agriculture. In Guinea, a Ministry of Planning has been established and the budget adopted for the three-year plan for 1960-63, which is to be followed by successive five-year plans. Agriculture is to receive more than a quarter of the total public investment of Guinean Fr.39,000 million ($159 million). The three-year interim program of Madagascar, promulgated in late 1960, provides for the investment of CFAFr.23,000 million ($94 million), of which agriculture is alloated 41 percent, with the aim of raising agricultural production by 6 percent a year. In Tanganyika, following the report of the mission from the IBRD, a new three-year development plan was announced in May 1961. Total public investment is scheduled as £23.9 million ($67 million).

For a number of other countries, it is known that new development plans have gone into operation, but no information about them is available. Several countries are preparing new plans. In Nigeria, a federal plan for 1962-67 is in preparation, designed to be complementary to the plans of the individual regions. The Federal Ministry of Economic Development is being strengthened so that it can ensure closer co-ordination among the regional governments in economic planning. In Sierra Leone, a central planning unit is being established, with the aim of carrying out more comprehensive planning, and a Commissariat au plan has been set up in Upper Volta. In Liberia, a team from the Northwestern University of the United States began a two-year economic survey in September 1960. Economic survey missions have reported on Basutoland, Bechuanaland and Swaziland, on Mauritius, and on Zanzibar. A mission from the IBRD visited Uganda, and another is to go to Kenya toward the end of 1961. In Uganda, where annual revisions are made to the development plan on a moving three-year basis, the 1961 revision is to be made when the IBRD report is available.

Special programs for the development of agriculture include the establishment in Kenya of a Special Crops Development Authority to administer a new scheme, financed by the Colonial Development Corporation, for the development of tea production by African smallholders. Yeoman and Peasant Settlement schemes, on which £14 million ($39 million) will be spent over three years, have been announced for the nonracial and nontribal development of land in Kenya. In South Africa, a project costing 250-300 million rands (£348-418 million) has been announced which is expected to irrigate about 250,000 hectares by harnessing the Orange river.

Price and marketing policies

Early in 1961 producer prices for cocoa were reduced by about one third in Nigeria, bringing them down to the same level as in Ghana.

Changes in agricultural marketing systems include a government scheme to organize the internal marketing of foodstuffs in Ghana initially confined to grains, groundnuts and eggs, but later to cover all agricultural products. Storage facilities and feeder roads will be developed, and a marketing organization will be operated by the Agricultural Development Corporation on behalf of producer co-operatives. As from May 1961, the Ghana Farmers' Marketing Co-operative, set up by the United Ghana Farmers' Council, became the sole licensed buying agent for cocoa on behalf of the marketing board.

In Guinea, following the earlier establishment of state control over foreign trade, a state organization was also set up to regulate and conduct internal trade. In March 1961, however, internal trade was returned to private hands, because of the inefficiency of the state organization. In Mali, a state import and export organization has been set up, to market all produce collected by statutory bodies and rural co-operatives and to provide them with production requisites and other goods. It has also taken over the existing stabilization funds.

The price stabilization fund for groundnuts has been reorganized in Senegal. The Office de commercialisation agricole has taken over the rice stabilization fund and the compensation fund of the Dakar Chamber of Commerce, which have been transformed into the Caisse de stabilisation des prix des céréales et d'encouragement aux productions vivrières.

Fishery policies

The failure of the second United Nations Conference on the Law of the Sea to reach agreement in April 1960 on the breadth of exclusive fishery limits has been followed by the further extension of limits by several countries. While in some cases these measures have been announced unilaterally, they have generally been effected on the basis of bilateral agreements, some of which have provided for the continuation for a certain number of years of fishing rights within part of the newly-announced limits as, for example, in the agreements negotiated by the United Kingdom with Iceland and Norway.

To offset reduced catches from some traditional fishing grounds, a number of governments are encouraging fishing in more distant waters. This is being done through measures to stimulate the modernization both of the fishing fleet, through the construction of larger vessels and the withdrawal of obsolete ones, and of marketing and distribution operations. The increasing investment in factory ships in such countries as Western Germany, Japan, the United Kingdom and the U.S.S.R. also reflects a new interest in the possibilities of fishing over much wider oceanic areas and at much greater distances from home ports.

In many of the less developed countries increasing attention is being given to fisheries. In the Far East, for example, Indonesia's new eight-year development plan calls for very large increases in fish production and consumption. To this end plans have been formulated for the regionalization and coordination of fishermen's co-operatives, the establishment of new enterprises under co-operative or state management, and the training of large numbers of fishery workers for administrative, research and operational duties. In East Pakistan, in line with plans for a more concentrated drive to increase production from marine and inland waters, consideration is being given to the establishment of a Fishery Development Corporation.

In Africa, the importance of fish as a means of relieving protein deficiencies has received special emphasis in the fishery policies of a number of newly-independent countries. In some countries which are substantial importers of fish, increased domestic production is also stressed as a means of saving foreign exchange. In some fisheries, for example in Ghana and Senegal, there have been heavier investments in port facilities, shore plant and longer-range modern fishing vessels, as well as continuing emphasis on the mechanization of traditional fishing craft.

In Latin America, the desire for more vigorous fishery policies and the need for a more comprehensive evaluation of the fisheries and their potentialities as the basis for such policies have led to the establishment of specialized fishery institutes in Peru and Ecuador. A number of proposals for similar institutes indicate that other governments in this region and elsewhere are interested in this approach to the problem of establishing and executing sound fishery development policies.

The essentially international character of many of the problems which have a decisive bearing on national fishery policies is reflected in the increasingly important role assumed by the various regional fishery commissions and councils covering the Pacific, the North Atlantic, the North Sea, the Indo-Pacific region and the Mediterranean. Recent developments in this field are the establishment of the European Inland Fisheries Advisory Commission and the decision to establish a body to serve the African countries bordering the eastern Atlantic between the Cape of Good Hope and Cape Spartel. The common interests of certain Latin-American countries in the southwestern Atlantic have also led to proposals to form a consultative body for this area.

An OEEC working group has reported on fishery policies in member countries, recommending the coordination of policies, the easing of trade and other restrictions, and the improvement of landing and marketing facilities, including the extension of the "cold chain." Although fishery products are specifically excluded from the provisions of the European Free Trade Association (EFTA), at the GATT negotiations in September 1960 the United Kingdom, the largest fish-importer of the group, made certain concessions facilitating the import of some categories of fishery products from other EFTA countries. Efforts to reconcile EEC and EFTA fishery policies have recently been supplemented by proposals for the establishment of a Western European Fisheries Community.

As a result of the crisis in the world market for fish meal in 1959-60, a number of major fish meal exporting countries have recently formed the Fish Meal Exporters Organization, with the object of reducing fluctuations in supplies and prices on world markets.

Forest Policies

A major event in the development of forest policies was the fifth World Forestry Congress, held at Seattle in September 1960. The Congress marked the general acceptance of the concept of the multiple use of forest and associated lands as an important goal of forest policies.

To meet the rapidly increasing demand for wood, recent developments in forest policies in Europe have laid particular stress on measures for the mechanization of logging, for the improvement of the accessibility of the forests, and for the utilization of small-sized wood and waste. The construction of forest roads is proceeding at a very impressive rate in some countries. Yugoslavia, for example, reported the opening of 2,000 kilometers, in the two years 1959-60, and Sweden of more than 6,000 kilometers during the same period. Considerable progress has been achieved in the development of wood industries capable of utilizing small-sized logs and waste. The pulp industry is using barked spruce wood with a diameter as small as 5 to 8 centimeters in Finland, for instance, and 4 to 7 centimeters in Sweden. A new pulp factory in Switzerland is experimenting with the use of wood of all species with diameters as small as 6 centimeters. In Poland, sawmill waste accounted in 1959 for 40 percent and in 1960 for 54 percent of the raw material supply for the pulp factories.

In addition to these relatively short-term measures to increase production to match the demand, longer-term measures also continue to be developed in Europe. The forest area increased by 344,000 hectares in 1959 and new plantations outside the forest by 47,000 hectares; forest restoration was carried out over an area of 242,000 hectares. Progress in 1960 seems to have continued. The increase in forest area has been facilitated to some extent by the rural exodus which is taking place in many countries, though at the same time this makes the recruitment of forest workers very difficult in spite of great improvements in their wages and other conditions of work.

Particular attention is being paid to forest planning in Europe. Forest inventories will soon have been completed in all countries of the region, and the management of forests not yet covered by a working plan is being actively studied. Laws have recently been passed in Austria, France and Italy to ensure integration between forestry and agriculture, while new laws and byelaws have been passed in Austria, Greece, the Netherlands, Sweden and Yugoslavia to reinforce forest administration.

Forest policies have been reoriented in some of the newly-independent countries in Africa, generally in the framework of over-all land-use policies. Soil conservation and afforestation are receiving special emphasis. Work on the forecasting of future wood requirements, including inventories of forest resources, has already been started in a few countries. The shortage of trained staff at all levels is a serious obstacle, however, and projects for the development of educational and training facilities are under consideration in Nigeria and Liberia.

Of all the regions of the world, Africa, and particularly East Africa, is unique in the wealth of its wild life. The situation is, however, becoming critical in some places as a result of the lack of trained personnel and funds, particularly for the management of national parks. The International Union for the Conservation of Nature (with the assistance of FAO) and also UNESCO have recently sent missions to Africa to draw the attention of governments to this problem and suggest ways and means of improving the situation.

In the Near East, forest policy is being increasingly integrated with land-use policy. The conservation and management of the existing forests and also the plantation in stands or rows of quick-growing species, particularly poplar and eucalyptus, are being carried out in close conjunction with large-scale agricultural development projects. Integration is also improving within the forestry sector itself. In Iraq, the establishment of pulp and paper industries is being studied with a view to using poplar from extensive plantations now coming into production. In the United Arab Republic, a plywood factory has been established to use home-grown casuarina and eucalyptus.

In the Far East, a recent study of the region's timber resources has concluded that present plans for the development of forestry and forest industries are insufficient in relation to future requirements. Revised national forestry programs are now being prepared, covering the next 50 years, with special emphasis on the period up to 1975. While in many countries forest policy is still limited to laying down the main lines of action in the forestry sector, there is a tendency in some countries, especially in east and southeast Asia, to elaborate it within a general policy of land planning. An interesting development in some countries is the granting of the ownership of existing state forests to rural communities in order to solve the problem of local supplies. In southeast Asia, where most countries are engaged in surveying their vast resources of tropical forest, progress has also been made in marketing research and increasing use is being made of the Asia-Pacific grading rules. In the arid parts of west and south Asia, forest plantations are being promoted in connection with large irrigation schemes.

Forest policies in Latin America are being increasingly adapted to reduce the heavy imports of wood and wood products by means of better exploitation of indigenous forests and afforestation. In some countries greater emphasis is being given to forestry in connection with agrarian reform measures, as in certain colonization and settlement projects in Chile and the Andean-Indian region. New legislation, including clearer objectives for forest policy and providing means for its implementation, has been passed in Costa Rica, Haiti, Honduras, Mexico, and Venezuela, and similar legislation is under consideration in Bolivia and Peru. The limitations of existing education facilities are also being increasingly recognized as a bottleneck in the building up of efficient forest administrations, and efforts are being made to improve the situation, particularly by means of higher forestry education in Argentina, Brazil, Colombia and Costa Rica.

Short-term outlook

While at the time of writing there is still some uncertainty regarding general economic prospects, especially in western Europe, indications are for a continuing high level of consumption of most agricultural products. Supplies of most commodities will remain heavy, however, so that there appears to be little prospect of any substantial recovery in world prices for agricultural products, and thus in the export earnings of the less developed countries.

Economic activity and demand

Recovery from the mild 1960 recession in the United States was well under way at the end of the first half of 1961, although unemployment figures remained obstinately high. It is as yet uncertain to what extent this recovery will be followed by a vigorous further improvement, but in many quarters a renewed economic boom is expected in 1961/62. In Canada, recent measures are likely to lead to further recovery in economic activity.

In most of western Europe and in Japan, boom conditions still continued in mid-1961, and the main uncertainty is whether this momentum can be kept up while North American expansion gets into its stride again, or whether once again the two main industrialized regions will show opposite trends. As noted earlier in this chapter, there are signs in some countries that the expansion may be slowing down, because of manpower shortages and pressure on the balance of payments. In the United Kingdom, industrial production has not increased since the first quarter of 1960. Nevertheless, most forecasts are for a continued rapid growth of industrial production and economic activity in the majority of countries of western Europe and in Japan, at least until the end of 1961.

If a rapid expansion gets under way in North America, and if this is accompanied by a continued high level of economic activity in western Europe and Japan, there should be quite a substantial rise in the demand for agricultural raw materials. For foodstuffs and beverages recent experience suggests that the world demand is much less affected by the level of economic activity in the industrialized countries. The situation for most of these products is predominantly influenced by the very heavy supplies on world markets.

Looking further ahead, the moves to improve international monetary liquidity that are under consideration could help to smooth out short-term fluctuations in the import demand for agricultural products and their effect on prices. The less developed countries can expect to benefit from an increased flow both of financial aid and of food supplies on concessional terms. The future pattern of world trade in agricultural products will be greatly influenced by the decision finally taken by the United Kingdom, the world's largest importer of these products, at the end of the present round of discussions with Commonwealth countries, on whether or not to negotiate for entry into the EEC.

Agricultural production outlook for 1961/62

Only fragmentary data are so far available on the probable level of 1961/62 crops, but most indications are that the rise in world agricultural production may again be comparatively small. While it is still too early to judge their final effect on production, setbacks due to bad weather appear to be rather numerous in several regions of the world.

In western Europe, little change is expected from the high 1960/61 level of grain output. While wheat production may be somewhat smaller, coarse grain production is likely to increase. Sugar production may be lower, for a number of countries have announced measures to limit the growing of sugar beet, including a reduction of about 20 percent in area in France. The steady increase in milk production is likely to continue. Cattle numbers are up, and beef production will probably rise further. Further increases in the output of pigmeat and poultry meat are expected in most countries, and egg production should rise toward the end of 1961. Tobacco crops in Greece and other parts of southern Europe have been severely damaged by outbreaks of mildew.

Weather conditions have so far been favorable in most of the U.S.S.R., with the main exception of drought in Kazakhstan. The grain area is 6 percent more than in 1960, and large harvests are generally expected. So far in 1961, however, livestock output is reported to be less than in the previous year.

In North America the grain crops and pasture in the Canadian Prairie Provinces and in parts of the central United States have been severely affected by prolonged drought. The Canadian wheat crop is unlikely to be much more than half the 1960/61 level and in the United States there will probably be a reduction of about 8 percent. As a result of the Emergency Feed Grain Program, discussed above, United States production of coarse grains should also be substantially reduced in 1961/62. By the end of May 1961 more than 24 percent of the average 1959/60 area of maize and sorghum had been signed up for the program. At the same time, plantings of soybeans, to which is was hoped to divert further coarse grain acreage, have increased considerably. Cotton production is likely to rise, as a result of increases in support prices, acreage allotments and marketing quotas. Total United States crop production is expected to be considerably less than in 1960/61, but the output of livestock products should rise for the third successive year. Beef and pigmeat should increase further, and an expansion of the order of 5 percent is expected in poultry meat. Egg production in Canada as well as the United States is expected to be lower until the autumn. Total hog marketings in Canada are likely to be slightly less than in 1960.

Sheep numbers are rising in Australia, and the 1961/62 wool clip may therefore show some increase. With the continued build-up of beef cattle herds, however, no increase is likely in beef production.

Even fewer indications are available for the less developed regions of the world. In Mainland China, further droughts and floods in many areas are reported to have followed the crop failures of 1960. Large numbers of troops and students have been sent to the areas worst affected by natural disasters to assist in the harvesting and sowing of crops. For the rest of the Far East, there are some indications that the 1961/62 grain crops may be smaller than in the previous season, including reports of damage from floods or droughts in Indonesia, parts of southern India, Japan, South Korea and Pakistan. Apart from grains, information is available only for jute, the area of which is estimated to have increased by 30 percent in Pakistan in response to high prices.

In the Near East, after three successive drought years there have been good winter rains in Iraq and Israel and normal grain harvests are expected. In the United Arab Republic (Syrian Region), however, hot and dry weather in May has reduced the estimate of the wheat crop by 20 percent, which would take production well below the 750,000 tons required for local consumption and seed, and in Jordan, too, earlier favorable estimates are now having to be revised. Below-average grain harvests are also expected in Turkey, following bad weather in June. In the United Arab Republic (Egyptian Region) the rice acreage is likely to be less than in 1960/61, because of the low level of the Nile. The 1961/62 cotton crop appears likely to be larger in most countries except the Sudan, where reduced plantings and pest infestation are reported.

Low grain harvests are again expected in the countries of northwest Africa, as a result of severe spring drought, and Morocco's grain crops may be reduced by as much as 50 percent. Droughts have continued for the second successive year in Kenya, where the maize crop has also been damaged by pest infestation. Drought in parts of Tanganyika is expected to cause local food shortages, and to reduce sisal output by 10 percent. The production of crops for local consumption as well as export in the Congo (Leopoldville) are likely to show the effects of the prolonged political disturbances and disorganization. In Ghana, drought has caused local shortages of food in Ashanti and is likely to reduce the 1961/62 cocoa crop considerably from the very high level of the previous year. Coffee production should rise further in the Ivory Coast and Uganda.

In Latin America, food production appears likely to recover from the declines of the two previous seasons. The Brazilian cocoa and coffee crops should recover substantially from the lower level of 1960/61, though coffee output may be lower in Colombia, Costa Rica and some other countries which had particularly large crops in 1960/61.

Commodity prospects

Grain harvests generally should again be large, with the exception, as indicated above, of Canada, Mainland China and a number of smaller producers. The size of Mainland China's 1961/62 harvests may be a major factor influencing the volume of international trade. A substantial increase in the import demand for wheat is not likely, however, since fairly large harvests are expected in western Europe and no increase in imports into Japan and India is anticipated. A major improvement in wheat prices therefore seems unlikely in the near future.

For rice, although some importers such as Japan and India have been able to reduce their imports, the demand by the other main importers has been well maintained and has in some cases been stronger so far in 1961. Mainland China, which usually exports rice, will probably reappear as a buyer in 1961. World exports are therefore likely to be somewhat lower, and international prices should average higher than in 1960.

The new coarse grain policy in the United States, effective for the 1961/62 crops, should curtail current production there, and if, as seems likely, this policy is intensified for 1961/62, the trend displayed over the last few years for total supply consistently to exeed total disappearance each year may be reversed. The emergence of Mainland China as an importer of coarse grains has increased the over-all commercial import demand, and although shipments on concessional terms are less important than in the trade in bread grains, the rise in carry-over stocks of coarse grains in the United States may be checked.

World sugar supplies in 1961/62 will be affected on the one hand by the fact that the long-term upward tendency in production in western Europe will be temporarily halted by the restrictions on plantings imposed in some countries as a result of the exceptionally large harvests of 1960/61 and the high level of stocks. On the other hand, production is likely to continue its upward trend in the less developed regions.

In spite of the reduced production in 1960/61, the total quantities of oranges available for export in summer and autumn 1961 may still be well above the average of recent years. The 1961/62 crops in both the Mediterranean area and the United States are likely to resume the upward trend interrupted in 1960/61, and there should be larger supplies of winter oranges available for export in 1961/62. Marketing prospects for citrus fruit may be complicated by the likelihood of continuing ample supplies of bananas, but it appears very probable that the 1961 apple and pear crops in western Europe will continue their two-year cycle with an off-year decline, especially in the main importing countries.

World production of fats and oils is likely to continue to increase in 1961/62. An advance is likely to be registered in soybean oil production in the United States, where there has been a 15 percent increase in soybean plantings. Relatively high international market prices since early 1961 for soybeans and competing oilseeds have also probably encouraged plantings, particularly of groundnuts, in a number of countries besides the United States. Supplies of lauric-acid oils are likely to remain large in the coming months, though some slowing down in copra output is possible in the Philippines toward the end of 1961. World supplies of linseed oil, however, will be materially reduced by small harvests in the autumn of 1961 in North America, especially Canada, where the major producing areas have been hit by severe drought.

World meat production is expected to expand once again in 1961. In both North America and western Europe, cattle numbers have risen and beef production should increase further, while the output of pigmeat and poultry too is likely to be higher. Beef supplies in the major exporting countries of Latin America and Oceania are not expected to increase, but export prices may decline as a result of increases in domestic production in the main importing countries. Similarly, in view of the larger pigmeat production in importing countries, trade and prices may also shift slightly downward.

The rising trend in milk production can be expected to continue, even though attempts to restrict the expansion in output are being made in several countries. Much of the additional supply will again have to be diverted to manufacturing, particularly of butter, and since the United Kingdom remains the only substantial international outlet for the sale of butter, it is difficult to foresee any appreciable rise from the low prices prevailing in mid-1961 on this market. The improvement in egg prices in the spring of 1960 should result in an increase in egg production in a number of countries toward the end of 1961, but until then production is likely to remain below last year's level. Since import demand is expected to remain strong, international prices should continue favorable, though the rise in production may cause some decline from the autumn of 1961.

There is every indication that the 1961/62 cocoa and coffee crops are likely to be large. Although world consumption and imports of both these commodities are also expected to rise further, the increase is not likely to absorb the enhanced production. The large carry-over stocks of coffee seem certain to rise still further, while stocks of cocoa may also grow. For tea, in contrast, while no substantial increase in import requirements can be expected in the major consuming countries, the increased production is being absorbed largely through an expansion of consumption in the growing countries themselves. A continuation of the rather favorable outlook for tobacco can be expected in the short run, since demand, especially for cigarettes, continues to expand.

The decline in United States export availabilities of cotton appears likely to be arrested in 1961/62, and in view of the increase in the export subsidy scheduled from August 1961, cotton may remain fairly competitive with man-made fibers and retain its share in the expanding world market for fibers. With prices showing more stability at levels comparable with synthetics, there may be some restocking of wool during 1961. Some lessening of the scarcity of jute is in prospect for 1961/62, but at the present high prices increasing substitution by other materials seems likely. The supply of hard fibers is expected to show little change in 1961, and demand prospects are favorable. Rubber production appears unlikely to increase much in 1961, but with stocks at more normal levels, a return to the very high prices of 1960 is improbable.

Fishery production is likely to show the effects of intensified exploration for new fishing grounds. On the demand side the trend is increasingly toward products that require less handling in the home, including frozen fillets, fish sticks and fish portions. Fish meal prices are beginning to recover, while present indications are that Peruvian fish meal production will stabilize somewhere near the 1960 level. Fish meal production in Europe and North America during 1961 will depend on the availability of herring and menhaden.

For most forest products, record levels of production and trade are expected in 1961. There has already been substantial recovery in the North American forest products market, where all wood-based sheet materials as well as sawnwood should benefit from the revival in residential construction and the expanded school building program. Higher prices are likely to reorient Canadian exports of lumber away from the United Kingdom market. In western Europe, sawn softwood may prove an exception to the general rise in production and consumption; constructional activity may level off or even show a slight downturn during 1961, while importers' stocks are large, and even if demand is maintained the sawmills are likely to have difficulty in securing the necessary log supplies.

Chapter III - LAND REFORM AND INSTITUTIONAL CHANGE

Progress in different regions

A general progress, with marked regional variation in regard to form and content, has characterized land reform measures during recent years. There are very few countries in the world today where some progress toward creating a secure position for the farmer and assuring him of a just return for his labor is not taking place. Steps are also being taken almost everywhere to supply to farmers better means of production. But, between the advanced industrialized countries of northwest Europe, North America, and the new and prosperous lands of Oceania on the one hand and the countries of central Africa which are just emerging into nationhood on the other, measures considered to be of immediate applicability and benefit vary considerably. The underlying relativity of policy to prevailing conditions and the historical sequence of different systems of land reform are best illustrated by the varying experience of individual countries which it would be inappropriate to discuss here. Generally speaking, however, the current position in regard to land reform in several parts of the world is so significant as regards the work of FAO that it would be pertinent to present the main features in the following regions – Europe, North and Latin America, the Near East, the Far East and Africa.

Europe

It would not be altogether realistic to treat the whole European continent as representative of one type or stage of land reform. Between Italy in the south and Scandinavia in the north there are several national and regional variations. Some of these may merit special mention here. But taking the western European countries as a whole it may be said that they have reached a stage in their economic growth which affords full or almost full employment. Moreover, forms of technology adopted in European industry and agriculture are so continuously progressive that static conditions of land tenure or of land use are not likely to subsist. To alleviate social evils arising out of technological transition and to ensure an independent farm economy as a healthy feature of democratic social life, special interest continues to be taken in problems of family farming. As national communities, most of these countries can command enough internal and international resources to keep up the tempo of their agricultural progress without disturbing too radically the basic agricultural structure. In fact, as is well known, there are moves towards integrating large regions for common economic growth on an international basis.

Within the framework of such large-scale organizational planning, individual farm units are encouraged to benefit from the most effective measures of land use. Even land reclamation is, in some cases, treated as a proper field for individual enterprise which may involve major development works. Austria, Ireland, the Netherlands, Spain, Switzerland as well as Western Germany are prominent among the countries in which uncultivated lands in the neighborhood of established villages are being brought under cultivation or converted into woodlots of fast-growing species by the efforts of enterprising farmers, who receive some technical and organizational assistance from their respective governments. The good effects of this progressive movement are not limited to the reclaimed areas, but the example spreads to the rest of the agricultural economy. Increased production is the natural consequence of such land reform measures. In fact, in some European countries there is often a problem resulting from the overproduction of agricultural commodities.

Land reclamation is often undertaken by tenant farmers. More than half the cultivated land in the United Kingdom is tenant-farmed. As a class, these tenants are progressive farmers who look forward to making a more gainful use of their talent and resources in agriculture than in any other occupation.

National policy also aims at making the most efficient use of national, including agricultural, resources. While, therefore, a landowner and a tenant are free to enter into a contract on what they consider to be reasonable terms, the State intervenes to ensure that the legitimate interests of either party and of the nation are not violated. As a class tenant farmers are by now sufficiently strong to take care of themselves and, as long as they are using the land in accordance with the conditions of their leases, they will not be deprived of access to land on reasonable terms. Even where the landowner desires to resume possession of land, he has to make compensation for any improvements made by his tenant. Generally, such improvements are priced fairly high and the amount of compensation is a definite economic deterrent for a landlord who otherwise might consider dispossessing his tenant too lightly. In addition, all disputed cases may be referred to a public authority for arbitration.

These authorities, including ministries of agriculture, always take a considerate view of the claims urged by progressive farmers. When an owner desires to part with his land, the tenant in possession generally has a right of pre-emption. In some countries, for example Switzerland, tenants are actually helped to become owners, if the normal facilities available to them to make a purchase are not adequate. The bargaining power of tenants is in most cases great enough to enable them to realize their just claims. But in regard to security of tenure, regulation of rents and compensation for improvements, sufficient legal powers are vested in the government to prevent injustice. Such jurisdiction is generally used to promote the progressive utilization of resources, whether private resources of the individual farmer, or public resources, such as irrigation and power.

In this context it is significant to note that in these areas of advanced technology and full employment, land reformers are particularly concerned with the consolidation of farm lands and of farming communities. Availability of labor in rural areas is even less than in urban areas. Mechanization is, therefore, almost universal. This factor alone may tend to force an increase in the economic size of a farm unit. Apart, therefore, from a demand for small garden and vegetable plots in industrial areas, the trend in highly modernized countries is toward consolidation of holdings. Civic amenities such as education, health, entertainment, etc., are more easily provided by larger rural centers than by small parishes. The consolidation movement is thus an agricultural as well as a civic process, and in both spheres the nation is deeply interested in its promotion.

As the general pattern of business organization favored in these highly developed countries is that of a private firm or a corporation, agricultural business also tends to be directed primarily by private concerns. Some of these may be of a large size, and may indeed have a corporate character. But the prevailing pattern is still that of small or medium-sized farmers, owners as well as tenants. With a very few exceptions these have not found it either socially or economically desirable to consolidate themselves into joint units. Co-operative servicing, from technical advice to financial assistance and marketing, has been followed on a large scale. But as a rule external services have been more effectively supplied by co-operation, leaving the internal decisions to the individual tenant or owner. On the whole, it has also been found that the net production per agricultural worker is higher in such an organization than in any other more integrated pattern.

Scandinavia and the Netherlands

While it is the firm policy of the Finnish Government not to allow ownership of land by absentee landlords, and while it has instituted a ceiling on holdings of even working landowners for each region, other countries in northern Europe are mainly concerned with ensuring, as nearly as possible, an optimum size of holding for a working farmer. In Sweden, this movement is proceeding steadily, so that year by year the number of farms is decreasing while their average size is approaching the desired optimum. In Denmark, a law of 1951 empowers the Government to purchase land from large owners and to redistribute it among smallholders so as to bring up the size of their holdings to a minimum of 8 hectares. The corresponding figure of a desired optimum for the Netherlands ranges from 15 to 30 hectares. The Government of the Netherlands has undertaken an extensive development program mostly at public expense. Farmers generally, and especially small farmers, have access to technical services provided by the State and, as a result, the general standard of husbandry in the Netherlands, which is already high, is improving every year.

In these countries land reform aims at building optimum and progressive units of peasant farming, and on the whole this policy is producing good results. One of the consequences of emphasizing an optimum farm size is that some agriculturists cannot be accommodated within the framework of national agriculture. Such individuals have, therefore, to migrate into other occupations within their own country, or they have to migrate to other countries where they can farm successfully. For instance, a number of experienced and well-equipped farmers from the Netherlands have migrated to Brazil, where they have formed flourishing agricultural colonies.

Italy

Among the European countries which can be described as developing countries, with problems partly similar to those of developing economies in other parts of the world, Italy is the most important. In fact, Italian land reform has served as a prototype not only for semideveloped countries, but also for developing economies such as the U.A.R. (Egyptian Region). Italian land reform is based on the concept that the size of a farm worker's holding should be such that the productivity of his land and therefore his level of living are maximized, and bear a fair relationship to the incomes of those employed in comparable occupations in industry. As a result of this policy Italian reform leaves out of its scope those private estates which are operated efficiently, using the mechanized methods of modern farming. Even in the case of those large estates which were expropriated as not being efficiently managed, the new holders are often allowed to cultivate their farms jointly with the help of better technical advice and improved methods. To a large extent it is land from newly-developed areas which is to be distributed among farm workers and very small farmers.

Regions which are either not cultivated, or are cultivated on a very extensive scale on account of lack of water, are made more intensively cultivable by provision of irrigation. Expenditure for such development is largely borne by the State, which also carries most of the expense of providing a house for the new settler. But the assessed cost of the farm, which is usually of a size judged to be economic, as well as the initial requirements of cattle and equipment, are offered to the settler as a loan, to be repaid at a moderate interest in suitable instalments. Funds needed to initiate these schemes had to come from the Italian Government, although co-operative agencies have now been set up to channel the recovery of old and the issue of new loans. Further progress is being made to establish these and other services, such as the sale and purchase of commodities including fertilizers, on a normal business footing. Technical advice and tractor service are provided through a public agency.

Within their limits these reforms have produced good results by rehabilitating landless labor and very small farmers. But, considering the total number of those desiring rehabilitation on such favorable terms, the proportion who can actually be rehabilitated is very small. In the meanwhile, the general movement toward a greater diversion of manpower to industry, and the improvement of agricultural techniques all over the country is making rapid progress. While land reform constitutes a general problem within the Italian economy, it is particularly acute in some specific areas, especially in the south. Greater industrialization of the country ought to encourage and enable the Italian Government to carry out land reform measures more energetically so that all who must remain in agriculture are enabled to do so in conditions which ensure efficient production, as well as a reasonable standard of living.

Wherever a scale of operation larger than that of the average holding of the resettled farmer is indicated as desirable for a more efficient use of some essential service, a suitable co-operative model has often been adopted. The rapidly falling proportion of the population dependent on agriculture, and the growing needs of technological improvement have raised important questions as to the size of an economic holding which would make investment of capital and labor sufficiently remunerative. Some tenant farming co-operatives even go to the extent of pooling the results of their labor, and distributing them on the basis of net proceeds, though these may not always reach the level of the legally prescribed minimum wage rates for farm workers. Such a situation would, however, only be transitional and whether individually or jointly cultivated, only such farm units will eventually be established as provide for the efficient utilization of resources, including the labor of the farmer himself.

Yugoslavia

Large-scale land reforms were carried out in Yugoslavia after the second world war. By far the largest contribution to the pool of expropriated land came from holdings of German families who had left the country, but a fair proportion came from private landowners and religious organizations whose excess land was also sequestered without compensatory payment. This land was distributed free of charge among small farmers and to a lesser extent among farm workers. About 25 percent of the land available was incorporated into state or co-operative farms, some of which were used for agricultural research centers. All the new settlements were organized in substance as collective farms, although until 1948 a large number of small private farmers were tolerated. In that year, under pressure of an urgent need to maximize agricultural production, a vigorous drive was undertaken to bring all land within the collective farming system.

Though nominally farmers were expected to join these co-operatives only as a result of voluntary choice, in fact strong inducements were used, such as taxation and social security benefits, to persuade farmers to join a collective farm. In this way, the Government hoped to obtain large-scale grain deliveries from collective farms. The number of collective farms increased from 780 in 1947 to 6,984 in 1950. Even so, the collective system covered only a small proportion of the land cultivated and of the agricultural community as a whole.

Productive trends in collective farms, however, continued to be disappointing and, when the drought of 1950 created a critical situation, further progress toward collectivization was halted. Compulsory deliveries and price controls of privately produced grain were substantially eased. The voluntary principles in membership and self-management of co-operative farms were re-emphasized; members joining a co-operative farm could retain ownership in their land for which they received a rental income, and they were also permitted to keep up to one hectare of land for private cultivation. An unexpectedly large number of farmers availed themselves of this permission to withdraw from membership of the co-operatives. As a result, the number of co-operative farms dropped from nearly 7,000 in 1950 to 875 in 1954. Among those who left the societies the more prosperous were prominent and those who remained in the co-operatives were the poorer and less efficient workers. In 1953 a ceiling of 10 hectares was imposed on individual farms and all excess was commandeered to form collective farms. In 1958, co-operative farms covered 3.4 percent of the cultivated land, the state-controlled area was 5.2 percent and all the rest was privately held and cultivated by a multitude of small farmers.

The official aim of agrarian policy, however, continues to be the collective or highly co-operative farm, as it is believed that maximum productivity can be attained only under this system. The present co-operative and state farms are expected in due course to demonstrate the superiority of collective farming. In the meantime, membership of co-operatives continues to be voluntary, and their number is at present small. But social and institutional pressure is still favorable to an extention of co-operative and collective systems of farming. Co-operatives are encouraged to acquire as much land as possible, and individual farmers are either denied social services or they have a very low priority, as for instance in regard to credit, which is one of these social services. Under the law of land utilization (1959) even private holdings have to be operated on the basis of a plan prepared by the people's committee of a commune. As the plan of land utilization and the means of carrying it out are ordered and controlled by the commune, the private element in farming is seen to operate under very great difficulties. The next few years will therefore prove crucial in the progress of land reform and agrarian development in Yugoslavia.

Eastern Europe

It is interesting to note that, under an altogether different type of economy in Soviet territory, there still persists the tendency toward larger farm units already noticed in other European countries. The average size of the Russian collective farm, the *kolkhoz*, is increasing and the total number is decreasing. The new program for developing the virgin lands is mostly being put into operation on the system of the state farm, or *sovkhoz*. No objective evaluation of the net results of these various systems is readily available. It is remarkable that over 40 percent of the total supplies of potatoes and vegetables, sheep, pigs and cattle come from individual households.

Of the other countries of eastern Europe only Bulgaria and Czechoslovakia profess to follow full collectivization. Elsewhere in the region what is called the inferior or incomplete form of collectivization generally prevails. This involves a return for ownership of land, cattle and equipment. While the determination to obtain the advantages of large-scale cultivation is obvious, general psychological acceptance of the conditions arising from joint agricultural labor does not yet seem to have been secured. Although, therefore, the over-all percentage of land incorporated in collectively controlled farms is generally on the increase, conditions in this respect must be considered to be unsteady.

Collectivization was comparatively easy in some of the special regions, such as on expropriated plantations, big estates which were run on a progressive mechanized pattern or land acquired as a result of the war. In this situation the pattern followed was that of a state farm, where the workers operate only as wage earners like industrial labor. The net economic result of the state farm has been highly variable, as it depends on physical as well as organizational features. The experience of state farms in Poland has not proved very encouraging. It may indeed be said for most of the countries of eastern Europe that while they are enabled by their revolutionary methods to avoid such procedural and financial obstacles as the assessment and payment of compensation, they do not yet seem to have evolved a pattern of organization among farm workers which will reap the advantages of a large-scale operation, without endangering the spirit of willing co-operation.

North America

Compared with conditions in Europe, where most of the countries are in a highly developed stage of industrialization, the situation in North America is very variable. Canada and the United States have few major problems of land reform, though in some regions, such as Quebec Province in Canada, almost all types of land reform measures are seen to have some relevance. Both for investment and for employment, agriculture ranks as near industry as is possible within the framework of geographical distribution and aptitude of the people and of available technological facilities. In both countries, and especially in the United States, there is a definite prepossession in favor of owner-cultivation and, to enable the relatively small farmer to meet the requirements of efficient farming, appropriate institutions such as extension services and credit facilities have been organized. The Farmers' Home Administration and other services maintained by the United States Department of Agriculture constitute some of the most significant and systematic forms of support to the small- and medium-sized farmer who desires to carry on efficient farming on what for the time being may be considered to be an optimum, or at any rate an economic holding.

Latin America

Problems of land reform are very much in evidence in Latin America. A striking feature of the land economy of the region is the enormous disparity in the size of holdings. Most of the land is in a few hands, the bulk of the farmers holding only a small percentage of the total area. The large estates are put to comparatively extensive use such as stock-raising, and the small holdings are inefficiently cultivated to produce mainly subsistence crops. The legal title of several smallholders is far from assured and their number is increasing. Inefficient conditions may be said to prevail on both large and small holdings. To correct the unequal distribution of land and the widespread inefficient pattern of land utilization, further determined efforts have recently been made in several Latin-American states. It would be of interest to draw more specific attention to some of these.

Mexico

In Mexico, expropriation of large plantations and redistribution of the land among farmer communities were carried out several years ago. In its day, this reform was of an almost revolutionary nature. The problem of *latifundia*, that is, of inordinately large holdings generally owned by absentee landlords and poorly cultivated, appeared to have been solved. But the system of land tenure, either individual or collective *ejidos*, which took the place of *latifundia*, has yet far to go before it can be said to have justified itself in terms of efficient farming and a high standard of living for the farmer.

Besides the problems implied by the tenure, such as transferability of possession, other aspects of reform of a more positive character, namely a more widespread and systematic extension service, provision of adequate funds, and setting up of marketing facilities, have still to be completed. Wherever notable progress has been made, as for instance in areas of concentrated production of export crops, fairly high standards of achievement have been reached for both productivity and welfare services. The organization of democratic farmers' co-operatives throughout Mexico to carry out many of these reforms will also, it appears, take time. All these progressive factors toward constructive land reform are under the consideration of the Mexican authorities.

In many countries of South America where scope for further colonization exists, settlements of migrants or immigrants for the pursuit of more intensive farming attract more attention than conventional land reform. The most important aspect of land tenure in situations like these is not the size of a holding but the efficiency of its cultivation methods. While, therefore, large holdings as such do not appear to arouse opposition, it is planned to counteract indifferent or wasteful use of their potential resources. For instance, while the need for food or other cereal and vegetable cultivation is pressing, the use of large estates merely as cattle ranches is socially disapproved. In such circumstances the State has, in several cases, reserved to itself the right to expropriate, with proper compensation, lands held in excess of a prescribed maximum, which varies with the farming pattern appropriate to each region.

Wherever large-scale landownership prevails, the problem of tenancies is acute, although on owner-directed plantations and estates the principal problem is that of agricultural labor. Most of the Latin-American states, for example, Costa Rica, Nicaragua, Colombia, Cuba and Peru, have adopted comprehensive measures of tenancy legislation, including control of rents. In Colombia, taxation policy is so adjusted as to penalize uneconomic holdings and inefficient use of land. In Guatemala, 5 percent of the value of land is prescribed as the maximum rate of rental payment for use of land; in Peru, it is 6 percent. But legislation does not necessarily entail meticulous or unfailing implementation of the laws passed. The lack of resources and the ignorance of the average tenant are so appalling that protection given by law is rarely effective. This is a world-wide experience, and the Latin-American countries are no exception.

Peru

Greater awareness among the agricultural population has made for steady improvement in its conditions. The Agricultural Reform Commission appointed in Peru in 1956 presented its report in 1960 together with a draft law on agrarian reform for the consideration of Congress. The proposed measures are comprehensive in their scope. They provide for the institution of a ceiling on land tenure and for acquisition and allotment of land held in excess of the maximum. Constructive steps such as the consolidation of small and fragmented holdings, and the establishment of extension services have also been recommended. As water rights are very important in several parts of Peru, their regulation by law, so as to ensure equitable distribution and the efficient use of water, has been suggested. Indigenous communities present a significant problem, and they will be one of the major responsibilities of the Institute of Agrarian Reform and Settlement which has recently been set up. The United Nations Special Fund, which is helping to carry out a precolonization survey, will be especially interested in the problem of indigenous communities. Similar progress may be expected to follow in Honduras where an agrarian reform commission was set up in 1960.

Ecuador

In Ecuador, an agrarian reform commission, with which an FAO expert is associated, has also recently (1961) been set up. In addition, the United Nations Special Fund will assist in carrying out a precolonization survey in this area so that, when the land reform measures to be suggested by the commission are adopted by Congress, their enforcement may be systematic. Agrarian reform is passing through its initial stage in Ecuador. A draft agrarian reform bill is under consideration by the Government. No restriction of size is likely to be imposed on farms which are managed with technical efficiency and with equity to the workers. Extensive areas of land under public ownership are being parceled out for redistribution among medium-sized farms. Tenancy legislation is also at the stage of preliminary consideration. A general law to protect the interests of hired workers applies to agriculture, as well as to other occupations. The enforcement of this law is, however, not very certain, at least in the agricultural sector. On account of the unchecked operation of the law of succession, as well as for other reasons, fragmentation of holdings is on the increase and steps have yet to be taken to check this tendency.

Venezuela

In Venezuela, an agrarian reform law was adopted in 1960. Under this law efficient cultivation under personal direction of the holder is prescribed as essential to justify the title. While no strict limits of area are prescribed for land which may be leased for cultivation by others, a ceiling of 150 hectares has been prescribed for directly cultivated holdings. The State has taken to itself the right to acquire land and to redistribute it among small and medium-sized farms. The usual measures for the protection of tenants have been enacted. Limits, varying for each region, have been set for the maximum rent which may be legally charged. Before a tenant can be evicted, permission from the National Agrarian Institute is necessary. As a rule, the tenant has a right of pre-emption for the purchase of land which he is cultivating as a tenant.

Puerto Rico

The island of Puerto Rico, which is in a special situation historically as well as administratively, has some important features of land reform. Here the land area is limited while the population has been growing at a fairly fast rate. The usual situation of pressure on land is therefore chronic and is not entirely relieved by the permanent as well as seasonal emigration of its unemployed population to the United States. For several years now there has been a law authorizing the Puerto Rican Government to buy surplus land from owners who possess more than 200 hectares, but the implementation of this law has often been impeded as much by financial stringency as by a weakening of the social conscience. Latterly, however, considerable progress in implementation has been made and a land authority set up for the purpose is actively promoting the efficient operation of land reform measures.

In Puerto Rico, the price of any holding allotted to a farmer must be repaid over 40 years. On very small holdings no tax is levied. Transfer of holdings is allowed on permission from the land authority. The large sugar-cane plantations of Puerto Rico provide an interesting example of the operation of the land reform laws. The plantations were bought out by the Land Reform Authority but it was obviously inexpedient to break them up into small farms, and they are therefore directly operated as separate entities by the land authority itself. Plantation workers receive the minimum authorized wage plus a producer bonus such as would be paid on a co-operative estate. This direct land management by the authority is constantly under review, and it is said to be working with a fair amount of success.

Cuba

In June 1959, Cuba promulgated a law to reform its agrarian structure. Under that law, land in excess of about 4,000 hectares was compulsorily expropriated. To facilitate the continued operation of large sugar-cane farms to which this law applied, some 800 sugar-cane co-operatives of about 1,300 to 1,400 hectares have been established. To these co-operatives are directed landless farm workers who normally work in sugar-cane plantations. The co-operatively operated sugar-cane farms now represent about one half of the total extent of land under sugar cane. Another law, passed in October 1960, expropriated over 160 sugar factories, which are now run by the Sugar Mills Board working under the direction of the National Institute of Agrarian Reform. Expropriated land, which is not under sugar cane, is being allotted to small farmers. A movement to consolidate these individual holdings into fair-sized people's farms is being undertaken. The National Institute of Agrarian Reform supplies credit, machinery, and other requirements of both small holdings and co-operative farms, through its own agencies.

Near East

Whereas the countries of the Near East have some obvious physical and geographical similarities, they have noticeable differences in regard to the content and enforcement of land reform. From the highly organized and efficiently administered scheme of Israel's agrarian reform to the broad outlines of the recently adopted land reform measures of Iraq and Iran, the range of variation is quite large.

Iran

The system of land reform in Iran is threefold: distribution of part of the crown lands; distribution of land belonging to the State; and redistribution of surplus private lands under the Land Reform Law of 1960. Distribution of crown lands begun in 1952 affects a total of about 500,000 hectares spread over about 2,000 villages. By April 1961 about half of this area had already been distributed among approximately 30,000 families. The new owners are required to pay the assessed price of their land in 25 annual instalments, plus a 15 percent service charge over a period of 15 years. The size of these holdings varies from 3 to 15 hectares according to fertility, irrigation and other advantages. The implementation of the reform scheme, including rehabilitation of the new farmers, is in the hands of the Bank Omran, which is a private bank closely associated with the Royal Family and receiving assistance from the United States Operation Mission. Lack of irrigation and high rates of interest are two of the obstacles to the successful rehabilitation of the farming community in Iran. Since 1955, a portion of the state-owned land has also been distributed among farmers, but as yet there is no fully developed scheme to carry out this reform. Credit and other requirements of farmers who must make payment on the land allotted to them from the public land have yet to be adequately met. The Land Reform Law of 1960 prescribes a general ceiling of private ownership of land at 400 hectares for irrigated, and 800 hectares for nonirrigated land. Besides this basic quota of permissible holding, an additional quota, sometimes even larger than the basic one, can be held for a variety of reasons. Thus, while the principle of a ceiling has been enacted by law, its implementation is hedged round by a number of reservations. In the absence of a complete and accurate survey of land and of land rights, the implementation of almost all aspects of land reform is uneven.

Iraq

A comprehensive agricultural reform law was adopted in Iraq in 1958, but although the Agricultural Reform Committee was immediately established to implement its provisions, actual steps toward reform have begun only recently. Privately-owned land in excess of 250 hectares of irrigated land and of 500 hectares of dry land is liable to expropriation. These expropriated areas and also certain released crown lands are available for redistribution among small farmers. Transfers made up to 1961 to approximately 10,000 families reached a total of nearly 750,000 dunams (75,000 hectares). A further 1.7 million dunams (170,000 hectares) are yet to be distributed. The estimated area of land which will be eventually acquired for redistribution is calculated at nearly 8 million dunams (800,000 hectares). Families who have received grants of land to date are estimated to be about 6 to 7 percent of the total number in need of rehabilitation. The Land Reform Committee undertakes to supply tractor services and some credit in kind in order to meet the needs of the newly established farm units, but so far this has only been done on an inadequate scale. Proper arrangements have yet to be made for regular and sufficient services, for example, by means of assisted co-operative organizations. The nature of the title of the new holder has yet to be defined. One consideration is the necessity to prevent a smallholder's possession from falling into the hands of a financing middleman. If the Agricultural Bank of Iraq, in whose favor it is suggested that the transfers should be permissible, were in a position to supply all the credit needs of the farmer, the situation could be substantially met. But the resources of this bank are limited. Together with other important aspects of implementing and developing the system of land reform in Iraq, the provision of services based on institutions has also to be given a high priority.

Sudan

The Sudan has a very large variety of farming and tenurial patterns. In both north and south are found shifting cultivation and nomadic stock-raising, but in the center, for example, in the Gezira district, agriculture is highly developed. Under pressure of the increasing food needs of the urban areas, schemes for the mechanical dry cultivation of dura or sorghum are also being undertaken. In areas where, on account of a pump license or a license for preferential cultivation with some tax and other concessions, conditions of controlled land-holding exist, the tenants as a class are well protected and are, in fact, allowed a fair share of produce and profits. There is sometimes an incipient tendency for the registered tenant to turn into an intermediary, and administrative action has to be steadily pursued to curb this. In the rest of the country, where traditional systems of land tenure and cultivation prevail, beyond the customary regulation of rents little more can be done to ensure either better use of land or better distribution of its yield. There may, however, be good prospects for land consolidation in areas bordering the Nile in the northern province. A large-scale active program to assist agricultural development must be undertaken to create conditions in which land reform measures may be of more practical value.

Since the revolutionary changes of 1952, there is a widespread appreciation in the Egyptian Region of the U.A.R. of the need for tenancy regulation. Egyptian land laws provide for written leases, a minimum period of years for which a lease is granted, control of rents to a maximum of seven times the land assessment, and restriction of the practice of subletting to nonfarmers. Next in importance are the laws seeking to ensure fair treatment of agricultural workers. In almost all parts of the country hired workers are frequently employed for important stages of cotton cultivation. Machinery for prescribing minimum agricultural wages in different parts of the country has been established, although lack of strong organization among the workers and the dearth of alternative employment make the enforcement of this legislation far from certain. The Revolutionary Government's expropriation of privately-owned land above 200 feddans (about 80 hectares) and its distribution among small farmers are now nearly completed.

The ex-owners continue to obtain compensation, although the period of repayment was latterly revised from 30 to 40 years and the rate of interest was lowered from 3.5 to 2.5 percent, as it was felt that such a revision was necessary to bring the terms of repayment within the capacity of the mass of new holders. Pressure of population on land is still heavy, and it is expected that land development under the Aswan high dam scheme will help by creating new settlements. Experience already gained in many agricultural settlements in Egypt has supplied enough agricultural and organizational data for a more systematic planning of new settlements. Further use of pilot colonization in the newly developing areas may be expected.

Much of Egyptian land reform was based on the dictum: " Low yields are a greater enemy to the cultivator than the landlord ". This emphasis on high productivity is very important inasmuch as the welfare objectives of land reform measures could not be realized if their impact on productivity were negative. Egyptian land law provided that all the new holders of land must join a co-operative, multi-purpose association which, in the initial stages, was actively assisted by the Land Reform Authority with experienced management personnel and technical advice.

The Agricultural and Co-operative Bank has increasingly helped these farm co-operatives with adequate supplies of credit. Marketing has also been co-operatively organized, and recoveries of loans have been satisfactory. While more specific results could be obtained if a more systematic evaluation were undertaken, there is every reason to believe that productivity has noticeably improved on land transferred to small farmers. Co-operative and extension services actively promoted by the State have largely contributed to this result. The Agricultural and Co-operative Bank is fast transforming itself into an exclusively co-operative central bank. During recent years its loan operations have covered an increasing number of co-operatives, and the average size of loan paid to a farmer member has also increased.

The land reform program of the Syrian Region of the U.A.R. consists of two laws enacted in September 1958. The first regulates relationships between landowners and their tenants and farm workers. Written leases for a minimum period of three years, and regional maxima for rents are prescribed by this law. The second, which is the main land reform law, prescribes a ceiling on individual ownership of land, that is, 80 hectares for irrigated, and 300 hectares for rain-fed land. In addition, a landowner has a further quota of up to 40 hectares of irrigated or 160 hectares of rain-fed land for his wife and children. Co-operative organizations and industrial concerns are exempt from these limitations on size of holding. When acquired surplus land is to be redistributed, priority is given to tenant farmers, especially those with large families. Compensation is calculated at 10 times the estimated rental value and is paid to landowners in the form of 40-year bonds carrying interest at 1.5 percent. According to the latest information available, as of March 1961 landowners will have to part with a total of 1,543,641 hectares, retaining only 957,139 hectares. Approximately 40 percent of land liable to expropriation has been acquired; the process of redistribution is, however, somewhat slow, as by May 1961 only 136,171 hectares had been redistributed among 8,508 families. A detailed survey of land and examination of titles are processes which must take some time. Such periods of comparative uncertainty and inaction, if too much prolonged, have generally harmed both the process of rehabilitation and land productivity. As in the Egyptian Region, the farmers to whom land is allotted are required to join a co-operative association, which should supply to them all the necessary aids and services.

Israel

Two circumstances connected with Israeli land reform and settlement are somewhat exceptional. Before the establishment of the independent State of Israel, the Jewish National Fund had started to purchase land for distribution among Jewish immigrants. As a result of war almost all the agricultural land of the country became state property. The Israeli Government, in close co-operation with the Jewish National Fund, undertook the systematic development and colonization of this land. In tenurial terms the new settlements were composed of members who held a conditional claim from the government. For the time being, at any rate, none of the settlers has a legally transferable interest in the land allotted to him. All services, technical as well as financial, are provided by the State, by the Jewish National Fund or by state sponsored organizations. This development is of comparatively recent origin, but it will be interesting to watch further progress in the process of conferring a secure and transferable title on the farm working member, and of approximating the operational procedures of financing and marketing institutions for farmers to those which would normally subsist among them after government responsibility has been minimized.

All types of land tenure are to be found in Israel, from a state farm and a corporate company's plantation to the individual holding in older villages and the customary tenure of the Bedouins. Almost all these, excepting the Bedouin, are adopting progressive standards of farming. In fact the criterion of efficiency for judging the suitability of a certain system of tenure is more consciously adopted in Israel than anywhere else in the region. The well-known collective co-operatives of Israel, namely *kibbutzim*, still have a very high rating, but it is being realized that the special merits of *kibbutzim* are to be found more in their social attributes, than in their economic advantage. Other forms of agricultural organization, such as a co-operatively serviced group of family farmers are seen to produce equally good, if not better, economic results. It is true that economy of capital, variety of crops, and specialization of labor can be realized in larger measure in the *kibbutzim*, but in other settlements this is offset by greater personal attention and more intensive use of labor.

The newer immigrants, from many countries where technological and social progress are at different levels, find it more congenial to be formed into neighborhoods where the social and occupational identity of the family is preserved. Tenurial as well as operational conditions of land use in Israel are very varied and both are in a state of progressive evolution. The relationship between crop pattern and optimum size of holding can be more easily adjusted in Israel's more mobile conditions of land tenure. Where the land tenure system covers both small family farms and collective or co-operative farms then, according to crop requirements, the type of unit for optimum production can be suitably chosen. Continued observation of these trends will be useful for a clearer understanding of the social and economic merits of different forms and stages of land tenure.

FAR EAST

In one sense, land reform in the Far East is significant in that it is a means of assessing the extent and methods of agrarian reform in developing countries. In several African countries, the process of social rehabilitation and economic development has to start from almost nothing, a situation with both advantages and disadvantages for the land reformer. But most Far Eastern countries have been inhabited for centuries by densely populated communities, who at some time or other in the past have claimed to possess advanced patterns of economic growth according to the then prevailing standards of technology. The whole process of change and growth in such communities is a process of renaissance and redevelopment. All measures of reform tend to be opposed by the claims of vested interests, while the pressure for reform comes from the large masses who are relatively without resources. Some form of group action at national level becomes necessary. But even the resources of nations may be very limited. Social progress which includes satisfactory systems of land tenure and land use is essential. Before it can be achieved various intermediate and transitory steps must be taken. Land reforms, like other development projects in this area, have to be considered as stages of growth which should be followed by a more balanced economic and social pattern. In the planning and development of these various stages, the guidance and help of world organizations is greatly needed. Experience resulting from such measures of internationally assisted land reform will be helpful both within and outside the Far Eastern region.

All the characteristic evils of an economically unprogressive and socially unjust system of land tenure were seen to prevail in these older lands, till the new currents of reform made themselves felt. On the one hand, landlords made enormous profit by rack-renting. On the other, owing to a rapidly increasing population and a deteriorating economy, the land was actually cultivated by poor peasants who considered no price too great if only they could have an opportunity to work and to eke out a living. As a result of these pressures even where conditions of large-scale concentration of landownership existed, as in the Zamindari areas of India, units were less than economic, and often fragmented.

In addition to the direct evils of high rents and low productivity, this situation gave rise to other evils for the tenant, such as compulsory labor for his landowner, and the necessity for him to sell his meager share either to the owner or to a merchant at unfavorable prices. In one form or another, these evils occurred in all Far Eastern countries, and recent measures of reform have, therefore, to extend to a variety of aspects of agrarian reorganization simultaneously. Although throughout the Far East there is considerable similarity in the problems faced and measures adopted, each country with its peculiar background and organization has adopted some characteristic measures of reform.

Burma

The new Government of Burma which was established after the second world war declared itself in favor of an advanced pattern of social as well as economic reorganization. Under the Land Nationalization Act, all land held in excess of 50 acres (20 hectares) was liable to expropriation for a sum which the Government agreed to pay as compensation. Surplus land so obtained was redistributed among tenants, small farmers and agricultural workers. The size of these holdings was about 5-7 acres (2-3 hectares) and was based on the concept of a unit which a farm family could cultivate with a pair of bullocks. The new holders could not transfer their land except with the permission of the appropriate government authority; they also had to become members of a co-operative society. While no uniform pattern of joint co-operative farming was prescribed, the farmers were expected to form themselves into mutual aid teams. Land reform committees were set up in the villages and at the district level. While the organizational aspects of land reform were thus provided for, adequate resources – trained personnel, modern methods and implements – were not available to promote the successful functioning of these societies. Implementation of the Land Nationalization Act was, however, suspended in 1958 and further detailed inquiries are in progress with a view to determining what modifications, if any, are called for either in its structure or in its implementation.

Ceylon

Ceylon has had a rather longer history of land reform measures. Ceylonese agriculture largely consisted of extensive private plantations which raised export crops. The problem of protecting the interests of plantation labor has been met by a series of agricultural labor laws. The country's growing population was unable to find sufficient employment on these plantations, and the other areas under cultivation already suffered this heavy labor pressure and, in consequence, the problems of unprotected tenants became acute. Further legislation therefore granted a measure of security of tenure and control of rents. So long as the pressure of an underemployed rural population continued to increase it was not possible to ensure that the tenancy laws were generally enforced. Meanwhile, the demand for food grains, especially for paddy, was on the increase, and hence a number of measures for promoting colonization on public lands were undertaken.

A new awareness of the importance of promoting efficient production in conjunction with land reform is reflected in the Paddy Land Act adopted in 1958. Under this law cultivation committees are established to direct the agricultural activities of tenants but the legal landowner continues to receive a fixed rent. The implementation of this measure may not be universal and consistent enough to ensure a progressively higher standard of yield. Personnel and resources are needed to achieve greater success.

Indonesia

In Indonesia, settlement schemes for migrants from the more thickly populated Java and Bali islands into the sparsely populated outer islands such as Sumatra, have in the past been the most notable feature of land policy. A basic agrarian law was promulgated in 1960, under which all land is declared to be national property, and the rights of all holders are subject to regulation by the State in the interest of national social and economic policy. Land can be held only by native-born Indonesians. A scheme has been drawn up for the registration of all titles to land, and for a cadastral survey.

Federation of Malaya

In the Federation of Malaya, land legislation is within the competence of each state, but the federal legislature in 1960 passed a measure wich laid down the general lines of land policy to be followed by state governments. In rural as well as in urban areas the Government has the right to determine from which blocks of land allotment of holdings to individual farmers may be made. These holdings may be in disjointed fragments and their system of cultivation is prescribed by local authorities. Any subletting or subdivision of a holding is prohibited, and at succession it must pass to a single heir. In the paddy areas the tenancy law is well-defined, providing for security of tenure as well as for reasonable rent. As violations of this law constitute grievances for which the tenants themselves have to seek redress, and as the tenants' resources are usually small, the actual implementation of the tenancy law is far from being assured.

South Viet-Nam

In South Viet-Nam, all privately-owned land in excess of 100 hectares has to be surrendered to the Government. This expropriated land and other holdings abandoned by emigrants constitute a pool out of which allotments are made to small farmers, at the rate of about 2 hectares of paddy land per farmer. Implementation of this land reform is almost complete. By the end of 1960, 457,149 hectares, previously belonging to 1,584 landlords, had been redistributed to 122,802 tenant families. A tenancy law has been enacted reducing rents to between 16 and 20 percent of the value of the produce and making written contracts of lease obligatory. Overall economic development is, however, not sufficiently advanced, nor is there an adequate or competently trained staff to carry out tenancy and land reform measures in a steadily progressive and constructive fashion. A significant new development is the establishment of 19 *agrovilles* (communities of scattered farmers regrouped around a center with modern facilities), which were set up in strategic areas. There has been some criticism that the program has not given sufficient consideration to the wishes of individual farmers.

Mainland China

Among Far Eastern countries with comparatively developed systems of land tenure, Mainland China is in a class by itself. Even with the progress which has recently been made in the sphere of industrialization, pressure of population on available farm land continues to be very great.

Agrarian conditions in China are still both obscure and unsettled. It appears from available official sources that the most recent trend is toward decentralizing the communes, so as to vest operational decisions in the production teams which are drawn from the smallest village units. The actual means of production continue to be vested in the production brigades, which correspond to the area of the large collective farm. General decisions about policy and allocation of resources are taken by the commune. The regional committees of the Chinese Communist Party supply the necessary co-ordination among the various organizations. Because of the disappointing results in terms of actual production, not only is greater decentralization being effected, but private cultivation of plots for domestic use is also being revived and wages are being made partly dependent on productive contribution.

Taiwan

The progress of land reform in Taiwan is a good illustration of a progressive development toward a small owner-farmer economy. Pursuing the ideal of a "land to the tiller" policy, since 1952 the Government has distributed among tenants and workers parcels of land of an average size of about one hectare. The proportion of tenant families among the total number of farm families has been reduced from 39 to 17 percent. Tenants have all the usual protection such as long and renewable leases and moderate rent with a ceiling of 37.5 percent of produce value. A notable feature of Taiwan land reform administration is the establishment of farm tenants' committees in rural areas and the appointment of special inspectors of tenancy conditions. As a result, enforcement of tenancy legislation is reported to be much more satisfactory than is generally the case in this region. The spread of education among all classes of people has also helped the enforcement of agrarian legislation in all its aspects. The sale of holdings, or even their transfer by inheritance, to nonfarmers is prohibited. As the compensation paid to ex-owners of expropriated land, purchased for resale to the small cultivators, had to be recovered from the new holders in instalments over 10 years, many of the latter are still working off their debts to the State. Many expropriated owners have invested their compensation money in industry.

The needs of the small farmers with regard to financial credit and technical guidance are met through a farmers' association in each rural center. These state-assisted associations maintain their own staff which also attends to the domestic and social needs of their members. The habits of saving and investment are said to be on the increase, and the general standard of productivity and of living is rising. The younger generation, it is said, has taken over the leadership of rural groups. A society based on the small family farm is emerging.

Japan

The main features of land reform which were carried out in Japan during the period of occupation after the second world war have long been known. The extent of reform may be gauged from the fact that, whereas before the war it was common for the major portion of arable land to be cultivated by small tenants who were little better than indentured agricultural workers, at present land cultivated by tenants represents much less than 10 percent of the total. Moreover, these tenants are very well protected and their maximum rent is 15 percent of the cash value of the produce, except in the case of paddy where the maximum is 25 percent. The compensation initially fixed for the expropriated land was none too generous and subsequently the rapid deterioration in the value of money made the terms of acquisition even less favorable. Prices of agricultural produce rose so rapidly that most of the new holders who now cultivated about 40 percent of the land area were able to pay off their purchase liabilities within a year or two.

The general progress of industrialization in Japan is so striking that the agricultural population is steadily becoming an ever smaller minority. The general level of productivity on the farms of the new smallholders is constantly rising. Not only is the psychological and economic incentive to efficient production greater than it was when the farmer was a tenant worker, but the productive resources, such as fertilizers, now available, are distinctly more adequate. Steps taken by the Government to ensure a minimum remunerative price for the principal agricultural crops have also greatly encouraged the more productive use of land resources. Local agricultural committees composed of landowners, tenants and others have helped to create an economically progressive and socially responsible atmosphere in the new pattern of rural society created by extensive land reform.

Official policy once land reform has been established must seek to prevent ownership of land from reverting to the *status quo*. The Agricultural Land Law of 1952 aimed both at stabilizing the status of farmers and at developing their agricultural productivity. An elaborate study of the economic conditions of tenant farming was undertaken by the Farm Rent Measure Council in 1953. The Council calculated the control price of farm rents on the assumption that: " The sum obtained by subtracting from the gross income a figure that represents a fair return for labor and invested capital, plus a portion which management should reserve as profits from their enterprise, is the maximum that can be charged as rent for agricultural land ". According to the council's report, a fair return for a farmer's labor was to be calculated at a rate which may " secure a minimum income that would bear comparison with industrial wages ". These far-reaching principles have been established as the basis of rent control in Japan, which affects about 10 percent of total cultivated land. The result is that, on average, a landowner receives no more than about 5 percent of gross income as rent, and allowing for a 50 percent tax on this income, he is left with a net 2.5 percent of the gross income of the farm.

India

The progress of land reform in India has been attended by some special factors. Among these the Bhoodan movement for voluntary surrender of land without any compensation has pride of place. This movement is not only completely voluntary but it has a moral overtone which is almost unique. It goes to the very root of the concept of ownership of land, which is declared to belong to the community as a whole. It also involves a moral declaration in favor of equality of opportunity for all and especially for the marginal worker. Both these concepts advocated with an almost spiritual fervor by a small but select band of reformers help to create a climate favorable to land redistribution. In an extreme form, the Gramadan land-surrender movement comprises whole villages where the entire social and economic life of the community is adapted to the new ideas of land tenure and land use. It has been reported that, by the end of 1960, nearly 5,000 village units had been surrendered by the voluntary action of all the landowners. There has been no clear indication as to what pattern of land use the reformers advocate. Joint cultivation, though it has not been expressly tabooed, has not been specifically encouraged. In any case, the whole legal, administrative, organizational and financial effort involved in giving constructive and lasting effect to these voluntary acts has baffled the ingenuity of the reformers. The process of reform and consolidation has assumed different aspects and it is at different stages in different units.

By comparison, more striking progress has been made in the voluntary surrender of individual pieces of land for redistribution among the landless, of whom many come from the socially most depressed sections of the community. It is reported that more than 4.4 million acres (1.8 million hectares) of land have been surrendered and, though nearly a quarter of such land is known to be uncultivable, the area available for redistribution is large enough to rehabilitate several hundred thousands of landless persons. Even here, however, the legal and the organizational implications are such that they present major difficulties for a purely voluntary and largely moral movement. To date, less than one million acres (400,000 hectares) of surrendered land have actually been redistributed. Credit and extension services cannot be made readily available to meet the immediate requirements of successful farming by the new holders. Efforts are being made to minimize these time-lags of institutional readjustment but they are still a major obstacle to constructive development of a new system of land tenure on a purely voluntary basis.

The normal processes of land reform have, however, been helped by the desire for fairer employment opportunities generally, and for access to land for agricultural workers in particular, which sprang from this movement of voluntary surrender. Adequate tenancy legislation has been accepted as policy over the whole country, though further legislative and administrative steps to give effect to the policy have yet to be taken in some states. It is true that tenants can be dispossessed during the inevitable interval between the initiation of a program of reform and its ultimate authorization by law. It is also true that, in view of the pressure of population on land in several parts of the country, the land laws are not always very effectively enforced. But this situation is improving, partly on account of the general economic progress and partly with the help of organizations at the rural base such as the reorganized *panchayats* and co-operatives which largely safeguard the rights of agricultural workers and tenants.

For those tenants who were in possession at the time of the enactment of the tenancy laws, security of tenure has been assured in large measure. Except for the claim of the owner to revoke a lease for direct cultivation of land by himself, which is largely assured, cancellation of leases is well-nigh ruled out as long as rents are regularly paid. The levels of permissible rental differ from state to state, but a norm of 25 percent of the value of produce is being followed and in some cases the limit is as low as 16 percent. In large parts of India, tenures were characterized by the number of intermediaries between the actual farmer and the person who was responsible for dues to the State as registered primeholder. Legislation has now abolished these intermediary interests, which were mostly nonfunctional. Subinfeudation and the attendant evil of unremunerated services by the farmer are rapidly decreasing. As the process of tenancy reform has continued in India for several decades, a mass of legislation has gathered round the subject, much to the bewilderment of the small tenant. Recent legislation concentrated on simplifying land laws and emphasizing the responsibility of the Government to secure their implementation.

As the potential area of economic farm land is comparatively limited and pressure of population on land continues to be heavy, the principle of a ceiling in landownership has been adopted by all the Indian states. The practice, initiated in some states, of limiting the maximum permissible holding of land in ratio to a fixed net income, has now been abandoned. The principle now generally followed is to limit maximum holdings either to a roughly estimated economic unit or to a small multiple of this unit. The size of the holding varies according to the pattern of cultivation, with particular reference to the availability of public irrigation systems. Compensation in the form of long-term transferable bonds is paid in all cases to the dispossessed owners, and the new tenants are charged appropriate amounts on long-term instalments to acquire so-called rights of " ownership ". As, however, this ownership carries with it no rights of mortgage and sale and is in fact no more than a protected tenancy, the new holders are not always eager to acquire the more legal title. Moreover, as the new agricultural credit system measures the credit-worthiness of borrowers according to the productive value of the land, the attractions of ownership are being further reduced. Slow progress is therefore being made in acquiring rights of ownership, as distinct from the rights of secure tenancy holding from the State, which has purchased the ownership rights of landlords.

The treatment of industrial holders in regard to land legislation seeking to impose a ceiling on possession of land is significant. An important case is that of the sugar-cane, coffee, or tea plantations which are inseparably connected with processing industries. As land legislation in India is largely under the aegis of the state governments, some interstate variations have emerged. When promulgating laws prescribing a maximum tenure, some states have exempted industrial owners, although as a rule they have prohibited further accessions of property. A few other states have, however, taken the bold step of imposing a ceiling even on industrial holders, and following this up by re-organizing these big farms through the institutional exploitation of their joint resources. Whether these large expropriated farms will be operated as state farms or as co-operative farms is an issue on which no clear-cut decision has been taken. In fact the whole subject of joint farming, or joint farm management, is being approached on an experimental basis.

In India's third five-year plan there is provision for a few state farms, a fair number of co-operative farms and an almost universal system of extension and co-operative servicing for small farmers. As a large number of the dispossessed owners were more or less absentee landords, the effect of land reform, especially when followed by extension and co-operative services, has been generally beneficial to production. Where, however, as in the case of mechanically operated and intensively cultivated farms, large-sized holdings are more economic, reform to ensure these advantages is being undertaken in an experimental way. As the Indian land development plan makes available those aids essential to efficient production through appropriate institutional channels, and also generally ensures the economic stability of the agricultural industry, it has been welcomed by the small farmers. But, as long as there remains the heavy pressure of a rapidly increasing population upon a more or less restricted area of land, no substantial benefit can accrue to the average farmer. The real benefits of land reform will only be realized at farm level when industrial progress has overtaken population increase to the extent of providing sufficient employment for all, either in agriculture or in other industries.

Pakistan

Little progress in land reform was achieved during the period covering the first plan (1955-60) in either East or West Pakistan. In West Pakistan, a basic ordinance was issued in 1959 which followed the recommendations of the Land Reform Commission. It imposed a ceiling on individual ownership of land, abolished certain feudal privileges of land revenue collection, the *jagirs*, restricted the subdivision of holdings, made compulsory the consolidation of fragmented holdings and provided security of tenure to tenants. Unification of these tenancy laws in West Pakistan is under preparation.

Most important was the limitation of individual ownership to a maximum of 500 acres (200 hectares) of irrigated or 1,000 acres (400 hectares) of non-irrigated land. Certain exemptions were made for special types of land or of management, such as orchards or livestock farms. The task of ensuring observance of the law is entrusted to land commission agents right down to village level, not to village control committees as, for example, in Japan. All violations of land law constitute criminal offences punishable by fines or imprisonment.

Compensation to expropriated owners was granted on a graduated scale depending on the area and type of soil, in nonnegotiable 25-year government bonds bearing interest at 4 percent per year. As the ceiling was fixed at a rather high level, only about 6,000 large landowners are involved. The Government, in turn, sells the land to the new owners at a purchase price calculated on the basis of the annual gross produce value, payable in 50 half-yearly instalments.

Progress in East Pakistan has been much slower, owing to the combined effects of heavy pressure of population on land and the long prevalence of the *zamindari* system of tenancy with multiple subleasing. Basic legislation, passed in 1950, has been partly implemented. The reform measures recommended in 1959 by the newly appointed Land Revenue Commission are still under discussion.

With the passing of the East Bengal Estate Acquisition and Tenancy Act 1950, all intermediary tenancy rights were abolished, subletting was forbidden, and full occupancy rights were conferred on tenants. A ceiling of about 33 acres (13 hectares) was fixed for owner-cultivated land, although this was not applicable to mechanized farms, large dairy farms and tea or sugar-cane plantations.

In 1960, government acquisition of land under the 1950 Act was still incomplete, partly because landlords were slow to specify what land they proposed to retain. An increased ceiling of 100 acres (40 hectares) per family in general, 132 acres (53 hectares) in special, cases was recommended by the Land Revenue Commission because it was felt that the ceiling fixed in 1950 impaired productivity without substantially increasing the number of tenants who could apply for land. Land hitherto acquired below the new ceiling would be returned to the original owner or be the subject of compensation.

The second five-year plan (1960-1965) endorses full occupancy rights to tenants, a provision of the 1950 Act which had not been implemented on the grounds that this would curtail the government income from land revenue. The plan also recommends that legislation for the protection of sharecroppers, who have not been considered as legal tenants in East Pakistan, should be enacted as soon as possible.

Africa

While the African continent as a whole still awaits large-scale rehabilitation and development, there are areas which have made substantial progress in adopting the most modern cultivation techniques. But for the most part little is still known either as regards systems of land tenure and land use, or concerning sociological and physical changes which further development would involve. Such information as is available reveals the existence of striking contrasts. On the one hand, some European settlers own and cultivate high and fertile lands as big plantations; on the other, tribal claims to customary use of large and undefined regions are usual. Standards of cultivation and patterns of land use vary from the most intensive cultivation of coffee, tobacco, cocoa or cotton on some modern farms mostly belonging to European settlers and syndicates, to small African peasant farms also growing cash crops, and finally to the extensive pattern of use under the traditional system of shifting cultivation for subsistence farming. Organizationally and technologically there are great contrasts in agricultural conditions. Insofar as these contrasts in tenure are symptomatic of the large-scale movement toward a resettlement of the claims of the various communities, land reform as such will have to follow the pattern of the new societies which are emerging. Otherwise the contrasts arise from the uneven spread of the cash economy over the various parts of Africa.

In Kenya, until 1960, the system of reserving lands for cultivation by European settlers had been in operation for several decades. This system of excluding the native African from access to better situated land had several aspects. The Royal Commission on Land and Population in East Africa of 1953-55 came to the conclusion that, even on purely economic grounds, this segregation of enterprise into two mutually exclusive areas was unsound. This finding had been agreed in principle by the governments concerned, and in late 1960 it was embodied in formal plans for the nonracial, nontribal development of land in Kenya. The Central Land Advisory Board was established to advise the Governor on the tenure and control of agricultural land. There are to be no racial restrictions on the ownership and occupation of land. The reserve system is also practiced in Southern Rhodesia and South Africa.

In almost all African countries there is determination to seek material development by means of modern methods and to organize social institutions so as to make such development possible. Land reform has therefore been receiving very sympathetic consideration by the various governments and peoples. The case of the African reserve in Southern Rhodesia is in several respects typical. The country is divided into a number of tribal regions, and further divided into separate wards. The tribal representative who acts as head of the ward allocates separate cultivation blocks for each group as these are required. Each group has a substantial continuity, but the village site changes every six or seven years, as the pattern of cultivation is the traditional shifting one.

Almost as important as tillage, if not even more so, is grazing and stock-breeding. At the past level of farm and animal husbandry, the traditional pattern of tribal land tenure and the distribution of land for rotational use among the groups served a useful purpose. But, in the present state of rapid development, reassessment of the tenurial system and of the pattern of land use has become imperative.

Where shifting cultivation, or stock-breeding in the huge grazing areas, is the normal pattern of land use, a tribal tenure including the customary rights of groups of subtribes would appear to be natural from the standpoint of ensuring most effective use and an equitable distribution among all the members. When, however, a stage is reached in the growth of population at which a feeling of frustration is engendered, or when instead of farming for subsistence, farming for a market by progressive methods is introduced, identifiable titles to particular pieces of land are in demand by ever smaller groups, which may be reduced to an individual family.

In Southern Rhodesia a dynamic approach is being made to this problem. Land outside the traditional areas is offered to enterprising individuals from among the local people on special tenurial terms which, in certain cases, may amount to secure and transferable possession. As these holders are likely to be comparatively inexperienced and without resources they would be an easy prey to usurers of various kinds. To avoid the risk of titles passing into the hands of nonfunctioning landowners, the registered allotments of land have been made nonpledgeable, although they can be inherited, or transferred through the good offices of the local agricultural committees to *bona fide* farmers. Thus a somewhat restricted tenure is created to ensure secure possession by the actual farmer. Some arrangements have also been made for extension services, but supplies of producers' requisites and of credit are by no means adequate. Farm produce intended for the market is sold through co-operatives formed for the purpose, but these have no adequate resources to meet all the credit and supply needs of their members. Such farmers are, however, in a small minority among the prevailing tribal populations.

Together with reforms in land tenure, it is also important to consider the provision of services to enable the peasants, acting singly or in groups, to obtain better output and income. Wherever commercial crops are grown such as cocoa, coffee, cotton and tobacco, marketing boards are operated in conjunction with peasants' co-operatives. The level of cultivation on the individual farms of the local peasants, however, leaves much to be desired, especially where a comparison can be made with settlers' farms growing the same crops. In these conditions, a comprehensive and advanced new program for extension services and the supply of agricultural requisites is urgently needed. But the main difficulty in most cases is the lack of adequate information and of a developed policy of constructive reorganization.

Governments have recently given much attention to the feasibility and advantages of actively promoting individual land tenure in the place of the group and tribal rights to land which are traditional in most local communities in Africa. Two important issues are involved. First, there is the prevailing norm of a concept of property. A Nigerian chief is reported to have said about land under cultivation: "It belongs to a vast family, of which many are dead, a few are living and countless numbers are still unborn". This corporate and continuing concept of fixed assets, especially of land, is prevalent in many agricultural communities in all parts of the world. Secondly, there is the preference for following a system of land utilization which assists maximum production, with a maximum preservation of fixed assets. Shifting cultivation, at the prevailing stage of agricultural technology, has developed into an intensive rather than an extensive form of cultivation because of the pressure of population.

It seems likely that the African countries may at once adopt modern methods, by-passing several intermediate stages. When this happens, the scale of agricultural operations is going to be a vital issue. If it is considered that a unit of cultivation much larger than can be allocated to, or appropriated by, a single family would be desirable for promoting agricultural development, it may not be inappropriate to give consideration to some form of joint operation in which the individual family as such has a recognized status, so as to emphasize incentive and to ensure equitable distribution of profits. Much will depend, however, on what form the national economy as a whole tends to assume, for systems of joint productive association are even more difficult to operate in agriculture than in industry. Each emergent nation will have to seek a solution for its developing social needs in a consistent and viable program of action.

It is all the more necessary to emphasize this interdependence between agricultural and industrial methods, as in Africa a purely agrarian program of rural reorganization does not appear to be the best pattern of economic growth for its developing communities. Any agro-industrial form of rural economy is bound to differ from that which one would accept as suitable for a purely farming economy, and specially for a small farm economy. All these aspects of growth must be more intensively studied. Local reformers, however, seem to agree that the emergence of absentee or nonfunctioning intermediary interests in land should be strenuously avoided. If not a co-operative system, various forms of state-assisted and state-regulated patterns are being actively considered in some instances.

Basic aspects of land reform measures

It is clear from this survey that an active and progressive outlook has greatly influenced the social and economic policies of several nations. The draft outline of India's third five-year plan enunciates an approach to land reform which may now be described as normal. " Land reform programs have two specific objects. The first is to remove such impediments to agricultural production as arise from the rural structure inherited from the past. This should help to create conditions for evolving as speedily as possible an agricultural economy with high levels of efficiency and productivity. The second object, which is closely related to the first, is to eliminate all elements of exploitation and social injustice within the agrarian system, to provide security for the tiller of the soil and assure equality of status and opportunity to all sections of the rural population. "

This declaration of the social and economic implications of land reform measures, with its widespread appreciation of the fundamental objectives, largely conforms to the concepts which have long been advocated at United Nations and FAO meetings. Promotion of welfare and equal opportunity to be able to contribute to, and share in, this welfare are two of the most cherished aims of civilization. Once this equality of opportunity is established, the organization of status and pattern of industry may vary considerably. Farm organization is of necessity much affected by both the prevailing technological standards and physical conditions such as the availability or lack of an assured water supply. Technology, it may be said, moves generally in the direction of a growing need for capital investment. This factor alone, apart from the optimum physical size of a unit, indicates caution in regard to the creation of permanent small farms. With socially advanced and democratic governments in power it is no longer difficult to redistribute means of production by a perfectly legal process. But as the purpose of such redistribution is to provide opportunities for progressively greater productivity, emphasis is being placed more on organization and techniques than on legal status.

In fact the whole concept of tenurial status is now free of any bias in favor of absolute rights of ownership. Proprietary rights, not only in land but in all means of production, are now recognized as an agreed concept. As both the productive and welfare aspects involved are constantly under government review, the need to relate individual and group privileges to the welfare of the nation as a whole is accepted as an implied condition of all legal systems. For psychological as well as organizational reasons, a secure land tenure, generally described as ownership, is understood to be most desirable for a farmer. On the other hand, a farm unit should be large enough to make efficient use of production methods. In conditions of full employment in a competitive economy, mobility of capital and labor would favor the socially most desirable and economically most efficient unit of holding. Industrially developed countries, therefore, have only a limited interest in the purely economic aspects of land reform although, as has been mentioned earlier, at least some wish to pursue a pattern of rural life on social and cultural grounds. Where land is limited in relation to the essential needs of the community, as in the United Kingdom, the State makes secure possession of land ultimately conditional on its efficient use. Occasional cases of legal resumption of landownership on account of failure to follow reasonable standards of husbandry have been known to occur in the United Kingdom as well as in some other industrially developed countries.

The problem of ensuring the most productive use of available land resources takes a somewhat different form in states less developed industrially. Preventing exploitation in any form and offering a reasonable share of the available opportunities for employment to all families who must live by the land, necessitate a wide distribution of secure rights of access to land. The average size of holding which can thus be allocated is often so small, that unless further steps are taken by the State to reorganize these holdings, even the minimum requirements of efficiency cannot be satisfied. Land reform would be an empty and even a misleading phrase if it were to result in lower standards of cultivation and in an impoverished national and agrarian economy. According to the Egyptian maxim already quoted, inefficient cultivation is ultimately a worse enemy than the landlord. The same was more or less the approach of President Cárdenas in Mexico. In Italy, the land reform law provides for the exemption from expropriation of modernized estates however large.

While ceilings for the size of holdings generally tend to be fixed by the urgency of demand for redistribution, efficient land use must still be a prior consideration. Even where the average size of redistributed holdings is too small to be economic, ceilings are fixed as near to a progressive optimum as possible. One of the reasons why determining the maximum area of land to be held in accordance with income derived from it does not find favor with land reformers in developing economies is that it would retard agricultural progress. Ceilings for privately-owned land are rightly represented in terms of area, usually a certain calculated multiple of an economic unit, and farms even in excess of such ceilings are exempted from the operation of a land reform law if they are managed with outstanding efficiency. Such exempted farms are of course not free from the operation of other laws which ensure fair conditions of employment, welfare and social security.

Even those who value individual initiative and freedom of enterprise in agriculture, however, prefer some integrated or institutionalized pattern of farming in certain circumstances. In this way, both the community as a whole and the farmers in particular benefit from efficient cultivation. An obvious case was that of the large estates with irrigational works which were expropriated by Cárdenas in Mexico. The land could not be productive without irrigation, and no single new holder could operate the irrigation works. It was, therefore, natural to suggest that all the new holders should operate jointly both the irrigation works and the farming estate. The former was natural and necessary, but the latter has not been a uniform success; standards of cultivation tended to suffer, until they were improved once more by an efficient system of agricultural extension. In the meanwhile, by the natural law of adaptation, while some collective arrangement continues to be made for the maintenance and operation of the joint services, tillage of fields has tended to be the responsibility of individuals. What the total result of these adaptations has been in terms of over-all efficiency it is difficult to say, but this is one of the prominent cases of the need to adapt notions of free individual enterprise in agriculture to the essential technological requirements of efficient farming.

There are types of land use where public or collective ownership is generally considered as a better safeguard for efficiency as well as being in the general interest of the State. This is particularly true of forestry, although in northern and western Europe, in the United States of America and in Japan, forests cover a substantial area of many small farms and make a significant contribution to the revenue of the farmers. It is also true of natural grazing lands, which are frequently under communal ownership. It is clear that, where such extensively used lands are available, the benefits derived from them by the small farmers through joint ownership or rights of usage may have a direct influence on the maximum size of holdings.

In developing economies with large populations dependent on agriculture, land reform in the first instance prolongs and, in some cases, augments the prevalence of uneconomic holdings. It would be against normal policies of agricultural improvement, with which the promotion of welfare is indissolubly connected, not to think of some form of co-operative association in which physical and technological conditions favorable to efficient agriculture can be created. Growing interest in some form of co-operative cultivation demonstrated in developing countries as an accompaniment of, or sequel to, land reform measures is by no means an exceptional phenomenon. No reform can be permanent which ignores social welfare, and if land reform creates or prolongs a regime of inefficient small farms, it cannot survive. Several forms and degrees of co-operative farming are feasible. Each country interested in the promotion of some form of joint cultivation is currently engaged in discovering the form of co-operative farming which best suits its needs.

In certain circumstances, even state-conducted farms have been accepted as necessary and beneficial in democratic societies intent on adopting the best systems of land reform. The simplest illustration is that of the administrative farms in Israel. Since they ensure an adequate food-supply and offer opportunities for presettlement training to new immigrants, these farms have been recognized as having a special significance. In Indonesia the marshy lands are to be organized in the first instance as state farms. Here intensive rice cultivation is planned on a large scale and with the help of the most modern methods of production. In Puerto Rico, as has been mentioned earlier, large sugar-cane farms continue to be operated by the Land Reform Authority which has purchased them, the workers on the farm having a special share both in field management and in the profits. The kind of farming, including the crop pattern which it is designed to promote and the type of agricultural worker whom it is intended to resettle, is a significant consideration which determines the system of land management after reform. Some developing economies confronted with an acute problem of food shortage have tended to establish large-sized state farms in newly reclaimed areas on at least an experimental basis. The most modern methods of cultivation are encouraged on these farms where the manual as well as technical and organizational work is by salaried staff. A government which is prepared to go to the farthest limit in land reform, as long as it can be pursued without loss of efficiency, may consider itself justified in including such adaptations of farm organization in its comprehensive program of agrarian reform.

Governments are being led to a fresh appraisal of their own relationship to land for several reasons. In the case of the expropriated landlords, either in the U.A.R. (Egyptian Region) or India, extinction of privileges often leads to an undesirable extinction of a necessary sense of responsibility. While the worst landlords had been nonfunctional and, on expropriation, were not missed, many had provided some services, although they levied an unjustifiably high charge for them. The supply of capital, advice, technical assistance and marketing facilities were some of these. It has sometimes been suggested that major agricultural reforms were also initiated by enterprising large landowners.

With the abolition of these large estates such services have now to be supplied by other means. The new holder is not always best suited to take on these responsibilities either individually or co-operatively. Judging each case on its merits the State has to supply the necessary services while giving the individual farmer as much consideration as is consistent with efficient and progressive management. Where the State itself has to undertake major development works such as reclamation or irrigation, its stake in efficient use becomes even more positive. Most governments are now grappling with these problems of positive and progressive land management. The experience obtained by each country is valuable to others as well as to itself. The growing tendency among land reformers to learn at first hand from the experience of other countries is proving of advantage to all.

A particular land reform problem is that of tribal communities who have a traditional and collective claim to land use. In Africa, the agricultural economy of whole nations may depend upon tribal ownership. Several nations in a state of development have tribal areas and tribal communities to resettle. The problem here is not merely to establish the relationship of a farmer to the land which he cultivates, or to give him advice and some farm services. A whole way of life, including concepts of acceptable relationships, is in the process of resettlement. Land reform for such communities entails a degree of progress in education and development for which a special organization is necessary. With regard to personnel and resources, such an organization has to be fully equipped. Where the national community is itself in a state of development, and unable to offer all the services essential for reorganization, international help on a large scale is needed to enable tribal lands and tribal communities to participate fully in the world movement toward greater equality and greater welfare.

Tenancy

In spite of great efforts to secure for the actual farmers a status approximate to ownership, a large number of agricultural families continue to be tenants and workers. As regards the workers in most of the industrially developed countries, the laws protecting labor interests generally have also been made applicable to agricultural workers. Conditions of full employment, of relatively high earnings and of developed labor organizations are normal in such countries. When, therefore, suitable labor laws are passed they may normally be expected to be implemented in practice. In the developing economies the reverse of such conditions prevails. Rural underemployment and unemployment are usual, earnings are low and variable, and labor organizations, such as they are, mostly restricted to urban areas. In most of these countries, therefore, there is either no legislation at all in regard to agricultural labor, or it is very inadequate and its observance unsatisfactory.

A large number of so-called tenants are no more than agricultural workers who in effect are remunerated by a crop share. The condition of such tenants is often worse than that of hired workers. Under these conditions, no land improvement involving substantial investment, which will yield profits only at a rather long term, such as plantations of windbreaks or the establishment of quick-growing tree species, may be expected either from the tenant or from the owner, whatever its financial interest.

Legislation regulating tenancy and the rights of land workers should be complementary. Here again conditions in industrially developed countries are usually such that they have fairly comprehensive tenancy as well as labor laws, and the bargaining position of both tenants and workers is generally so good that they can reasonably hope for the proper implementation of this legislation. In fact, between the landowner and the cultivating tenant, the tenant is not necessarily the weaker, thanks to the substantial resources often owned by tenants, the provision of all essential services through appropriate institutions and the special rights of rent limitation and pre-emption of transfer created for them. Tenancy legislation is, therefore, a more pressing problem for the developing countries.

In overpopulated and economically less developed countries the bargaining position of workers and tenants is very weak as compared with that of the employers and landowners. It is so weak in fact that their relationship cannot be described as competitive and contractual. The just claims of tenants have, therefore, to be assured by protective legislation, the enforcement of which must be treated as a responsibility of the State, for the intended beneficiaries, namely the tenants, are in no position to assert their claims. Tenancy legislation as such is now standardized to a very great extent. Security of tenure, a just rent and the transferability value of improvements made by tenants are widely prescribed. Generally the tenant either has a right of pre-emption, or is actively helped to obtain ownership of his land.

But apart from a few states, where a separate inspectorate has been created for the purpose, enforcement of tenancy laws is at the instance of the aggrieved party. In other words, violations of tenancy laws are not offences cognizable in law except in a few countries. Recently in Pakistan, violation of all land laws, including tenancy laws, has been declared to be a criminal offence. Nevertheless, governments in developing democracies should take more positive action to secure the regular implementation of tenancy laws. Until the conditions of tenants and workers in these economies become more competitive, such a legal protection is inseparable from the social welfare policies of modern states. Actual experience of certain tenancy reforms, which may appear impressive on paper, is not always reassuring in practice. Often enough the smaller the landlord the greater his demands. Tenancy law administration is a subject which deserves to attract more attention in the future.

Extension

A competent, widespread and well-equipped extension service is absolutely necessary to strengthen the position of tenants and generally to ensure the development of efficiency which is the aim of land reform. Some of the original functions of the extension service may be taken over by the farmers' own organizations once they have sufficient experience and more economic strength. But certain essential extension services, such as general and field research and the dissemination of the right type of information, will always have to be supplied by an institutionalized public agency. While some countries, such as Japan, Israel and the United States of America, may be said to possess competent, progressive and efficient extension agencies, with their research institutes, other countries still need more competent and adequate research services and extension agencies.

Not all the developing countries have yet set up extension services, although specialized state services, for instance in forestry or animal husbandry, are carrying out good work in their particular fields. Even when full extension services are established, however, they too often tend to operate on the level of generalities, large areas and broad categories. To be of real value, an extension service must study in detail the problems of each individual farmer desirous of participating in the effort toward improved land use. The extension officer must have enough general knowledge and detailed experience to enable him to offer worthwhile guidance to a farmer. The farmer's receptivity to advice can nowadays be roused with comparative ease, but his confidence cannot be sustained for long without adequate practical results. In a manner of speaking, the extension agent speaks on behalf of the State which shares the farmer's concern for progress, and if the farmer's effort supported by extension advice does not result in progress, the responsibility for failure must ultimately be shared by the State. Unless, when developing its extension services, the State takes responsibility for the results obtained by individual farmers, it cannot be said to have fully justified its policy.

In the field of research, as regards both subject and organization, further improvement is urgently needed in the developing states. Research based on field experience calls for a long series of experiments which take time, talent and resources. Almost every country has some branches of research in which it has developed more competence and greater experience than others. If the results of research are pooled nationally, regionally and internationally and if the personnel and resources available to each country are suitably strengthened, the basic extension service will be much more satisfactory than it is today in many countries.

Supplies

Often the most difficult thing of all is to do an admittedly desirable thing with very scanty resources. It is problems of this type which confront the small recently emancipated farmer. Unless an extension agency takes into account the availability of means, and follows up its advice by an offer to find such means through appropriate organizations, it is being neither realistic nor beneficial. In these circumstances, the organization will serve only the few, and usually those with greater resources. Among the developing countries Israel's scientific extension services, from research to technical advice and assistance in the field, can serve as a model of organization. Given the appreciation of the need for a similar organization, efforts should be made to help all developing nations to have the benefit of similarly equipped services.

Doubts have been expressed in the past as to whether land reform legislation would promote or retard productivity. In the earlier days of land reform, when the emphasis was on redistribution rather than on promoting productive development, the creation of small uneconomic units was a danger to be feared. The establishment of state-assisted services has proved to be a corrective measure in most of the countries concerned. For instance, Egypt and India, who initiated land reform measures after the close of the second world war, have deliberately adopted large-scale extension services as an accompaniment to their land reform measures. It may, therefore, be stated as a general rule that land reform, which initially consisted in a wide dispersal of opportunities of secure access to land for purposes of cultivation, has resulted in a striking progress in productivity per acre and per man whenever it was assisted by technical advice and by producer's supplies. Further progress is almost entirely dependent on reform or organization, extension and supplies.

Finance

The development process, whether in agriculture or in any other industry, depends on a discriminating but generally expanding investment of capital. In underdeveloped societies even the larger landowners have shown little capacity or inclination for investing capital for the development of productivity, and an increase in farm profits. When, as a result of land reform, responsibility for development is handed over to a large number of small farmers, lack of capital is the first shortcoming noticed by them. As the extension service continues to recommend further technological innovations, and even when it goes on to make locally available the physical means of implementing such a program, the farmer is chiefly handicapped by lack of funds. Short-term working capital may be needed for supplies of seed, fertilizer or pesticide and for payment of current services; a medium-term investment may be required for contour bunding or purchase of an oil engine; or a long-term loan for reclamation and consolidation of land, or for the purchase of a tractor. In all these cases, the requisite amount of funds at a suitable rate of interest is rarely forthcoming.

Apart from the general shortage of capital from which most developing economies suffer, the lack of adequate and easily transferable security constitutes the principal obstacle to a normal access to funds. The over-all position of most farmers is so marginal, if not submarginal, that they do not have any noticeable net value in the eyes of a banker. Land reform measures generally restrict transferability of land in so many ways that its value as a security for loans is very tenous. This usual situation of institutional inability to meet the urgent financial needs of small farmers has been countered in most countries by the State making itself responsible for financial help to the farmer.

As an emergency measure, some land reform authorities loaned capital out of the State's own funds. Such loans, and even subsidies, have been provided by the so-called national forestry funds established or contemplated by several developing countries, mainly in order to help small landowners to establish forest plantations.

The funds required, however, increased so greatly that this source was soon found to be inadequate and unsuitable. It was therefore natural to think of a financial agency which would supply the necessary funds on suitable terms. As lending without adequate transferable security, and with repayment dependent upon productivity, was an unfamiliar concept, the natural reluctance of financial institutions had to be counteracted by extension-cum-supervision. The United States of America was the first among the large countries to initiate this system during the period of interwar depression. Since then most countries have in some form or other followed this system of supervised credit. It has proved beneficial in emphasizing the constructive and developmental aspects of land reform, and in educating financial institutions as to the part they can play in assisting the extention programs of a welfare state.

As long, however, as the various financial needs of agriculture are dependent upon commercial sources, these needs cannot be adequately met. For the long-, medium- and short-term loans required by farmers, special institutions are needed, and there is little chance of these being established and developed except with the full support of the Government. As, however, in a democratic society government responsibility in this field is intended to be no more than a catalytic, and perhaps a temporary, phase, permanent institutionalization of long-term and short-term finance is urgently called for. Not all countries which have undertaken land reform and established extension services have found it possible to organize such a network of financial institutions.

In India, the Co-operative Land Mortgage Bank and other banks have been in widespread operation for a long time. Recently, under the active advice and support of the Reserve Bank of India, these banks have taken on an expanding responsibility to meet all the financial needs of farmers, not only those which arise out of the cultivation of a particular crop, but also those which concern the processing and marketing of produce. It is very desirable that the lessons of this and other like experiences should be more intensively studied in order to evolve similar systems of institutional finance in each country where land reform has altered the structure of agriculture and has emphasized the need for economic growth.

The lack of institutional credit either deprives the farmer of much needed funds, or forces him to seek the assistance of usurers and traders on terms which are no less exacting than those which a landowner used to impose on his tenant and worker. If promotion of welfare is the purpose of land reform, then it must be accompanied by adequate institutional credit, and by a system of extension which supplies advice on better farming methods as a means to a better standard of living.

Marketing

The small grower is often at a disadvantage in finding a remunerative market. In the first instance, he has not enough information on market trends. The situation in this respect is changing rapidly in countries where means of communication, such as the radio and the other audio-visual aids, are being multiplied. Among other things extension advice is expected to take note of market trends in the light of which over-all programs of crop acreages have to be made. Even countries like the United States of America, which guarantees a minimum price for important crops, have in some measure to regulate the acreages put under the several crops from year to year. Such advice entails some responsibility both for reliability and for *bona fide* financial results. Few among the developing countries have yet shown enough readiness to adopt a policy of price support and crop planning on a sufficiently large scale to be of real guidance and assistance to the small farmer. If, however, in the agricultural sphere, the small farmer is expected to supply the sinews of the economic strength of the nation, a more rationalized and progressive approach to incentive prices and crop guidance will have to be further considered.

After extension services, supplies, and finance have been provided and there is some assurance of remunerative demand, the usefulness of special marketing schemes can be considered. In principle, many countries have now accepted the social as well as economic wisdom of a policy of publicly sponsored marketing boards for the main agricultural products.

This vogue is, however, more general as regards export markets than it is for home markets, which are still supplied mainly by private marketing channels. Here the small owner is often at a disadvantage in bargaining and the spread between producer and consumer prices is too large in relation to the service given by the marketing intermediaries.

Where products are processed before marketing, processors are often in a position to depress prices to the farmer. A few countries established public control over processing as in the case of the cotton gins and presses in the Gezira district of the Sudan. Systematic organization by the farmers themselves with a view to processing and selling their produce on a fully competitive basis has not yet been established in many countries. Some states, such as Japan, have a scheme by which the principal food crop is purchased at a reasonable price by the Government itself.

Also in Japan, as in some countries of northern and central Europe, marketing co-operatives, often with direct or indirect governmental assistance, help the small farmer to derive the maximum benefit from the sale of timber and other forest products. There is a wide variety of public, co-operative and mixed forms of sale and purchase and it is reasonable to expect that each country should adopt that which it considers most suitable. It is obvious, however, that the full potentialities of economic development engendered by land reform will not accrue unless a suitable price policy is adopted and unless appropriate institutions are set up for processing and marketing farm produce.

Community development

Land reform, insofar as it readjusts the relationship of the working farmer to his land, is only a formal process. Its effectiveness in bringing about agricultural progress and in contributing to the farmer's welfare depends upon a number of social readjustments. If these are neglected, land reform may fail to improve the conditions of either the farmer or the community. Of the utmost importance is the social and civic re-education of the farmer. When a new member is admitted to the community of secure holders or owners, no one-sided favor is being conferred on him. What is being attempted is a readjustment of opportunities which are considered to be just and beneficial for all members of the community. From a spirit of social solidarity the new holder must derive both reassurance and determination. Unless this new and progressive way of life fills him with a spirit of enthusiasm, he may not be able to play his part well.

Social and civic education is thus the very foundation of the new community which land reform in its various aspects seeks to create. Each rural community has to pool and organize its own resources to derive full advantage from the new opportunities offered by the State and must in turn contribute to the good of all. For democratic welfare and progress, land reform as such has great significance. Even the technical and physical reforms connected with agriculture will fail to reach their targets unless they are incorporated into the normal life of a progressive community of farmers. Particularly in developing economies land reform is expected to initiate a major process of rural renaissance.

This rural renaissance is in fact occurring in several countries. Land reform, however, even if it is supported by departmental activities and economic services such as extension and credit, is not usually accompanied by a deliberate effort to readjust the community life of the people according to the requirements of their new way of life. Extension services have not always received the response which they deserve and several schemes of farm improvement, such as supervised credit and co-operative crop planning, have encountered almost insuperable difficulties in the attitudes and aptitudes of the people. The work of agricultural technicians and of service executives must be matched by the efforts of the social organizer.

As several countries such as Israel, India and Mexico are discovering, it is very difficult to try to build a free yet organized life by government action. Similar apparent incongruities in the world of agriculture have been successfully met by appropriate means. Land reform has meaning and justification only as part of a wider social reform. The foundations of this reformist action are laid in the free, progressive and democratically organized life of the farming communities. Even in the places where community movements have been organized there is a frequent tendency to treat them as separate from the occupational life of the people. This tendency has worked to the detriment of both social and economic welfare.

These lessons, derived from several aspects of land reform, are coming to be recognized, but they need to be much more seriously acted upon than is done at present. Unless appropriate relationships and motivations are developed among men, their participation in agrarian reform will not bear full fruit. Efforts which are being made at present to draw out the best contribution from each constituent of rural society will have to pursued with systematic vigor.

Service co-operatives, that is to say, co-operative associations of farmers designed to supply their members with the needed services such as credit, sale and purchase, are a very vital part of the progress of land reform. That is why, in Egypt, the Land Reform Ordinance provided for membership of co-operatives. This was a compulsory provision, like the whole land reform operation. But the Egyptian Government followed up the formation of co-operatives with active assistance in the matter of technical advice, essential supplies and co-operative marketing. The results of this bold and constructive policy have helped to increase productivity and promote greater solidarity. Neither in land reform law, nor in its co-operative implementation, are half-measures justified. The State which adopts land reform must guide it through all its stages until a democratic and progressive society of farmers is created.

Few land reform measures have included the sphere of supplementary and decentralized industry in their natural field of interest. Even in several of the industrially developed countries a gulf is developing between rural areas, where work is hard and amenities are few, and urban centers which are hives of industry and social life. The welfare purposes of land reform measures are not fully achieved unless a progressive pattern of life extends to cover all the natural needs of rural communities. This concept of land reform is being forced upon national governments by their own unwelcome experience of half measures, and by the demands of newly settled farm families. It may be that in years to come rural industries, like community development, will come to play an ever more important role in agrarian reform.

The joint ownership of, and responsibility for, some lands have proved to be a strong link and incentive for the development of community life. Mountain communities in Europe have derived economic benefits from, and have been considerably strengthened by, the ownership of communal forests and grazing lands; there is at present a trend in developing countries, when state-owned lands of this type are available, to leave at least part of them to neighboring communities. These lands may also supply raw material for the development of rural industries, such as small sawmills and co-operative cheese factories.

Consolidation

The prevalence of small holdings is often characterized by excessive fragmentation, and the dispersed location of individual plots which constitute such holdings. Constructive land reform requires that all plots included in a holding should be consolidated in a manner which will maximize the efficiency of their cultivation. This would make both investment and management more productive. Where land is of uniform quality consolidation does not involve much economic readjustment. But when land is of differing quality and advantage, and the average holding is small, it is difficult to work out a scheme of consolidation which will be acceptable to the farmers. Experience in the Nawag district of Egypt shows that if some readjustment is made through a common fund of land and resources – in Nawag some *wakf* holdings were utilized for this purpose – and if consolidation is to be followed by a program of major agricultural reform, the natural disinclination of even the small farmer can be overcome. Where pressure of population is not too heavy consolidation may bring together in one block all marginal lands. They may then be devoted to more extensive usage, such as forestry, and their administration and productivity improved by transferring the ownership to the community concerned or by forming various associations of private owners.

In technically developed countries, consolidation is often brought about by law, without much responsibility for investment being accepted by the State. In particular areas, however, special development programs, such as land reclamation or irrigation, have been accompanied by more or less compulsory schemes of consolidation. In the developing economies also, as for instance in India, a law has been adopted which authorizes consolidation in a village, if a certain number of holders possessing a large proportion of the land so desires. Over-all expenses of the operation are then largely met by the State itself.

Because of extreme fragmentation in some parts of India, as elsewhere, it has not been found possible to reap the full advantages of progressive agricultural technology since consolidation has not yet been fully realized. A program of expropriation and redistribution of land should be accompanied by a movement toward consolidation. Where the whole economy is geared to full and self-sustained progress, technological developments will almost automatically lead to growing consolidation. In fact, it may then be necessary to take special steps to preserve family-sized farms. But, in the immediate future, consolidation in developing economies should have a much higher priority in farm-planning programs than it appears to have had hitherto. Financial, technical and organizational resources needed to frame and carry out consolidation schemes should be much more adequate than at present.

Consolidation is one of the spheres of land reform where taxation benefits may well be used as a method of obtaining speedy and widespread acceptance. Both for correcting imbalance in redistribution, and for offering the requisite incentives, a differential system of taxes and compensatory payments may be adopted. The virtual abolition of tax collecting intermediaries between the State on the one hand and the cultivating farmer on the other, has made possible a more cogent use of taxation in promoting public interests. It is unusual to apply to land tax the principle of a taxable minimum for a holding. It is reported that in Puerto Rico holdings below a certain minimum are not taxed. But, if consolidation schemes are in fact introduced on a voluntary basis, it may be worthwhile having a tax system by which consolidation is granted a differential advantage. Sometimes the land developer, if not the land reformer, too quickly allocates the burden of reform measures among the direct beneficiaries. This is the principle underlying levies on land improvement. Indian experience has, however, proved that advantages which are socially created are only gradually adopted. Therefore, indirect and delayed recovery of social dues from direct beneficiaries may lead to a clearer understanding of the improvements gained.

It is better to reward efficiency directly than to use taxes to penalize inefficiency. Several countries, for example, Chile, Colombia, South Korea, Taiwan and also Mexico, grant an initial period of no taxation on newly reclaimed land. This principle is capable of considerable variation to suit the requirements of each case, but it deserves to be more widely accepted. The recent rise in prices in most developing countries has helped to reduce the effective burden of land taxation, which is no longer as obviously regressive as it normally was in the past. The inherent inequality between large and small holders is bound to continue. Land taxation in its various forms deserves more systematic and constructive study in its relationship to land reform measures.

Settlements

Settlements can be principally composed of either migrant or immigrant settlers. Migrant settlements can be more directly traced to the influences which lead to the adoption of land reform. In Sumatra, in the Gal Oya valley in Ceylon and in several Latin-American countries, attempts are being made to take peasant populations from the more heavily populated to the less heavily occupied and relatively undeveloped parts of the country. In Brazil and some other Latin-American states where large areas of land are still awaiting development, immigrant farmers from more developed countries are encouraged to form agricultural settlements. As these settlements are relatively more efficient as regards farming and allied activities, they serve as models for local farmers.

In Israel, some areas are now being occupied by people from other countries, mainly attracted there by religious appeal. Except in Israel, immigrant settlements are rarely on such a large scale, although they may have some special advantages over older communities in the same country if they can demonstrate superior methods. Settlements can thus be defined as planned and publicly supported small groups engaged in internal or international colonization. Both in themselves and for the light which they throw on the whole subject of land reform, settlements constitute a very fruitful activity.

As settlements involve permanent removal of families from one place to another, the questions of who is to be moved, and where, are of vital significance. There are several outstanding cases, as in the Netherlands, where experienced and well-endowed farmers have been encouraged to move both as individuals and in groups to a new land such as Brazil which is full of promise for agricultural development. Within a country also, as in Egypt and the Sudan, experienced farmers have been moved to new areas where large social investments were made to increase potential productivity. In many parts of the world, however, the people to be moved are the least efficient and the least endowed of the agricultural population. With suitable training and local extension and other services these people can be helped to become better farmers, as has been the case in Israel. But the effort at rehabilitation has to be made deliberately and systematically.

Because of lack of a complete awareness of all the implications of resettlement, and still more because of lack of resources, such a comprehensive and systematic planning of resettlement services, after selection of settlers, is very often neglected. Where those selected are nonagricultural, being either the unemployed or former members of combatant forces, the process of training and rehabilitation has generally proved unsuccessful. Deliberate attempts to add a nonagricultural complement to agricultural settlements, as for instance in the Gal Oya valley of Ceylon, have been somewhat artificial and underequipped. There is a case for making settlements into normal occupational neighborhoods, with a balanced proportion of agricultural and nonagricultural work. But where such a balance has not evolved naturally, the effort to instal it artificially is fraught with great difficulty. The nearest approach to success is to be found in Israeli settlements, where efforts have been made to establish interoccupational balance on a regional basis. Agriculture and industry located in a single region must both have adequate natural and institutional resources in order to survive and to flourish. Systematic planning is essential to the establishment of agro-industrial communities. This subject, along with the place of small and cottage industries in settlement schemes, needs much further study. When settlement takes place in forested areas, the clearing of trees for agricultural purposes and the rational exploitation of the surrounding forest may supply raw material for the development of industries. This was successfully achieved in several Venezuelan experiments.

The presence of undesirable elements among groups officially selected for emigration, especially in the overcongested areas of some of the developing countries, is sufficiently frequent to warrant determined action on the part of the governments concerned. Settlers are generally selected according to predetermined criteria. Where selection is carried out in an objective and independent manner, its proper purposes are attained. If this is not the case and selection is unduly influenced, the settlement process is apt to be vitiated from the start.

Equally important is the selection of the area where the settlements are planned; the fact that a place is relatively unpopulated is in itself no qualification. Both the physical and economical implications of its development must be carefully studied and the type of settler carefully considered. This involves a number of preliminary surveys which alone can provide a basis for a plan of settlement. Amost all settlement schemes have been planned on the basis of surveys of some kind but their comprehensiveness and technical quality have been very variable. For instance, an adequate survey has rarely been made of the resources which the new community may be expected to gain from the forests or other natural resources around the settlement proper. In consequence, the effort and the resources invested in many settlement schemes are often out of all proportion to the advantage derived from them in the form of successful colonization.

Large-scale movements of population unconnected with settlement motivation have recently taken place in some parts of the world. The case of Israel indicates what sort of problems occur in this process both for emigrants who are constrained to leave their homes, and for immigrants who are invited to enter the country. Even the large-scale movements of population which occasionally take place from the drought-stricken northwestern areas of Brazil must be treated as exceptional. The recurrence of such undesirable movements naturally suggests the advisability of having planned settlement programs of such people in new colonies. The sudden removal of vested interests in land creates a vacuum which may be replaced by more systematically planned settlements. South Viet-Nam is one of the countries in which new standards in regard to the size of a farm unit and its conditions of tenure were introduced during the resettlement of lands abandoned by emigrants. Large-scale movements of population across the Indo-Pakistan border have also created situations in which resettlement programs had to be undertaken in what for generations had been well-settled villages.

Two important features of policy have emerged which are relevant to the future growth of settlements. In the first place, it has been seen that a purely agricultural settlement is difficult to maintain, and both the agricultural and industrial components of settlement organization have to be economically profitable. To fit the patterns of industry, agriculture and trade of the settlement areas into the over-all framework of the national economy is the second essential prerequisite of successful colonization. The Tahrir settlement in Egypt, for instance, which started with too idealistic a program, had soon to be readjusted to suit the realities of the socio-economic situation. The other extreme is to be found in Sumatra where too much emphasis was placed on the mere movement of population from the congested parts of Java. As a result, the economic planning of the settlement areas themselves always lagged behind the needs of the people who had been moved. More integrated co-ordination of enterprise is called for than is generally visible at present both locally in the settlements, and nationally, considering the settlements as parts of the country's economy. Valuable experience has been gathered by some governments, who, like Israel, have undertaken the task of re-organization very systematically. The problem may not appear to merit special consideration where settlements are small parts of a big and progressive economy, but in overpopulated and less developed countries greater caution is needed if these efforts at settlement are not in the end to prove fruitless.

Settlements almost always create the need and the opportunity to build community life among new settlers. This need is distinct from the need for housing and social amenities. These attract considerable attention and in several countries quite good standards of accommodation and neighborhood services have been achieved. In some places local civic committees have also been established. But encouraging the settler to participate in planning and executing settlement enterprises has not been attempted as an important element in successful community life. Then there are commercial companies who promote rural settlements as if they were corporations on the lines of a housing colony in an urban area. The physical constituents of a settlement, however impressive they may be, do not necessarily lead to the creation of an integrated and progressive community.

In the creation of a democratic community it is as necessary to consider the social engineering involved as it is to solve the problems of physical engineering. Where even physical construction is indifferent, the social aspect tends to be altogether ignored. Often, as in Sumatra, the community problems of a settlement are aggravated by the differences existing between its pattern of living and that of local communities. The Javanese immigrant and the Lampong native in Sumatra do not easily form a common civic or cultural life. Similar situations arise in most of the developing countries. Israel, which is promoting the immigration of Jewish settlers from all parts of the world, has a special problem on its hands, which it is trying to solve by training all immigrants to fit into a common pattern which provides for spontaneous and individual, as well as co-ordinated group, action. Together with the technician and the administrator, the student of social life must also be expected to make his contribution toward the formation and execution of settlement policies.

Settlements of tribal peoples should receive that lively and vigorous attention which is generally bestowed on all other types of settlement. The resettlement needed in their case is not only, or even primarily, occupational. Their whole way of life, including education, social life and occupational life, has to be changed simultaneously. As all this, to be lasting and real, must be achieved through the volition and largely through the effort of the tribal peoples themselves, a very special type of agency is needed to assist tribal rehabilitation and development. A certain emotional and moral affinity between the tribal people and the agencies set up to promote their welfare must first be established. No superstructure of tribal welfare administration will last long unless it is firmly based on the unreserved recognition of its essential value by the tribal people. Increasing participation by the tribal peoples themselves in these welfare schemes is essential. Resettlement of a people accustomed to frequent movement in pursuit of food and water for themselves and for their cattle, is bound to entail a variety of social and economic changes in their whole way of life.

The promotion of democratic development by means of social action is difficult enough, but even greater are the difficulties involved in introducing the benefits and opportunities of democracy to tribal communities. Succesful promotion of education, community action and occupational improvement among the tribal peoples can only be achieved by complete understanding of their particular problems. While many countries have attempted to improve the standard of living of their tribal populations, none of them has achieved results successful enough to serve as a model to others. A study of the particular problems raised by the settlement of tribal communities would appear to be an essential subject for research at both national and international levels.

Chapter IV - AGRICULTURAL EXTENSION, EDUCATION AND RESEARCH IN AFRICA, ASIA AND LATIN AMERICA

Introduction

This chapter attempts to review developments since 1945 in agricultural extension, education and research services in Africa, Asia and Latin America. It has not been possible to include other equally important services or institutions, such as agricultural credit, farmers' co-operatives and land tenure systems and reforms, although they too make a significant contribution to agricultural development.

The data available (mostly in FAO publications and surveys) on the three services covered were extremely scanty, and this circumstance has made it difficult to illustrate trends in as much concrete detail and with as many figures as would have been desirable. Nevertheless, it is hoped that the present outline, however tentative, will be of use to all concerned with agricultural development in the vast area under discussion.

The general outline of the chapter is briefly as follows: development of agricultural extension services, including concepts, organization, programing, methods and training; development of agricultural education at all levels; agricultural research services; and appraisal of the three services previously discussed with suggestions for strengthening them.

Agricultural extension

It has often been pointed out that the education of agricultural technicians and the discovery of improved methods and techniques are of little use in increasing agricultural output unless the farmers themselves can be induced to accept expert advice or adopt the new discoveries of research. Efforts on the part of governments in the less developed countries to reach and influence the rural population in this direction are not new, but they have been considerably expanded since 1945 under the stimulus of the vast movement to assist these countries in the context of bilateral and international co-operation.

Such efforts are now known as extension. The term, and in most cases the idea, was borrowed from the United States of America; it has been applied to quite a few forms of activity that were in existence in underdeveloped countries before the second world war. More recently, it has tended to replace another concept of extension – that of doing things for farm people (rather than teaching them to do things for themselves) and even such activities as regulatory work. By now, the educational approach is becoming more widespread, and this is due, at least in part, to the efforts of FAO which defines agricultural extension as "an informal out-of-school educational service for training and influencing farmers (and their families) to adopt improved practices in crop and livestock production, management, conservation and marketing. Concern is not only with teaching and securing adoption of a particular improved practice, but with changing the outlook of the farmer to the point where he will be receptive to, and on his own initiative continuously seek, means of improving his farm business and home."

Extension work, if it is to be successful, must be realistic and avoid any suggestion of compulsion. Convincing farmers to change their traditional methods is not always easy. It can only be done if the extension workers take into account the relevant social, cultural and economic conditions, including institutional and other factors, which may prevent the farmer from reaping the benefit of improvements carried out by him. Extension workers must also have a practical grasp of the farmer's problems and avoid an abstract, textbook approach.

The emphasis has to be placed on voluntary co-operation. Regulatory and administrative activities (but also the provision of direct assistance) should therefore, wherever possible, be excluded from the scope of extension. It is realized, however, that sheer lack of resources or trained personnel prevents many countries from being able to separate the extension from the regulatory service.

When fully developed, extension services would be at the disposal of the rural family as a unit comprising men, women and young people. These services, including agricultural and home economics, should not only help to increase farm income but should assist farm women to make the best possible use of resources available to the family, including income from agriculture, and thus improve the standard of living of the family.

Organization of agricultural extension services

The approach to agricultural extension services has naturally varied from country to country according to the administrative, economic and cultural pattern.

Government and nongovernment approaches

Extension services may be roughly divided into those which are organized and administered by farmers' associations, universities, semiautonomous bodies, and governments, which account for the great majority.

Farmers' associations. In Taiwan, extension services are undertaken by farmers' associations, which provide funds but are also given government subsidies. The operation of the services lies with the organizations themselves.

In Japan, extension work was started several decades back by farmers' organizations with government help. In 1948, however, the Government took over and expanded the work.

Universities. University-administered extension services on the United States model are rare in underdeveloped countries but, in Chile, the Chillan program co-ordinates extension, education and research in the University of Concepcion's agricultural college. In India, too, it is planned to create a number of agricultural colleges on the same United States model.

Semiautonomous bodies. This type of extension service is frequent in Latin America. The most striking example is perhaps that of Argentina. The Servicio de Extension Agropecuario in that country is part of the Instituto Nacional de Tecnologia Agropecuaria (INTA). This body is a semiautonomous entity under the Ministry of Agriculture, and is administered at the national level by a board on which farmers are represented. INTA started as a research organization but is now in charge, on a national scale, of research, extension and development services in agriculture and animal husbandry. Research and extension are integrated at all levels in one administrative unit.

At the local level, experimental stations constitute the basic work-units for technical and social development. The farmers themselves share responsibility in running the service through the local extension committees and through the advisory councils at the experimental stations.

INTA derives its funds from a 1.5 percent tax imposed on the value of exported products and by-products of agricultural and animal husbandry. Most observers are agreed as to the rapid growth in recent years of INTA and as to its excellent prospects of future growth.

Brazil, too, is in the process of developing, under government supervision, a semiautonomous extension service in association with the rural credit agencies, instead of with research organizations as in Argentina. The supervised credit system, which was started by credit institutions and other agencies in various states of Brazil, has been closely linked with extension during recent years through the Brazilian Association for Rural Credit and Assistance (ABCAR) in a nation-wide network. This association was formed by linking up a number of credit and extension bodies in the various states of the country. Studies have recently been made in order to determine the proper balance between agricultural extension and supervised farm credit work.

Colombia has developed a semiautonomous extension service under the auspices of the Colombian Coffee Federation.

The former extension system of Peru is another example of a semiautonomous extension service closely related to the research service. This system grew up on the basis of technical assistance from the United States of America, and was called Servicio Co-operativo Interamericano de Produccion de Alimentos (SCIPA). It functioned independently of the Ministry of Agriculture till the end of 1960. As of 1 January 1961, it was incorporated in the Ministry as a special service under the name Servicio de Investigacion y Produccion Agropecuaria (SIPA).

Services organized and administered by the government. The great majority of schemes in the areas in question, however, are financed by government funds and administered through the Ministry of Agriculture. Government control does not of course exclude private contributions, and in many countries, especially in Africa, nonstate organizations, marketing boards and various semigovernment agencies, institutes and corporations have played an active part in financing and carrying out extension work.

Organization according to subject-matter coverage

In general, agricultural extension services are operated either as unified bodies (covering all enterprises) under one administrative unit, or separately by the relevant technical department of the Ministry of Agriculture. In certain other cases, extension is one of the activities included in development schemes, and covers health, education, crafts and other fields.

The unified agricultural extension services under one administration advise farmers in all aspects of agriculture, including crops and animal husbandry. In a few countries, such as South Korea and the Philippines, the service does advisory work in veterinary medicine, forestry and fisheries. In many countries, however, there is no unified agricultural extension service. The operation of such services in their respective field by each of the Ministry of Agriculture's technical departments is still the practice and inevitably leads to some duplication, and thus to the ineffective and inefficient use of specialized personnel and other resources. Farmers, moreover, may be confused if a number of technicians from different fields visit them and advise them on broadly the same problem, especially if they offer a variety of sometimes contradictory solutions.

The dangers are even greater when the responsibility for special services is located in ministries other than that of agriculture. In the northern region of Nigeria, for example, assistance to farmers is divided between the Ministry of Agriculture, the Ministry of Animal Health and Forestry, the Ministry of Local Government and the Ministry of Education. In Ceylon, too, subsistence farms and plantations are served by different systems. The economically much more important tea, rubber and coconut plantations can call on their specialized research institutes and associated extension services for advice. Subsistence farming, with its small landholders, is looked after by the extension service which is operated by the Department of Agriculture.

Fisheries. With the exception of Indonesia, Japan, South Korea and the Philippines, there is little fisheries extension work in the areas in question, particularly as regards educating and training fishermen in modern fisheries technology. Although it is recognized that practical training and technical advice to fishermen are both desirable and necessary, the only training which has been given so far by some government fisheries services is in operating motorized fishing boats and in certain navigational matters.

Inland fishing in farm ponds and paddy fields is sometimes considered as part of a farming operation, and in some countries is dealt with by the agricultural extension services. Consideration might be given to adopting this approach in other countries. Inland fishermen could be advised, trained and assisted by the field agricultural extension agent as regards fish farming activities in ponds and paddy fields.

Forestry. Although in most of these countries a part of the Ministry of Agriculture, forestry is seldom linked up with the agricultural extension services. Forestry is, of course, different from agriculture in that most of the forests in these areas are government-owned, and there are few forest businessmen to be advised and assisted in modern forest technology and practice. In addition to such general measures as the establishment of forestry services for the administration of national and private forests, for the planning of forestry development and for the enforcement of the relevant measures, forestry extension has recently been given considerable attention.

Systematic extension work in forestry, however, has not yet been organized in many countries either as an independent service or within the agricultural extension services. Recently, plans have been made by the Government of Chile and by some countries of Africa, with FAO assistance, to organize courses in forest working techniques and in the prevention of accidents to forest workers, rangers, and direct forest exploiters. Range management is the point at which agriculture and forestry meet, and where the starting point for co-operation and co-ordination between forestry and agricultural extension might logically occur. Advice and assistance to rangers is required on how to improve, graze and exploit the ranges in rotation, on how to plant quick-growing species of trees, how to protect forests which are being grazed, and how best to manage ranges. These activities form a natural starting point from which extension work can expand to cover forest management and other forestry practices.

Extension work in forestry is now considered desirable, particularly in Latin America and in countries where agricultural development is rapidly taking in new areas. People need to be taught which land is to be cleared and which is to be kept as forest, how to conserve and protect forests in nonagricultural areas, and how to obtain most benefit from the forest-agriculture relationship. In these cases, it would appear advisable for forestry and agricultural extension services to be under one administration. The forestry service could carry out research and regulatory work separately, but forestry extension could be carried out, on the educational side, within the agricultural extension service.

Unfortunately, most field extension agriculturists in the areas under discussion have no training or experience in forestry, and consequently cannot carry out thorough forestry extension. This defect could be made good if, where necessary, agricultural training institutions were to introduce into their curriculum a course in general forestry, including the physical and economic value of forests, forest influence, and forest and range management. In addition, forestry subject-matter specialists appointed within the agricultural extension services could offer in-service training and assistance to the field agriculturists, by visiting them in the field.

Veterinary services. Extension work in the veterinary field is also carried out separately from the agricultural extension services in most countries. In general, the veterinary services are concerned primarily with direct assistance to farmers and rangers. Rarely is there any real veterinary extension program, particularly with regard to hygiene and protective measures against epidemics. The need for veterinary extension, however, is coming to be recognized and in a number of countries thought is being given to introducing such activities within the general program of the agricultural extension services. Some training in animal physiology and anatomy as well as in applied elementary veterinary medicine might, with advantage, be offered in agricultural training institutions to students who are to enter the extension services. Veterinary subject-matter specialists could also be included within the agricultural extension services.

Community development

Agricultural extension has been introduced by some countries as part of a community development scheme. Community development has been defined as " the process by which the efforts of the people themselves are united with those of government authorities to improve the economic, social and cultural conditions of communities " (*3*).[1] In other words, the participation of the people themselves is backed by the provision of technical and other services required to meet the objectives.

Community development programs are carried out either through an informal co-ordination of the field staff of the special services involved, or by a formal body working at village level through multipurpose workers. The latter method has been adopted in India which, since 1952, has undertaken community development on a large scale as an integral part of its five-year plans. Once some progress has been accomplished, the stage is set for bringing in specialized services such as agricultural extension, health and sanitation, and home industries.

The general emphasis in community development programs is sometimes on targets which are only complementary to production – health, education and home economics. Agricultural extension, on the other hand, has a natural bias in favor of projects which hold out promise of a rapid increase in income, on the assumption that once this goal has been reached it will be easier to give emphasis to services concerned with social and other aspects of life. And in fact this consideration has frequently led to major emphasis being laid – in India, for example – on agricultural extension in community

[1] The numbers in parentheses refer to the bibliography at the end of the chapter.

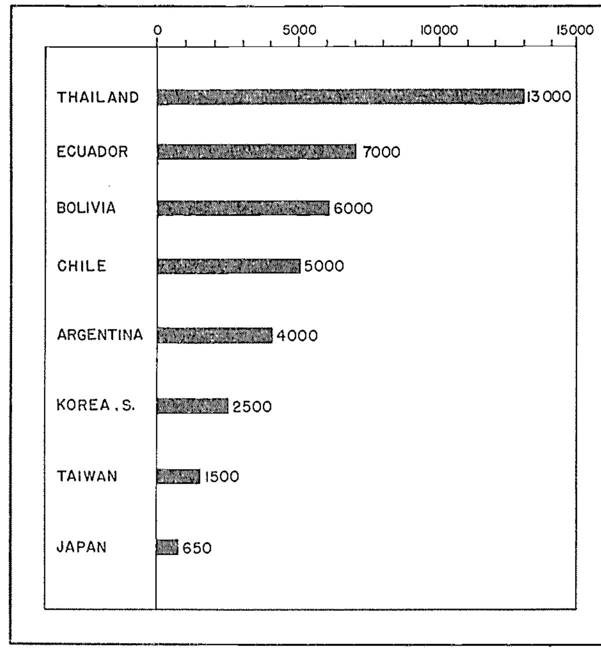
development programs. In Pakistan, also, the stated aim is " to raise rapidly the output and income of the villagers through better methods of farming and the expansion of cottage industries". In such cases, " a number of the main weapons... against traditionalism in farming are from the arsenal of agricultural extension methods " (*23*). Ministry of Agriculture technicians are brought in, when available, to advise farmers. Demonstration plots are frequently used. Model farmers help to teach others.

It is obvious that shortage of skilled staff and budgetary difficulties make close co-ordination between extension and community development imperative. In some cases, however, these two programs belong to different ministries which are not properly co-ordinated, with the result that there is much overlapping.

Community development programs aim at accomplishing much with little capital. However, most of the techniques taught do require some capital investment – whether in greater and better use of fertilizers, improved seed, more effective plant protection, or more suitable implements.

It is extremely difficult to isolate the contribution to increased income made by community development, but in Asia the United Nations inquiry (*23*) came to the conclusion that these programs were " achieving some if modest results in improving agricultural output ".

FIGURE IV-1. - RATIO OF FARMERS TO FIELD EXTENSION AGRICULTURISTS IN SELECTED COUNTRIES OF ASIA AND LATIN AMERICA, 1959



SOURCE: (*a*) FAO. *The present status of agricultural extension development in Asia and the Far East.* - (*b*) FAO. *Informe del Centro sudamericano de extensión agrícola.*

AGRICULTURAL EXTENSION PERSONNEL AND THEIR TRAINING

Number and development of personnel

The needs of farmers, in most of the developing countries, are not as yet adequately met by the extension services. Lack of funds is almost a general complaint. Both the limited number of trained agricultural extension workers, relative to the number of farmers to be served, and inadequate transportation facilities are to blame for the limited assistance available to farmers. The shortage of extension personnel was much more acute immediately after the second world war. Since then, the number of agricultural extension staff has been increasing rapidly. Very few countries, however, appear to have reached a satisfactory level in quality and quantity in this respect.

Available information concerning four countries in southeast Asia (Japan, South Korea, Taiwan and Thailand) and four Latin-American countries (Argentina, Bolivia, Chile, and Ecuador) indicates the variation in the ratio of farmers to extension staff (Figure IV-1). Japan has the most favorable ratio. Thailand, at the other extreme, has not had sufficient time to build up an adequate extension staff for the new service developed in 1950. In addition, with the creation of the rice department in 1953, the extension service staff, as such, was reduced, with the result that there was only one extension worker to about 13,000 farmers.

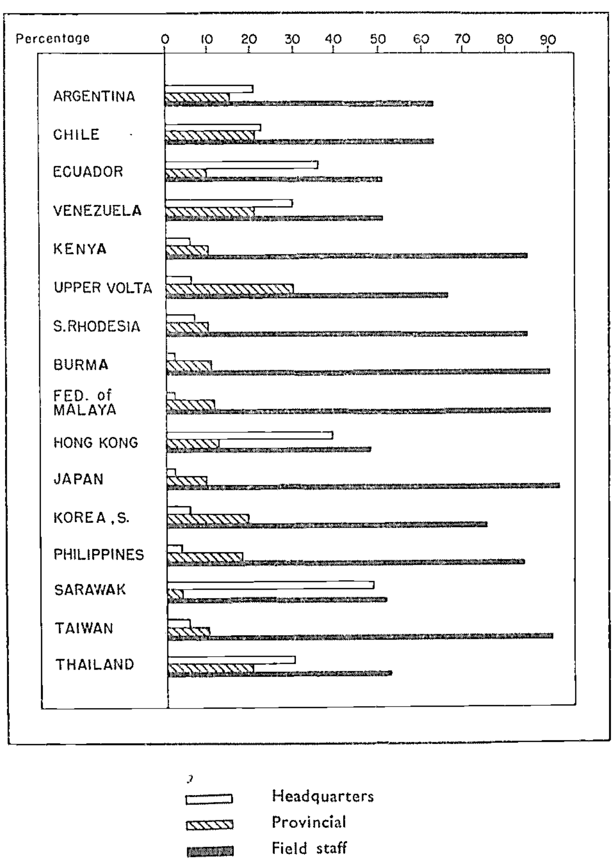
Experience in countries with small farms has indicated that each field extension agriculturist can serve effectively a number of farmers ranging from 600 to 1,000 subject to availability of transportation facilities, closeness of settlement, the educational and technical level of the farmers and the methods used to contact and persuade the farmers (individual farm visits and demonstrations).

Some countries, realizing the difficulties involved when a field agriculturist has to serve too large an area with many farmers in it, have limited the area allocated to each agriculturist, basing its size on the range of farms mentioned above, i.e., 600 to 1,000.

Such areas, equal in number to the available field agriculturists, are selected in the most important farming regions of the country and are located in such a way as to serve as focal points for extension work. Improvements in these areas soon spread to the surrounding districts. Farmers are always interested in observing and copying practices that are successful with their neighbors.

Another way of comparing agricultural extension services in developing countries is with regard to the distribution of their staff among field, provincial and headquarters posts. Figure IV-2 shows this distribution for 16 countries. It will be noted that, in some countries, the headquarters personnel is almost equal in number to that in the field. If the headquarters staff is compared with that of the provinces or regions, very few countries appear to have a desirable proportion of field extension workers.

FIGURE IV-2. - HEADQUARTERS, PROVINCIAL AND FIELD EXTENSION STAFF IN SELECTED COUNTRIES, 1959



SOURCE: (*a*) FAO. *The present status of agricultural extension development in Asia and the Far East.* - (*b*) FAO. *Informe del Centro sudamericano de extensión agrícola.* - (*c*) Reports of the FAO Regional Extension Office for Africa.

Burma, the Federation of Malaya and Japan are examples of sound distribution of personnel.

Most of the agricultural extension staff in developing countries prefer not to work in the field with the farmers. This reluctance is due to lack of adequate technical training and practical background which tends to make staff feel ill at ease when working directly with farmers, and also to lack of transport and other facilities. The low prestige of farming in many countries also keeps staff in the office and away from the fields. Relatively unfavorable living conditions outside the capital and inequality in the rates of pay between headquarters and field staff, even when both have the same technical qualifications, are further discouraging factors.

In some cases, the pay of a senior administrator is as much as 15 times that of a village-level extension worker. This marked difference in pay is often due to the low level of training of the field extension workers. In several cases, however, it has been found that the qualifications were similar, which seems to indicate that the latter are seriously underpaid. There are also cases where agricultural extension workers are assigned to the field as punishment.

It is now generally conceded that field staff should receive pay comparable to that received by equally qualified headquarters and administrative staff and should, if qualified, be enabled to reach the higher grades and to retire with pensions comparable to those of other personnel. On this basis, the field extension services will be able to secure staff of higher quality and of greater usefulness to the farmers, and hence to the national economy.

In many cases, extension services in developing countries are not staffed with personnnel specially selected and trained for educational work with the farmers. The staff consists of agriculturists who have been rejected by other government departments or who were previously engaged in regulatory and administrative activities. The most successful extension services have been those which selected the right personnel. Only men who understand the farmer, have a genuine affection for him and are willing to live and work with him in his village and fields have contributed significantly to extension work.

Another important factor contributing to the limited effectiveness and efficiency of the field extension services in developing countries is lack of supervision and technical subject-matter assistance. Few countries have established adequate supervision with a view to guiding and assisting field extension workers to plan and carry out effectively realistic programs of work. Where extension supervisors do exist, they are inadequate in number and not vested with appropriate authority and responsibility.

There are only limited numbers, also, of subject-matter specialists in the extension services of developing countries, and the assistance given by such specialists to field extension agriculturists is ineffective. Where extension subject-matter specialists do exist, they frequently duplicate the work which specialists of various technical departments are carrying out in the field. In Chile, for example, the FAO extension expert recommended in 1958-59 that the specialists of the technical departments of the Ministry of Agriculture should be utilized in assisting field extension agriculturists, and not carry out work directly with farmers. It was also recommended that the few subject-matter specialists of the extension service in Chile should serve as liaison officers with a view to improving the co-ordination of the specialists' work in the field.

New extension agriculturists who have never served in other departments are not always adequately prepared for the job. Their technical training is sometimes theoretical and unrelated to the actual farm problems and needs. As the development of agricultural extension services has progressed, governments have had time to realize the need for providing special training for prospective extension workers, and there have been improvements in the facilities and staff of colleges and universities which train such workers.

Training of extension workers

Preservice, induction, in-service and promotion training for agricultural extension workers have been introduced in some developing countries in the Far East. Induction, in-service and promotion training are usually the responsibility of the agricultural extension services, which organize such training, either independently or in co-operation with agricultural education institutions. Significant assistance has been given during the last decade to governments in this respect through the bilateral and international programs of technical assistance.

Induction training. This is the training given to agricultural extension workers, primarily the field agriculturists, immediately upon their appointment and prior to their assuming active duty. Several agricultural services, particularly in the Far East, are at present offering this type of training which appears to be extremely successful. The appointee is first kept at the agricultural extension headquarters offices, and is helped to familiarize himself with the organizational and administrative structure of the extension system in the country, with the record-keeping and the reporting systems and with the routine work in the central offices. During this period, appropriate publications are put at his disposal for study, and he is briefed by responsible officers so that he may understand what he is expected to do and how he can do it. This period of about a week is followed by from two weeks to a month of internship with an experienced field agriculturist who has already established a good program of work in his area. When this phase is completed, the appointee is taken by the supervisor, or the provincial director of agriculture, to the area in which he will be serving, and is introduced to the appropriate authorities and to a number of prominent farmers. He is advised and guided on how to begin operations and how to proceed gradually in building up the program of work in his area.

In-service training. Field extension agriculturists while on duty, and occasionally extension workers at other levels, are given in-service training by means of special conferences, training centers, and visits by specialists and supervisors. Other forms of in-service training employed by various agricultural extension services are exchanges of visits and of reports, bulletins, circulars and books on the principles, philosophy and methods of extension.

Promotion training. Although it is little used in developing countries, the aim of promotion training is to improve the qualifications and the abilities of extension workers in order to enable them to occupy higher posts to which they are subsequently promoted. Promotion of experienced staff to such posts, and adequate preparation to fill these effectively, is an excellent way of building up strong extension services. In Africa, this type of training has recently been receiving greater consideration.

Extension work with rural women and youth

Extension work is often initiated with male adults in order to establish, through increased income from farming, the economic basis for improving other sectors of farm family life. If a farmer is helped to increase his production and income appreciably, he will probably be willing to accept better methods of home management and other innovations which contribute to an improved standard of living. He will be ready to have his children educated and thus prepared for a better way of life. When a farmer is convinced from his own personal experience that agricultural extension helps him to improve his farming and his income, he will want his wife and children to have the benefit of these same services. Work initiated with rural youth often sparks off the interest of adult farmers and brings them to accept agricultural extension workers and to cooperate with them in agricultural development.

Home economics extension

Home economics extension is a comparatively new aspect of extension services in many countries, and its development has been relatively slow. It is understandable that, where the rural female population is largely illiterate, and conservative customs restrict the freedom of women in community life, governments tend to delay initiating home economics extension work. Absence of compulsory education is also a hindrance in developing such work. The dearth of well-trained home economics extension leaders who can develop programs, and of home economics extension workers who can carry them out, is another reason for the slow development which has characterized this program.

Home economics extension work should be concerned with the farm family as a unit and with the adaptation of that unit to changing social and economic conditions. It should deal with the betterment of all aspects of family life, including the nutrition of the family, the management of the home and all available resources, and those activities on the farm which are usually carried out by women.

The farm woman who knows how to feed the members of her family well and how to keep them in good physical health contributes to increased production. The farmer who enjoys a satisfactory family life is able to work more effectively and to contribute his best to his family and the community of which he is a member. Home economics extension workers teach farm women and their daughters how to prepare food so as to make the best use of materials and to preserve surplus crops. They also help families to plan improvements in the home so as to improve sanitary conditions, ensure safety for the farm family members, and make life more comfortable and attractive; they teach gardening, poultry keeping and other supplementary farm enterprises which can contribute to an increased income and to improved well-being.

It is estimated that about 30 percent of African countries have initiated some type of home economics extension work. Since food production is often the task of women, home economics and agricultural extension programs should be developed in close association with and in relation to community development schemes. When teaching in home economics is offered at more advanced levels, as for example in the Egyption Region of the United Arab Republic where home economics is being integrated into the Faculty of Agriculture of the University of Cairo, graduates will be better prepared to face the problems and needs of rural areas.

The governments of a number of countries in Latin America are actively developing national home economics extension programs. In 1959, of the 285 technical agricultural staff in Argentina, 79, or about 27 percent, were home economics extension workers. Two of these were supervising programs which included 49 rural home improvement clubs with a total membership of 976 women. In that same year, Bolivia had 17 field home economics extension workers out of a total field technical staff of 55, and 130 home improvement clubs with 1,830 members. Brazil had a home improvement extension program with 357 home improvement groups having a total membership of 4,769 adults and young women. Chile had 26 university trained home economics extension workers, *educadoras del hogar rural*, out of 103 university-trained agricultural extension staff. Ecuador had 9 home extension agents out of a total of 82 field technical extension staff. Paraguay started its home improvement extension program in 1957 with 1 home economics extension worker. At that time there were about 17 home economics clubs with a total membership of 61 women and girls. Venezuela in 1959 had 82 home demonstration agents out of 325 technical extension staff. Home economics extension in Puerto Rico dates back to 1934 and has the most developed program in the Caribbean countries; home economics extension is carried out in rural areas by the departments of agriculture, education, social welfare and health.

The Government of India has made a vigorous effort to train village-level women workers as part of the national Community Development Program which was initiated in 1952. As of July 1959, there were in the country 1,266 village-level women workers and 1,447 women social educational officers. Approximately 400 workers in these two categories are trained every year. In Japan, the personnel of the home economics extension service of the Ministry of Agriculture and Forestry consists of one chief of the section and 18 specialists at headquarters, and 1,689 field home economics advisers. One home economics adviser is responsible for 4,000 to 5,000 families of which only 10 to 20 percent can actually be reached and assisted. In the Philippines, home economics extension is well developed within the Department of Agriculture and Natural Resources. The program is carried out chiefly through rural improvement clubs, through which the rural homemakers are taught to improve nutrition, health and sanitation practices, child care, etc. In 1959, there were 431 home advisers in the Philippines and 4 subject-matter specialists. Rural improvement, closely related to home economics extension work, is also going on in Indonesia, Taiwan and Sarawak. In Pakistan, these programs are centered in the Village Agricultural-Industrial Development (V-AID).

In Iran, where home economics extension work was initiated in 1957, 8 district advisers are now developing this work with the help of a number of subject-matter specialists. A total of 138 local advisers in the program have demonstration centers in 200 villages. Special emphasis is given to ways of improving home food production.

Rural youth programs

These have developed in many countries since the second world war, and in some of them have become an important movement. In many countries, the clubs follow the United States pattern of the 4H organization. Youth organization work is generally started by agricultural extension field workers, with the assistance of appropriately trained volunteer local leaders. The rural youth organizations are usually financed by local contributions. In several countries, including Chile, Peru and the Philippines, national and local committees have been organized to sponsor and assist the rural youth development movement.

Table VI-1 gives data concerning rural youth organizations, and membership for fourteen countries. The average membership per club, and particularly the ratio of total club membership to total population figures, may serve as an indication of the strength of the movement in each country. Data on rural youth organizations include both programs for young men and young women. In Argentina, about 40 percent and in Bolivia about 30 percent of the members of rural youth clubs are girls. In Brazil, about 80 percent of the clubs are for women and only 20 percent for young men. In Jordan, about 30 percent of the rural youth organizations are for young women.

TABLE IV-1. - RURAL YOUTH CLUB ORGANIZATION AND MEMBERSHIP, IN FOURTEEN COUNTRIES, 1959

Country	Number of rural youth clubs	Membership in rural youth clubs; boys and girls	Average membership per club	Number of club members per 10,000 people
Argentina	121	2 476	20	1
Bolivia	508	7 867	15	24
Brazil	445	6 630	15	1
Ecuador	91	2 165	24	5
Iran	136	2 617	19	1
Ceylon	1 000	20 000	20	20
Japan	17 319	244 928	14	27
Korea, S.	3 729	142 594	39	63
Fed. of Malaya	7	300	43	0.5
Nepal	310	1 350	4	2
Philippines	4 708	115 828	25	48
Taiwan	3 571	43 471	12	44
Thailand	134	4 843	36	2
Viet-Nam	401	18 747	47	7

SOURCES: (*a*) FAO. *Informe del Centro sudamericano de extensión agricola*; (*b*) FAO. *The present status of agricultural extension development in Asia and the Far East*; (*c*) FAO. *Production yearbook 1959* and (*d*) other reports at FAO Headquarters.

The educational value of rural youth programs is considerable and makes a valuable contribution to the growth and expansion of future adult extension work. Youth programs develop leadership for agriculture and home improvement and teach group methods of work. As an example of the approach to such work, the recommendations of the FAO agricultural extension expert to Chile may be cited (*22*). "Go slowly in organizing 4C rural youth clubs. At the beginning, a few areas should be selected throughout the country and only one youth club in each should be organized as a model for demonstration. Each 4C club should have at least one group project of social significance. All members of each club should have at least one individual project each. All individual projects should be visited by all club members as a group, at least once a year – at the most appropriate time, for study and familiarization of the group with the activities of each member and for stimulating the group's interest in the results.... "

Program planning in agricultural extension

Agricultural extension services in developing countries are finding it increasingly necessary to plan their activities in order to be able to set up educational objectives and goals, to determine priorities and procedures, and to provide adequate organization for their activities.

Types of planning

Types of planning vary widely from country to country. Planning may be carried out by the senior administration and handed down to the field workers for application, or it may be done by the field extension staff without the actual participation of farm people, or again, be effected by farm people and extension workers jointly.

Planning by the administration is not particularly successful, as it tends to be divorced from farmers' actual problems and needs, and hence not to receive their understanding or support, which are essential if extension is to achieve results.

Levels of planning may be local, regional or provincial, and national. All three should be, and usually are, closely interrelated. Planning at the national level involves among other things the co-ordination of the extension services with other agricultural services in the interests of rapid progress in the whole field.

Methods used in agricultural extension

Agricultural extension methods for imparting scientific agricultural information to farm people and for assisting them to improve their way of life vary widely depending on the educational level of the farm people, the standard of technological development in farming, the social organization systems and cultural habits of farm people, communication and transportation facilities, and equipment and supplies available to the extension workers.

In many countries, personal contact has been the main method used to persuade and train farm people. In a country where the educational level is low, the personal visit of an extension worker to a farm and practical assistance to a farmer in applying an improved farming technique, have proved most effective. When the farmer becomes convinced that modern scientific methods are of practical value for the solution of his problems, when he finds through actual experience that the new methods bring him beneficial results, he gains confidence in the extension worker and comes to rely on his assistance.

Although they may be highly effective, personal contacts cannot be used to reach a large number of people because of physical difficulties. For this reason, demonstrations are considered to be more efficient when larger numbers of people are involved, and are used to complement personal contacts and farm visits. Both farm visits and demonstrations require the agricultural extension workers to spend a large part of their time in the field, consulting farmers, co-operating with them in actual practice, and showing them how modern farming methods can be used to increase production and improve the farm family's living conditions.

Government demonstration farms are sometimes used as an extension teaching device. Their effectiveness, however, is often questionable. While the extension agriculturist can stage an excellent demonstration on the government farm, the farmer often does not come to observe and, if he does, finds conditions of operation unrealistic, because on government demonstration farms work is done by hired labor, disproportionately numerous and costly, and using facilities, equipment and practices beyond the financial and technical capacity of the farmer. Some extension services make only limited use of government-owned and-operated farms for demonstration purposes, and rely mainly on the use of privately-owned farms where the methods and facilities employed are such that neighboring farmers can reasonably be expected to observe and duplicate them.

Mass methods for extension teaching, including radio, news stories, magazines, bulletins and circular letters, are used in a few countries with excellent results. In many developing countries, however, few farmers have a radio or can read, and therefore cannot benefit from these methods. Nevertheless, posters and farm exhibits are two types of mass media which have been used extensively with satisfactory results in rural societies.

Ideally, methods should be diversified. Meetings, demonstrations, discussions, films and slides can be used complementarily, their combination being varied in accordance with local conditions.

Local leadership has been recognized by almost all extension services as one of the important factors which contribute significantly to the success of extension work in the field. Selection of appropriate leadership is being given serious consideration. The following guidelines were given by the FAO Rural Institutions and Services Division at the International meeting on Methods and Program Planning in Agricultural and Home Economics Extension in July 1960 (*1*):

"The improved practices which the extension worker has to teach cannot take root in the lives of people nor become widely accepted unless representatives of local communities will come forward to set the example themselves. These are the lay leaders who act as the indispensable carriers of an extension program in different fields of activity in the farm and in the home.

"One of the most important responsibilities in extension work is to be able to identify the potential for *bona fide* leadership. It must create opportunities for true leadership to emerge to the fore and prove its worth in the eyes of the people.

"The training provided to extension workers must make sure that they acquire competence in recognizing, encouraging and building up lay leadership.

"The recognizable characteristics of a lay leader are these: He is a local resident, commanding the respect and confidence of his neighbors. Endowed with more than average intelligence, far-sight and enterprise, he would be more open than others to suggestions for new improvements and willing to try them out in his own farm and home. He has sufficient public spirit to wish others to share the benefits of his action by persuading them to follow his example. While a little ahead of other members of his community, he is yet not too far removed from them in social and economic status and not out of touch with their hopes and fears, problems and values.... "

Agricultural education

Agricultural education is needed to train extension field workers, subject-matter specialists and other agricultural technicians, as well as teachers in agricultural institutes of all kinds and levels.

The number of training schools, as we shall see, has been steadily increasing in the three areas under discussion, but numbers of schools, or of pupils attending them, by themselves can give only an approximative insight into the contribution which they make to agricultural development. Standards of teaching, admission requirements, curricula, and forms of organization inevitably vary, and institutions of nominally the same level may turn out graduates of quite different caliber.

In most developing countries, no clear-cut standards have been set for education and training. In the case of extension workers, for example, some countries call for a university level of education. Others only require a secondary or intermediate level. But, since field extension workers have to transmit to farmers techniques which have been thoroughly tried out elsewhere, some practical knowledge of farming is essential if the workers are to be effective in the field. The ideal preparation would therefore appear to be experience of farm operations, with some years in an agricultural training institution, at a level appropriately related to the general level of education of the farm population, and offering instruction both in subject matter and in how to teach and influence farmers to employ such subject matter.

Education is usually divided into higher, secondary or intermediate, and practical or elementary levels. Each of these categories is discussed below.

Higher agricultural education

Numbers and forms of administration

Higher level agricultural education institutions have been established since the second world war in many developing countries: Burma, Ceylon, Indonesia, Iran, Iraq, Lebanon, Thailand; Bolivia, Costa Rica, El Salvador, Guatemala, Nicaragua, Paraguay, Uruguay, Venezuela; Morocco, Tunisia, Cambodia, Cameroun, Ethiopia, Ghana, Nigeria and Rhodesia are reported as having at least 1 college of agriculture each. Taiwan, Peru and East Africa each have 2 colleges; Pakistan, Colombia, Ecuador and U.A.R. (Egyptian Region), 3; Chile and Mexico, 4; the Philippines, 5; Argentina, 6; Brazil, 12; South Korea 13; India, 20; and Japan, 27.

There is at least one separate institution of higher learning for forestry in each of the following countries: Liberia, South Africa, Burma, India, Japan, Pakistan, the Philippines, Thailand, Turkey and Venezuela; and two in Argentina, Chile and Colombia. These forestry training institutions are special colleges or faculties in universities, and are operated as completely independent schools. In addition, higher forestry education is offered in the college of Agriculture at Alexandria, U.A.R. (Egyptian Region), in 23 colleges of agriculture in Japan, in 8 colleges of agriculture in South Korea, in the college of agriculture, University of Teheran and in one college of agriculture in Mexico (*16*).

Training institutions for higher education in fisheries are seldom found in the developing countries. Japan appears to be the only known country possessing such an institution at university level. In most developing countries, the staff of the fisheries services has usually received university training in the biological sciences, but has seldom had practical training or experience in fisheries.

For higher education in veterinary medicine, many countries have separate institutions. There is one in Afganistan, Burma, Ceylon, Iran, Iraq, South Korea, Pakistan, the Philippines, Thailand, Turkey, Bolivia, Peru, Uruguay, Venezuela, South Africa, the Sudan, and the United Arab Republic. India has 16; Brazil, 8; Japan, 4; Cambodia, Chile, and Indonesia, 2. In addition, training in veterinary medicine is offered within the faculties of agriculture in 1 institution in Cambodia, in 10 in Japan and in 6 in South Korea.

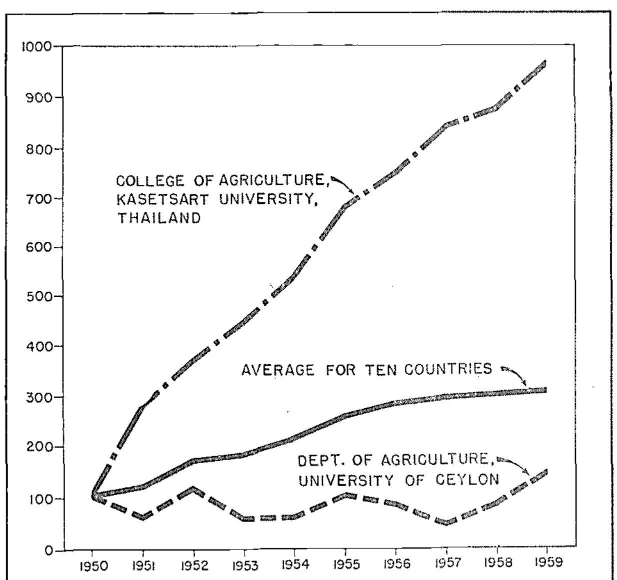
Only Pakistan is known to have a separate faculty for university-level training in animal husbandry. In India, Japan and Pakistan, there are separate institutions of university level offering training in both animal husbandry and veterinary medicine (*4*). In most other cases, training in animal husbandry is offered as part of the agriculture curriculum of the university-level training institutions.

There are wide variations in the organization and administration of higher agricultural education institutions. Most of them have been established and are operated by governments. Of these, the majority are university agricultural colleges administered by the Ministry of Education. A number are operated independently as colleges of agriculture under the Ministry of Agriculture, as is the case in India, Pakistan and some African countries. In the Far East, 64 out of 74 agricultural colleges in 10 countries are government-established, and 10 are private. After 1945, some institutions were established as autonomous branches of the government, that is, not under the ministries of agriculture or education.

Enrolment and placement

Enrolment in these institutions has grown steadily, as is shown by the figures for selected countries of the Far East during the past ten years in Figure IV-3. The rapid increase has been due in part to the growing emphasis laid by governments on agricultural development since 1945, which is reflected in increased appropriations for higher agricultural education. If growth has been limited in some colleges, this is often due to controls applied because of shortage of funds, or, exceptionally, in the case of an advanced country like Japan, because the need for agricultural college graduates has been reduced. However, in some Near East and Latin-American countries, the cause lies in part in the low standing of agriculture as a profession.

FIGURE IV-3. - STUDENT ENROLMENT IN SELECTED COUNTRIES, 1950-59 (1950 = 100)



SOURCE: FAO. *The present status of agricultural extension development in Asia and the Far East.* The countries to which reference is made are: Burma, Ceylon, India, Indonesia, Japan, South Korea, Pakistan, the Philippines, Taiwan, and Thailand.

TABLE IV-2. - AGRICULTURAL COLLEGE GRADUATES, IN TEN COUNTRIES, 1950-59

Country	Number of agricultural colleges	Total number of graduates 1950 - 1959	Number of agricultural population per graduate
Burma	1	77	5 195
Ceylon	1	68	20 324
India	20	7 068	10 160
Indonesia	1	133	112 782
Japan	27	21 858	394
Korea, S.	13	5 855	427
Pakistan	3	705	22 831
Philippines	5	5 792	958
Taiwan	2	3 148	396
Thailand	1	437	10 069

SOURCES: (*a*) FAO. *Present status of agricultural extension development in Asia and the Far East*; (*b*) FAO. *Production yearbook, 1959.*

Numbers, however, only acquir emeaning if related to the relevant circumstances, and in this case a good point of comparison is the number of farmers. The relevant data, again for 10 countries of the Far East, are given in Table IV-2.

In general, graduates prefer to be government administrators or employees of large private concerns. Seldom do they return to private farming, particularly on their home farm. They do, however, go back more often in the Far East and in Latin America. From Figure IV-4 it will be seen that, in 1955-59, graduates from the agricultural colleges in Burma, Ceylon and Thailand in the main entered government services or teaching, while less than 5 percent went to farm work on privately-owned units.

Curricula

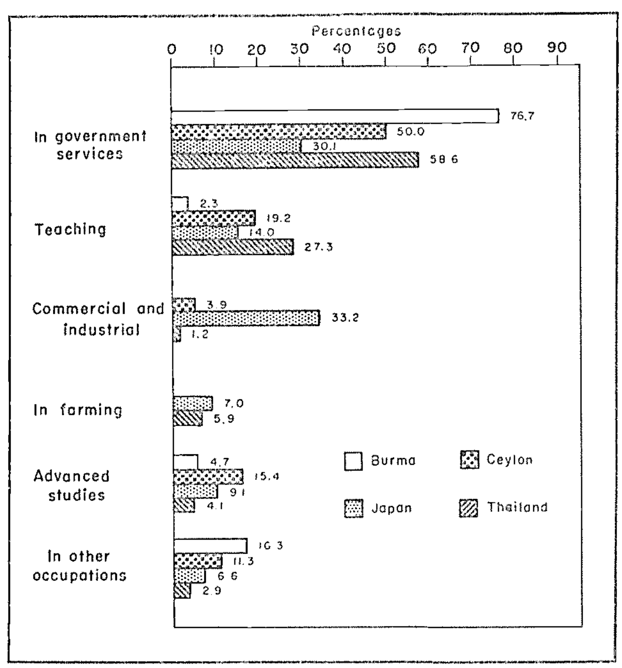
There is a tendency in higher agricultural institutions in the areas under discussion to concentrate on technical matters and to omit or neglect agricultural extension, rural sociology and psychology, training in farm management, and other aspects of agricultural economics. There is also not enough stress, in the applied agricultural course, on practical work which is particularly necessary for students without an adequate farming background. However, in some cases, this defect is being remedied.

Very few institutions offer a completely flexible type of curriculum. The tendency is rather to have students meet the basic curriculum requirements in the first two years, and then to allow them to elect the courses most fitted to their future placement for the next year or two, thus achieving a degree of specialization. Graduate work for advanced degrees and more thorough specialization is now offered in the agricultural colleges of some countries such as India and the U.A.R. (Egyptian Region), but not to as great an extent as in European and North American institutions, at which, in consequence, students from many less developed countries still obtain their advanced degrees and specialization.

Teaching facilities and staff

Teaching facilities in many of the higher agricultural education institutions appear to be insufficient, particularly for the increased student enrolment. Laboratories and laboratory equipment are not always complete and uptodate. Farm land, livestock and equipment, which are the basis for practical training, are often inadequate. Libraries in several cases are obsolete or have serious gaps. Many institutions include in their libraries books in foreign languages which cannot be used by the majority of the students. Conversely, there is often a lack of books and other publications in the language in which teaching is

FIGURE IV-4. - EMPLOYMENT OF AGRICULTURAL COLLEGE GRADUATES IN SELECTED COUNTRIES, 1955-59



SOURCE: FAO. *The present status of agricultural extension development in Asia and the Far East.*

carried out in many institutions in the areas covered in this chapter.

The teaching staff in some cases appears to be inadequate in numbers; in others, it is insufficient to allow personal attention to be given to the students and, in others again, it is in excess of requirements and hence very costly on a per pupil basis. Part-time staff is sometimes used, but usually gives far less satisfactory results than qualified full-time personnel.

The qualifications of the staff, however, are not always adequate, nor is its practical experience of farming. During recent years, there has been a tendency for the staff to improve in academic qualifications through graduate studies in foreign countries, thanks in part to scholarships and fellowships from international and bilateral technical assistance programs and from private foundations. In 10 higher agricultural education institutions of the Far East, about 15 percent of the teaching staff have obtained the degree of doctor of philosophy and about 30 percent have the master of science degree. The remaining 55 percent have the degree of bachelor of science, obtained at home or abroad.

A significant contribution to higher agricultural education has been made by the International Cooperation Administration (ICA) of the United States through college contracts, carried out by more than 20 United States institutions. The first such ICA contract was with Ethiopia. A staff of approximately 100 ICA experts is helping India and Pakistan to develop higher agricultural institutions on the lines of the land-grant college in the United States.

SECONDARY OR INTERMEDIATE AGRICULTURAL EDUCATION

Types and numbers

Secondary or intermediate agricultural education is below university and above elementary school level. Admission requirements vary from country to country as well as from school to school, ranging from a minimum of five years of elementary schooling in some cases to as much as ten years in others. The period of training offered ranges from two to four years.

Not all fields are included in the training program of any single institution. Table IV-3 indicates the number of schools, by subject-matter field, in selected African countries.

TABLE IV-3. - NUMBER OF SECONDARY OR INTERMEDIATE TRAINING INSTITUTIONS BY SUBJECT-MATTER FIELD, IN TWELVE AFRICAN COUNTRIES, 1960

Country	Agriculture training	Veterinary training	Forestry training	Fisheries training	Total number of training institutions
Cameroun	1	—	—	—	1
Ethiopia	2	—	1	—	3
Gabon	—	—	1	—	1
Ghana	3	1	1	1	6
Guinea	1	—	—	—	1
Ivory Coast	2	1	1	—	4
Kenya	—	—	1	—	1
Mali	2	1	1	—	4
Morocco	12	1	1	2	16
Nigeria	3	—	1	—	4
Fed. Rhodesia and Nyasaland	3	4	2	—	9
Sierra Leone	—	—	1	—	1
Sudan	—	—	1	—	1
Tanganyika	4	*1	1	—	6
Togo	—	—	1	—	1
Tunisia	6	—	—	—	6
Uganda	2	1	1	—	4
United Arab Rep. Egyptian Region	18	—	—	—	18
Upper Volta	1	—	—	—	1

SOURCE: Country replies to the FAO Questionnaire and FAO Forestry Division.
* Animal Husbandry School.

In these countries, forestry and veterinary science are usually taught in separate secondary schools. About 73 percent of the schools are devoted to teaching agricultural subjects, 13 percent to teaching veterinary science and 12 percent to teaching forestry.

Only two African countries, Ghana and Morocco, reported as having special schools of secondary level for training in fisheries.

Enrolment and placement of graduates

Enrolment in agricultural schools of secondary or intermediate level has, in general, grown rapidly. Table IV-4 shows the position for seven countries in the Far East during the ten-year period 1950-59.

The ratio between the number of people engaged in farming and graduates varies widely. For the period 1950-59 the ratio of graduates to farmers ranged from 1/29 in South Korea, to 1/23,699 in India. Figures for Taiwan were 1/30; for Japan, 1/35; for Thailand, 1/614; for Ceylon, 1/781; and for Burma, 1/5,063.

In most developing countries, the stated objective of secondary agricultural schools is training for farm-

TABLE IV-4. - NUMBER OF STUDENTS COMPLETING TRAINING, IN 387 SECONDARY AGRICULTURAL SCHOOLS, IN SEVEN COUNTRIES OF THE FAR EAST

Year	Burma	Ceylon	Taiwan	India	Japan	South Korea	Thailand	Total for the seven countries
1950	—	99	2 857	173	12 562	1 840	551	18 082
1951	—	125	2 826	190	17 066	5 173	489	25 869
1952	—	93	3 231	258	21 394	5 977	645	31 598
1953	—	113	3 224	253	23 110	6 796	744	34 240
1954	—	130	3 412	397	24 856	8 292	598	37 685
1955	—	202	3 871	362	26 897	9 501	881	41 714
1956	—	217	4 452	291	28 112	12 180	1 049	46 301
1957	—	236	5 521	408	28 007	13 794	590	48 556
1958	—	250	6 493	455	28 279	12 567	663	48 707
1959	79	303	6 501	243	30 466	10 814	956	49 362
Total	79	1 768	42 388	3 030	240 749	86 934	7 166	382 114

ing. In actual fact, however, comparatively few graduates return to practical farming. Many seek employment in government or other services, either as field extension agriculturists or as teachers of agricultural courses in public schools. Some find work in services totally unrelated to farming. In some countries of the Far East, owing to the limitations imposed by subsistence farming, most parents send their children to secondary agricultural schools with the intention of preparing them for employment other than farming.

In Africa, agricultural schools at secondary level are extensively used for training field agricultural or technical assistants, veterinary assistants and agricultural instructors for local farmers.

In the Far East, the numbers going in for farming are higher. In six countries of the region, Burma, Ceylon, Japan, South Korea, Taiwan and Thailand, the 1959 secondary agricultural school graduates were employed as follows: 32 percent in farming either on their own or on the farms of others; 10 percent in government services; 8 percent in teaching; 16 percent enrolled in higher education institutions; 17 percent in nonagricultural occupations. For the remaining 17 percent, no information was available.

Teaching and teaching staff

Teaching in secondary schools is often theoretical and not always of high scientific caliber. There is little farming practice. The graduates of such schools, in fact, receive neither sufficient practical knowledge of agriculture to fit them for farming, nor sufficient scientific knowledge for effective work in government service or entry to the university.

The teaching staff in most of these institutions is weak from the technical point of view. Teachers have frequently lacked training in educational methodology, partly because of inadequate facilities in the institutions where they studied, and partly because of insufficient opportunity for advancement through in-service training or other means. Courses thus tend to remain unchanged for years without adjustment to the increasing knowledge and improved farming practice developed by agricultural science. As in higher education, the practice of using part-time staff contributes to poor quality instruction. However, teachers with adequate academic qualifications and practical experience in farming are now being appointed to train the students in the practice of modern farming technology. Teachers are being helped to improve themselves professionally, and to keep up todate with new developments in agriculture through periodic in-service training, through scholarships and fellowships for further studies and through the supply of new publications concerning current agricultural development.

Other improvements effected or needed

Curricula, too, are being overhauled and adjusted to job opportunities. But more emphasis is still needed on the practical side of farming. One of the most serious deficiencies in the teaching of agricultural students is the lack of experience in managing and operating a typical farm. Agricultural schools should therefore possess such a farm or farms, organized to take account of local conditions. A farm of this kind requires ample equipment and supplies if it is to make its full contribution to training.

Practical agricultural education

Aims and difficulties

Practical agricultural education is that offered by institutions at an elementary level. Training lasts from one to four years. The primary objective of these schools is usually to train farmers' sons for work on their home farms or forests.

But training is seldom specific or practical enough to produce skilled agriculturists. Students are usually too young to be interested in farming as a way of life, and to be able to do the hard physical work on the school farms, which is mostly carried out by hired labor. Owing to their low level of general education and to their youth, the students find it hard to grasp theoretical points and to relate them effectively to practice. Then, too, the accommodation and other material aspects of the schools accustom the students to an environment which is on a far higher level than that in which most of them will be living and working in the future. This consideration frequently leads to difficulties of adjustment later.

Lastly, the school farms are seldom typical of the area concerned, and they are not managed and operated as sound and profitable economic units on the lines of actual local farms. The students cannot, therefore, learn to appreciate the importance of certain basic principles such as the selection and combination of enterprises, quality of production, efficient marketing, efficient use of land and water, labor efficiency and distribution throughout the year, size of business and meaning of increased yields and production.

One possible solution of these difficulties would be to change the emphasis from training in practical agricultural schools to out-of-school training programs for rural youth, preferably with assistance from the agricultural extension services. Alternatively, practical agricultural training institutions might raise the minimum admission age for students to 20 years of age. If this were carried through, the pupils would be better able to do the physical work and be more mature when they come to apply to their own farms the lessons learned at the school.

Equipment and supplies in the schools, both for farming and for other training phases, should naturally be selected on the basis of the probable future needs of the students as farmers, so that experience can be obtained in handling them effectively and efficiently.

Agricultural education for extension and research

Since 1945, agricultural training institutions in developing countries have found it increasingly necessary to include in their training programs teaching for agricultural extension and research services. Results have been extremely beneficial to both types of work as well as to the institutions themselves.

In many agricultural education institutions of Latin America, a course in agricultural extension principles and methods is now taught. In some cases in the Near East, too, and almost throughout the Far East, extension teaching has been, or is being, added to curricula. It is in African countries, however, that the most serious effort to train agricultural extension workers is being made. In view of the urgency of agricultural development there, this training is being undertaken in special schools, most of which are of secondary level or lower. This is particularly true with regard to village-level agricultural advisers, agricultural instructors to local farmers and assistant instructors. The need for field extension advisers in these countries is so urgent that young men are often taken on without any training in agriculture and are given in-service training in special education institutions for one or more years.

The training of research scientists has been undertaken by very few institutions in developing countries owing to the lack of qualified professional staff and to inadequate budgets for research equipment and supplies. As mentioned earlier, most of the countries continue to train research scientists abroad. Sometimes, the fundamentals of research are taught in local colleges, and graduates obtain experience in research by working as assistants until they are ready to assume responsible research positions. In India and Pakistan, there are at least eight state agricultural colleges where both teaching and research are conducted.

In most developing countries, research is organized independently of the agricultural education institutions. It has been found beneficial, however, for some research to be carried out in all higher agricultural education institutions in order to relate teaching to practical situations and to make the most efficient use of the few highly-trained staff available.

The farmer needs assistance not only on technical agricultural matters, but also on other subjects such as credit, co-operative organization and efficient marketing. This help may be given to farmers by specially organized services such as banks, co-operatives and marketing agencies. In many instances, agricultural extension programs become effective only when supported by credit, supply and marketing facilities through which farmers can obtain appropriate capital and supplies for carrying out improvements in agriculture. Courses on credit, co-operatives and marketing should therefore be included in the curricula of agricultural education institutions.

Agricultural research

Agricultural research is scientific investigation designed to improve technology in the fields of agriculture, animal husbandry, veterinary medicine, forestry and fisheries. It is the prerequisite of an effective extension service which transmits the findings of research to the farmers, and hence of agricultural development. Most of the developing countries have organized separate services to carry out research and extension – a logical division in view of the different functions carried out by the research scientist and the extension worker.

Basic or applied research

In developing countries, agricultural improvement for a long time owed little to organized research. On the contrary, in more advanced countries, including Japan, research services have brought about great improvements in agriculture and have contributed appreciably to improved standards of living. More productive varieties of crops and breeds of animals have been developed; fertilizers have further improved productivity of the land; insecticides, fungicides and weedkillers have protected the crops and livestock from diseases and pests; economic land utilization and soil conservation practices have helped to raise yields.

Since the end of the second world war, the less developed countries have attempted on an increasingly large scale to emulate the more advanced nations, but they have had to meet, usually to a far greater extent, not only the obstacles sometimes facing the more developed countries, such as lack of organization, funds and staff, but also a host of problems arising from such factors as their frequently tropical climate and their far shorter traditions and experience in research.

It is, therefore, essential for the newly developing countries to concentrate their often meager resources on those projects which are most likely to show results in a fairly short time. Very often, the problem can be narrowed down to a choice between basic and applied research. Basic or fundamental research is designed to discover new scientific principles, while applied research tests principles under a variety of conditions and finds the best mode of application for a specific problem. The degree of emphasis placed on one or other of these two categories depends in part on the type of training and quality of the research personnel, the financial resources and the technical facilities available.

But there are two other considerations which are relevant though they are perhaps not taken into account as much or as often as they should be. One factor is that the developed countries are better placed to carry out basic research, and have in fact produced a large number of discoveries which await application or adaptation to conditions in less developed countries. The other is that, to be effective in the areas under discussion, research must offer solutions to farmers' problems. In other words, the urgency for agricultural improvements in these areas is such that emphasis must be placed on work which will eliminate obstacles in the way of a rise in production. The farmer, for his part, is more interested in how to fertilize his crops most economically, how to choose the best yielding strains, how to control weeds, insects and diseases, and how to make the most effective use of his land and water resources. He is not very accessible to the appeal of long-term research, or to ambitious schemes involving capital expenditure, however beneficial these may be to him in the future. All these reasons speak in favor of a bias toward applied research.

In fact, however, the distinction between the two types of research is far from being clear-cut. A concrete example will illustrate the point. The high-yielding strains of oil palm in the central part of the Congo give a far lower production in the southern part of that area owing to the long dry season. It is essential, therefore, to work out a solution which will lead to increased yields in the dry areas despite unfavorable climatic conditions, and at the same time to improve certain factors limiting soil fertility by the use of fertilizers or by irrigation, or both. This particular problem involves both basic and applied research, but all efforts expended on its solution are focused sharply on the very practical and immediate goal of an increase in production. Many similar cases could easily be cited.

Two other points may perhaps be made at this stage. In the first place, it is vital to pool research carried out in educational institutions with the research services proper and to plan the research program as a whole well in advance, in order to facilitate smooth progress in the schemes that have been approved.

Secondly, and more specifically, there is a case for greater emphasis on applied farm management research, which appears to be a weak link in the research programs of the less developed countries. Significant progress could be achieved by paying greater attention to such activities as studying the farm business organization as one economic unit; analyzing various types of farm enterprises; developing simple agricultural accounting systems; analyzing the effect upon farm business of such factors as size, mechanization, labor distribution and marketing; as well as determining the economic importance of each improved agricultural practice for the farmer. In particular, farm management investigations would assist the formulation of realistic government policies covering credit, land use and the training of competent personnel, as well as agricultural prices.

Organizational structure

The organizational structure of agricultural research varies considerably. In some countries, research services are organized under a single administration in the Ministry of Agriculture incorporating all research activities concerning agriculture and animal husbandry. In many other countries, research is carried out separately by each of the specialized departments or divisions of the Ministry of Agriculture. Other countries again entrust research to colleges, semiautonomous organizations, or even private organizations.

Some indication of the various approaches to research organization for selected countries is given as follows.

Organization of agricultural research in two countries of the Near East

In the Syrian region of the United Arab Republic there is no over-all organization within the Ministry of Agriculture responsible for agricultural research. The following technical departments carry out research independently: agriculture, cotton breeding, animal resources, forestry, plant protection, horticulture, agricultural economics and agricultural education. An agricultural research council, headed by the Minister of Agriculture and composed of the directors of the various technical departments of the ministry, effects co-ordination. Six technical committees (cotton production, animal husbandry, forestry, plant protection, crop production and horticulture) are responsible for laying down research policies within each department concerned. On the basis of these research policies, the General Research Council prepares the annual research program. The actual research is the responsibility of the technical staff of each department. There appears to be limited co-ordination of research services, the agricultural training institutions and the agricultural services doing work in the field.

In Iraq there is a special Research and Projects Department in the Ministry of Agriculture, with a director-general in charge, responsible for research concerning agriculture only. Research relating to animal husbandry and veterinary medicine is carried out by the Technical Department of Animal Health and Veterinary Affairs. The forestry research work is conducted by the Department of Forests and Afforestation. In addition, there are semiautonomous organizations concerned with agricultural research to some extent, such as the dates association and the tobacco monopoly administration in the Ministry of Commerce, the government sugar administration in the Ministry of Industries, and the agricultural college in the Ministry of Education. There is an agricultural research council, headed by the director-general of research and composed of heads of division of the research department, which plans and approves the research program of the department. For animal husbandry and veterinary medicine as well as for forestry research, there is no research council.

Organization of agricultural research in Africa

In Africa, three major research patterns have developed under French, British and Belgian influences, but they present certain similarities. Until the second world war, nearly all scientific and technological work in the region was financed on an annual basis from current revenue derived either from the territories in Africa, or from the mother countries. As a result, the amount of research work was limited and long-range planning was precluded.

The respective governments realized, however, that research should be placed on a firmer foundation and permit fundamental work to be effected with considerable freedom from direct government control. As a result, a number of fairly independent research services were developed with excellent results. Examples are the Institut français d'Afrique noire (IFAN) and the Organisation pour la recherche scientifique et technique dans les territoires d'outre-mer (ORSTOM) in the subregions under French influence, the Institut national pour l'étude agronomique du Congo belge (INEAC) and the Institut pour les recherches scientifiques en Afrique centrale (IRSAC) in the former Belgian Congo, and the East African Agriculture and Forestry Research Organization (EAAFRO) in the British East African territories. In addition, universities and colleges in all three groups of territories have contributed increasingly to research programs.

An important postwar development has been the tendency for greater regional co-operation in research, mainly under the Commission for Technical Co-operation in Africa South of the Sahara (CCTA) and its Scientific Council (CSA). Organizations such as the Inter-African Bureau for Soils and Rural Economy (BIS) and the Inter-African Bureau for Epizootic Diseases (IBED) provide for the exchange of information and the organization of technical meetings. The tendency has been to concentrate primarily on research for export crops; subsistence crops are taking second place.

In the regions of Africa under French influence, the major research organization in operation before the war was IFAN. After the war, ORSTOM was established in Adiopodoume, Ivory Coast, with substantial subsidies from France. ORSTOM set up a number of major organizations including the IEC (Institut d'études centrafricaines) for French Equatorial Africa, the Institut de recherche scientifique de Madagascar (IRSM), the Institut de recherche du Cameroun (IRCAM) and the Institut d'enseignement et de recherches tropicales (IDERT) at Abidjan (Ivory Coast). In addition to conducting research, IDERT served as the main training center for scientists concerned with agriculture in all former French overseas territories.

A large contribution of funds and personnel was made by the French Government to agricultural development in various territories of the French community in Africa. Specialized research institutes were developed, such as the Institut français du café et du cacao (IFCC), the Institut de recherches pour les huiles et oléagineux (IRHO), the Institut français pour les agrumes et cultures fruitières (IFAC) and the Institut français pour le coton et les textiles (IFCT). Each of these institutes had an administrative council and a directorate-general with the headquarters in France. All institutes were financially dependent on the French Government, and their technical and financial affairs were managed by a special government organization. In those territories where institutes were functioning, a local administrative council, composed of scientists and of representatives of farmers and industrialists, was responsible for administration of the research work.

These institutes maintained experimental stations and laboratories in African territories. Detailed and very costly investigation was done in special laboratories in France. With a view to establishing an integrated program of experimentation for all crops concerned, arrangements were made with certain research centers in France to conduct the necessary basic research.

Programs of work were planned by the directorate-general of research in France, and co-ordinated by the metropolitan administrative council. Programs were proposed to the local administrative councils of the above-named institutes.

The local administrative councils had their own operating budget partly furnished by Metropolitan France and partly by the respective African territories. The proportions contributed by each party varied from country to country according to the area served, the number of problems to be investigated, and the magnitude of problems to be studied. Budgets for laboratory buildings, equipment and other capital investments came from France. The major part of the scientific staff was French. In several cases the salaries of scientific staff were paid wholly from France through the agency of ORSTOM, while other operating costs were met locally.

In the former Belgian Congo, INEAC was created by royal decree in 1933. After 1945, the second major research organization, IRSAC, was established to cover investigation in fields other than agriculture.

The aims of INEAC were to promote the scientific development of agriculture in the Congo, to manage the agricultural stations formerly attached to the missions, to train experts and specialists in various fields connected with agricultural research, and to carry out research work pertaining to the scientific development of agriculture in the country. A network of *stations d'adaptation locale*, each connected with a substation of INEAC, carried out trials under local conditions. The synthesis of these trials was performed by INEAC.

In the African territories or countries at present or formerly under the influence of the United Kingdom, a major stimulus was given to research by the Colonial Development and Welfare Acts of 1940 and 1945, under which substantial funds were voted by the United Kingdom Parliament for the ten-year period 1946-56. The act was revised in 1955 with the object of continuing subsidies for a further period.

The following are among the most prominent research services in British or ex-British territories: In East Africa, there are EAAFRO and the East African Veterinary Research Organization at Kikuyu, Kenya; the Cotton Research Station of the Empire Cotton Growing Corporation at Kampala, Uganda; and the East African Tea Research Institute at Kericho, Kenya. In West Africa, the research services are the West African Research Office at Accra, Ghana; the West African Institute for Oil Palm Research at Benin, Nigeria; the West African Cocoa Research Institute at Tafo, Ghana; the West African Timber Borer Research Unit at Kumasi, Ghana; the Department of Agricultural Research, the Department of Forest Research and the West African Maize Research Unit at Ibadan, West Nigeria; and the Department of Veterinary Research at Vom, Northern Nigeria.

Each territory or country has a national research organization which is financed by the local government and which co-operates with EAAFRO. Cooperation between the local territorial research service and EAAFRO has increased considerably in recent years. The severe reduction in the number of EAAFRO scientific assistants which took place recently, however, has reduced the organization's contribution to co-operative research (*9*).

Organization of agricultural research in the Far East

India offers an interesting example of research development in the Far East. The Indian Agricultural Research Institute was first established at Pusa, Bihar, in 1905, and in 1936 transferred to New Delhi. The Indian Veterinary Research Institute was established in 1889 at Poona and transferred to Mukteswar in 1893. The Indian Council of Agricultural Research (ICAR) was established in 1929, to promote, guide and co-ordinate agricultural research throughout India, and is now the senior organization which guides, finances and co-ordinates research problems connected with agriculture and animal husbandry, production and statistics. ICAR has established two councils – one on agricultural education and another on animal husbandry education. It has also helped to establish a school of research in agriculture and animal husbandry statistics, and taken a lead in the dissemination of research results.

A number of commodity committees deal with research on particular crops. These commodity committees are semiautonomous bodies, financed by grants from the Government of India, and are located in the main regions where the crops concerned are grown. The Indian Central Cotton Committee, located at Bombay, was established in 1921 and has given a great stimulus to research on cotton. Following the second world war, commodity committees were organized for jute, sugar cane, tobacco, coconut, oilseeds and other commodities. With the exception of the Indian Central Oilseeds Committee, all committees have their own research institutes and function independently. As a result ICAR has been relieved of responsibility for research in cases where individual commodity committees have been established, and greater concentration on the problems of particular crops has been made possible.

To effect co-ordination among the various research institutes, the board of research and extension of ICAR was recently established. It is composed of the directors and secretaries of the research institutes set up by the commodity committees. As a further step in the direction of co-ordination in research, regional co-ordination research stations for cotton, oilseeds and millets were established.

Japan is one of the few countries which has initiated research in home economics. In the rural life section of the National Institute of Agricultural Sciences, studies have been carried out, for example, on the nutritional conditions of farm families in relation to their labor and to expenditure in the farm household.

Organization of agricultural research in Latin America

Agricultural research in Latin America has grown and expanded significantly since 1945. Realizing the importance of research in the development of agriculture, Latin-American countries have provided funds and facilities for the establishment of research stations and laboratories to an increasing extent. Larger numbers of research workers are now available to carry out agricultural investigations and to solve problems confronting farmers.

Agricultural research development in most of the Latin-American countries has been influenced by scientific development in the United States. Both bilateral agreements between governments and special research programs assisted by private organizations such as the Rockefeller Foundation, have made a noteworthy contribution. In addition, a large number of the research scientists in Latin-American countries have been trained in United States institutions.

In Costa Rica, since 1950, research work has been conducted separately within each of the several technical departments of the Ministry of Agriculture. The Director-General of Agriculture and Livestock is responsible for co-ordination.

Three principal research stations are currently in operation in Costa Rica: the main station for lowland crops and seed multiplication at Socorrito and Delicias; the pasture station at Alto; and the tropical research station Los Diamantes in the Limón province within the tropical Atlantic area. The station for tropical research, where both agriculture and animal husbandry investigations are conducted, is now the most important station of the country. It has two substations, one in San Isidro del General and another in El Capulin. An intensive program of coffee investigation is also carried out by the tropical research station in the coffee zones of the central plateau. Privately-owned plantations are used for this purpose by agreement with the owners.

The Inter-American Institute of Agricultural Sciences (IAIAS), a specialized agency of the Organization of American States, with headquarters at Turrialba, Costa Rica, conducts a combined research, teaching and extension program for agricultural improvement. The institute is carrying out research through its various departments – plant industry, animal industry, economics and rural life, scientific communications, and forestry. Coffee research includes cultural practices – breeding, selection, fertilization, planting experiments, and disease and insect control methods. Other experiments relate to corn, beans, vegetables, potatoes, rice, sugar cane and cocoa. The livestock research projects include tropical livestock feeds, dairy cattle improvement and beef breeding for the tropics. Sociological and anthropological aspects of community development are investigated by the Department of Economics and Rural Life. A coffee and an abaca (*Musa textilis*) research project is conducted co-operatively between the AAS and the United States. A regional rubber research project is being carried out by the International Co-operation Administration (ICA) (*13*).

In Brazil, agricultural research is carried out by the Servicio Nacional de Pesquisas Agronómicas of the federal Ministry of Agriculture, the state Secretarias de Agricultura, the agricultural training institutions and by private institutions.

The national agronomic research service of the federal Ministry of Agriculture functions through the *institutos agronómicos* which are co-ordinated by the Centro Nacional de Encino e Pesquisas Agronómicas. This center is one of the big departments of the federal Ministry of Agriculture.

State research services include the Instituto Agronómicos of Campinas, São Paulo, Bel Horizonte, Minas Gerais, Salvador, Bahía; and the Departamento de Producción Animal at Porto Alegre of Rio Grande do Sul.

University-operated research services include: the research department of the Escola Agricola Luiz de Queiroz at Piracicaba in the State of São Paulo and the research department of the Escola Superior de Agricoltura of the Universitade Rural at Vicosa of the State of Minas Gerais.

Among the most important private agricultural research institutions in Brazil are: the Escritorio Técnico de Agricultura (ETA) which, in co-operation with ICA, operates the Proyecto 10 - Semilla Certificada de Papas, and which is doing more extension than research in promoting better potato seeds; the Compañías Particulares Productoras de Semillas de Maíz Hibrido, and the mainly seed-producing Centros de Producción, Granjas Reunidas S.A., Vida Agrícola Ltda., and Hibride Parnaiba.

Lastly, the International Basic Economic Corporation (IBEC) is one of the private agencies which is financed by the Rockefeller Foundation, and of which one branch is a research institute with an experimental station located at Matão, São Paulo.

Research in the fields of veterinary medicine, forestry and fisheries

Veterinary research. This is carried out within the veterinary services in most of the developing countries. Animal husbandry research, however, is considered as a part of agricultural research and is included in the agricultural research programs of most countries.

Forestry and forest products research. In most developing countries this branch of research is conducted within the forestry services – public or semipublic – separately from the agricultural research services. Industrial research concerned particularly with pulp, paper and boards is usually undertaken by large private firms or groups. The tendency for research in forestry to be conducted primarily by public or semipublic services may be due in part to the fact that, in many countries, a high proportion of the forests is under public ownership, and in part to some basic characteristics of forestry, especially the time element involved in production and the insight required into ecological relationships.

In several countries, particularly in tropical and subtropical zones, the number of institutes or stations carrying out an active forest research program is increasing rapidly.

Traditionally, emphasis in forest research was on ecology, silviculture (including yield research) and protection. During the postwar period, work studies, forest economics, and the evaluation of indirect benefits from forests, which were formerly most frequently considered part of the forest administration, were introduced into the forest research activity of several countries. The establishment, management, utilization and economics of forest plantations have also been the subject of more comprehensive research during the postwar period. One reason for this is that large areas of plantations reached a stage requiring partial or full utilization during this period. In forest products research, developments have been influenced by rapid technical progress and by the importance of privately-administered units.

As regards the practical application of the research results, forest research is at an advantage compared with research on farming, despite the time element. This is because the bulk of the forest areas is managed in large, publicly-owned units by professionally-trained staff, capable of evaluating and applying research information, while farms in developing countries are privately owned in small units by farmers whose educational and technical background is somewhat limited. In the latter case, extension services have been necessary to assist farmers in applying new research findings successfully.

Fisheries research. This is being carried out in several countries but the information available at the time of writing is not such as to allow a description of its organizational structure and activity. Many countries carry out fisheries research separately from their agricultural research services, within a special fisheries department which is often independent of the Ministry of Agriculture.

In India, fisheries research is a part of the agricultural research services and there are three central research stations, four substations and six extension units for fisheries. In Africa, four countries have reported having fisheries research within their agricultural research stations.

International co-operation in agricultural research

In order to avoid duplication of effort and to speed up the exchange or communication of improved techniques and practices, international co-operation has been greatly developed since 1945. This co-operation has taken various forms. First, world-wide associations of agricultural experts hold congresses or other gatherings where members submit papers, exchange views informally, and generally become acquainted with each other. Contact is then maintained by letter either between individuals or between branches.

Secondly, there have been attempts to achieve co-operation on a regional basis. For example, a survey conducted by the Inter-American Institute of Agricultural Sciences (IAIAS) in 1955 in various Latin-American countries revealed that most research technicians were willing to co-operate in such an exchange of information provided the returns did not have to be too frequent or too detailed. Only the main features of experiments still in progress were to be supplied.

An example of joint action on research is that of the Inter-American Cacao Center, established in 1947 by the Inter-American Economic and Social Council. The center was operated with the financial support of the American Cocoa Research Institute (ACRI). A regional program was planned which included research work on physiological problems of cocoa, selection and propagation, rehabilitation of old plantations, cultural practices and disease control. Numerous students, both graduate and special, from 15 countries have been given training.

Such regional associations could play a useful part in making possible a division of research work between countries in the light of the facilities and resources available to them, and hence in rationalizing their research effort. They could also prepare, and indeed have helped to prepare, directories on research projects and workers in particular areas.

But the major contribution to research has been made by technical assistance from international organizations, individual countries and private foundations (such as Ford and Rockefeller). Such assistance goes well beyond the scope of the present section, since it covers education, and indeed extension work as well, but it can most conveniently be dealt with under the heading of research. Broadly speaking, developing countries have been enabled to improve the technical level of their agriculturists and to select and adopt ideas and methods worked out by the developed nations. In addition to the forms of co-operation listed above in connection with professional and regional organizations, international and national assistance has provided help in three main ways:

1. Technical assistance has made it possible to assign experts for a number of years to less developed countries. These experts have helped to organize and staff local services in such a way that these were then able to do the job themselves. The experts' role was most effective when it was limited to training and preparing the local personnel to perform their duties. Conversely, research fellowships have enabled large numbers of technicians from less developed countries to pursue their studies abroad.

2. National training centers and seminars have offered local technicians a chance of discovering, studying and discussing among themselves, and in their own country, their problems, their needs, and appropriate solutions thereto.

3. Regional training centers and seminars have proved somewhat less effective than national ones. Only a limited number of technicians from each country was able to participate, and, even then, not usually the key personnel who determined national policy. If policy-making officials were sent, the effectiveness of this form of assistance might be increased.

There is every likelihood of international co-operation becoming increasingly effective in research and also in education as the careful preparatory work carried out so far begins to yield dividends.

Appraisal of agricultural extension, research and education

Previous sections of this chapter indicate that, since 1945, developing countries have been making serious efforts to establish, organize, strengthen and improve their agricultural extension, research and education services, with the object of accelerating the development of their agriculture.

Resources devoted to agricultural extension, research and education

The degree to which agricultural extension, research and education can expand depends, to a considerable extent, on the nature and volume of resources devoted to them by governments: it is encouraging to note that, since 1945, funds, scientists, technicians, equipment and supplies have been made increasingly available by the developing countries.

Owing to differences in methods of budgeting and in terminology among the various developing countries, it is difficult to compare information concerning budgets for agricultural services, personnel, equipment and supplies. In some countries, the budget for agriculture includes all items concerning research, education and extension, as well as investment expenses, but in others, only research and extension items. In some countries, funds appropriated by state or provincial government are included in the national budget, while in others they are not. There are also differences in the treatment of outside financial assistance, obtained through bilateral or international agreements.

In many developing countries, the Ministry of Agriculture receives a relatively much lower volume of financial resources than other ministries, despite the fact that agriculture is the most important segment of the national economy. Agricultural extension, likewise, receives a relatively lower proportion of the agricultural budget than agricultural research and agricultural education institutions.

Most of the budget for agricultural extension services is spent on salaries for personnel. Salaries of headquarters personnel and other costs of the central offices utilize an unreasonably high proportion of the total. This leaves relatively small sums for the field where funds can perhaps make a greater contribution to agricultural progress.

Good use of budgetary resources is made by the Japanese grants-in-aid home-living improvement extension work. In 1959, the home economic advisers were supplied with bicycles and motor scooters as means of efficient and inexpensive transportation. They were also supplied with the following equipment: water tester, portable model kitchen, projector, carpenter's tools, pamphlets, leaflets, etc. Budget appropriations for each category of expenditure for 1958 were as follows:

Expense items	*1,000 yen*[2]
Personnel expenses (headquarters and field)	221 844
Travel and home visit facilities	9 880
Tools and materials for extension service	3 536
Research on techniques of farm home-living	4 062
In-service training for home advisers	1 068
Preservice training for home advisers	1 160
Total	241 550

IMPROVEMENTS NEEDED IN AGRICULTURAL EXTENSION, RESEARCH AND EDUCATION

Governments of developing countries appear to have been convinced that agricultural extension has a dynamic influence on rural people, that agricultural research is an extremely powerful tool for bringing about economic improvements in agriculture, and that agricultural education is contributing to the preparation of able and efficient agricultural extension and research workers. Increasing support is being given to these services by the governments concerned. The situation, however, still leaves much to be desired. Partly, it is a question of time. But progress could be speeded up even now if more effective guidance and assistance were provided. It may be useful to make a study of the difficulties and obstacles delaying progress, most of which have been touched on in previous sections of this chapter.

Extension services

To obtain maximum results, extension work should be concentrated on education as opposed to regulation and assistance, and focused sharply on the satisfaction of the farmers' needs. The major obstacles to progress appear to be lack of funds, of trained staff, and of a clearly articulated organizational structure which makes it possible for the decisions taken by the policy-makers to be carried out efficiently. When staff is being trained, greater emphasis might with advantage be placed on extension methods, technical subjects and practical experience.

Higher priority should be given to field work. Some extension services have attempted to improve their operations by adjusting the area assigned to a field worker to the size that he can effectively serve, providing adequate equipment, supplies, transport and other facilities which will help the staff to give greater assistance to farmers, and by adjusting office and field work in order to make the maximum number of field workers free for demonstrations and other activities with the rural population.

Fuller co-ordination between extension and research education, credit, marketing and other services would be fruitful.

Research

Most of the above points apply equally to research. Money and trained staff are in short supply. The organizational structure needs strengthening if an integrated attack is to be made on problems which involve a number of technical departments or disciplines. There is not yet in most cases a sufficiently clear order of priority between projects and, in fixing priorities, more weight could be given to farmers' needs.

There is a tendency to neglect such subjects as agricultural economics, including farm management, agricultural extension and rural sociology. Greater stress might be laid on applied as opposed to basic research, and on such fields as tropical research. Equipment and supplies need improvement. Lastly, a close link-up between research and extension is

[2] U.S.$ 1.00 = 360 yen.

desirable if the scientists' findings are to be brought quickly and efficiently to the farmers' notice. On a more general plane, when national economic plans are being prepared, the research services could be asked to participate in the planning exercises to a greater degree than at present.

Education

Here, too, trained teachers are in short supply and are not usually given a chance to engage in research as well as teaching. Funds do not make it possible to maintain appropriate classroom and laboratory equipment. Training is too theoretical and academic. The practical side is not given sufficient attention. The curriculum is often too rigid and not adjusted to local farming realities; the courses do not provide for realistic teaching in agricultural economics, farm management, agricultural extension and rural sociology. The training farms are not always well managed or in line with local enterprises. Lastly, there is a tendency to have too many levels of education and to have inadequately defined training objectives.

General observations

The three services discussed are closely interconnected and can be dealt with as an organic whole. Greater progress could be made if the position and functions of each were clearly defined in relation to, and co-ordinated with, each other and the other services connected with agricultural development. Realistic planning is needed which, among other things, will adjust activities on the basis of actual conditions, situations and needs.

For staff in all three fields, preservice, in-service, induction and promotion training have been started in a number of countries and have proved most helpful in giving the staff a more practical and realistic grasp of the problems involved.

Evaluation studies of the efficiency of these services have been made in some countries and have enabled the competent authorities to determine the improvements needed.

But the major advance must come through the provision of more funds, of more and better trained personnel, and of a greater emphasis on field and applied work so that the maximum amount of time can be spent by extension workers with farmers, and by research staff in the farmers' direct interest. Adequate supplies and a well-planned and well-run organizational structure can greatly facilitate the efforts of workers at all levels.

It is encouraging to note the extent of progress which, with assistance from international organizations, has already been achieved by the nations of Africa, Latin America and Asia despite many and grave obstacles, and to look forward to those further advances which cannot but accelerate the development of their agriculture and the raising of the standards of living of their peoples.

References

1. Dey, S. K. *Lay leadership in rural extension.* 1960 Paper presented at the Ninth International Training Center on Methods and Program Planning in Agricultural and Home Economics Extension, Wageningen, 5-29 July 1960.
2. Kimmel, D. C. The need for efficient extension 1960 services. *Span*, 4: 43-44.
3. United Nations. *Twentieth report of the Ad-* 1956 *ministrative Committee on Co-ordination to the Economic and Social Council.* New York, 1956.
4. Food and Agriculture Organization of 1960 the United Nations. *Report of the FAO international meeting on veterinary education, held at London, United Kingdom, 25-30 April 1960.* Rome.
5. Food and Agriculture Organization of the 1958 United Nations. *Report on the agricultural extension study tour for Asia and the Far East.* Rome. FAO/ETAP Report No. 892.
6. Food and Agriculture Organization of the 1960 United Nations. *The present status of agricultural extension development in Asia and the Far East*, by C. W. Chang. Rome. Restricted draft.

7. FOOD AND AGRICULTURE ORGANIZATION OF THE
1960 UNITED NATIONS. *Informe del Centro sudamericano de extensión agrícola, 1959.* Roma.
8. WORTHINGTON, E. B. *Science in the development of Africa.* London, Commission
1958 for Technical Co-operation in Africa South of the Sahara.
9. EAST AFRICA HIGH COMMISSION. *Annual report*
1959 *1959.* London.
10. INDIAN COUNCIL OF AGRICULTURAL RESEARCH.
1958 *Agricultural research in India: institutions and organizations.* New Delhi.
11. FAO/UNKRA MISSION. *Rehabilitation and de-*
1954 *velopment of agriculture, forestry and fisheries in South Korea: report prepared for the United Nations Korean Reconstruction Agency by the Food and Agriculture Organization of the United Nations.* New York, Columbia University Press.
12. FOOD AND AGRICULTURE ORGANIZATION OF THE
1956 UNITED NATIONS. *Report of a meeting on the organization of agricultural research in the Central American countries, Mexico and Panama, held at Turrialba, Costa Rica, 5-10 December 1955.* Rome. Meeting Report No. 1955/23.
13. PRIMER SEMINARIO LATINOAMERICANO SOBRE SE-
1958 MILLAS. *Personal de investigaciones y estaciones experimentales.* Chillan, Chile.
14. FOOD AND AGRICULTURE ORGANIZATION OF THE
1953 UNITED NATIONS. *Report on Near East regional extension development center, Beirut, Lebanon, 6-16 January, 1953.* Rome. FAO/ETAP Report No. 115.
15. KIMMEL, D. C. *International co-operation in agri-*
1958 *cultural and home economics extension.* Paper presented at the International Meeting on Methods and Programme Planning in Agricultural and Home Economics Extension, Wageningen, 7-31 July 1958.
16. *World directory of forestry schools: published*
1960 *by the Society of American Foresters, Washington, D. C. in collaboration with the Food and Agriculture Organization of the United Nations.* Washington, D. C.
17. FOOD AND AGRICULTURE ORGANIZATION OF THE
1960 UNITED NATIONS. *Possibilities of improving food production marketing and consumption.* Interdepartmental Working Group on Technical and Economic Possibilities of Increased Food Production, Rome, p. 90-108.
18. FOOD AND AGRICULTURE ORGANIZATION OF THE
1960 UNITED NATIONS. *Production yearbook 1959.* Rome.
19. FOOD AND AGRICULTURE ORGANIZATION OF THE
1956-60 UNITED NATIONS. *The state of food and agriculture,* 1956-1960. Rome.
20. FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS. *Expanded Technical Assistance Program reports.* Rome.
21. FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS. *Reports and guidelines of the extension, research and education specialists of the Rural Institutions and Services Division.* Rome.
22. FOOD AND AGRICULTURE ORGANIZATION OF THE
1960 UNITED NATIONS. *Informe al Gobierno de Chile sobre organización e intensificación del Servicio Nacional de Extensión Agrícola.* Rome. FAO/ETAP Report No. 1185.
23. UNITED NATIONS. ECONOMIC COMMISSION FOR
1960 ASIA AND THE FAR EAST. *Community development and economic development.* Part 1. Bangkok.

ANNEX TABLES

ANNEX TABLE 1A. - INDICES OF THE VOLUME OF AGRICULTURAL PRODUCTION, BY COUNTRIES AND REGIONS

	1952/53	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60 (Preliminary)
	Average 1952/53-1956/57 = 100							
WESTERN EUROPE	93	101	101	103	103	107	109	113
Austria	91	103	96	103	108	112	121	113
Belgium-Luxembourg	94	96	103	107	100	109	114	107
Denmark	99	101	101	97	102	113	112	115
Finland	98	105	100	97	100	108	110	113
France	91	100	104	104	101	105	104	109
Germany, Western	95	101	101	100	103	105	111	107
Greece	81	105	100	104	110	126	122	127
Ireland	95	98	105	99	103	116	103	97
Italy	92	104	96	105	104	102	117	120
Netherlands	99	100	101	103	98	106	114	115
Norway	97	99	99	97	108	100	101	99
Portugal	87	106	104	102	101	105	97	94
Spain	101	95	103	98	103	108	110	118
Sweden	104	103	101	91	101	100	98	95
Switzerland	101	100	103	99	97	98	108	109
United Kingdom	96	98	100	99	107	106	102	108
Yugoslavia	70	115	90	119	105	147	126	169
NORTH AMERICA	99	99	97	101	103	98	106	109
Canada	112	104	78	99	107	92	95	99
United States	98	97	99	102	104	103	112	113
LATIN AMERICA	95	96	100	102	107	112	117	120
Argentina	99	97	100	97	108	105	110	100
Brazil	89	96	101	103	111	115	122	120
Chile	100	95	102	102	101	109	106	109
Colombia	97	99	97	104	104	103	108	109
Cuba	100	98	94	98	111	114	116	115
Guatemala	98	98	99	100	105	105	110	108
Honduras	101	104	93	95	106	107	107	108
Mexico	87	91	103	106	113	128	139	142
Panama	91	101	98	105	105	114	119	118
Peru	100	101	102	102	95	98	105	109
Uruguay	95	109	101	98	97	87	76	75
Venezuela	93	97	101	103	105	113	111	109
FAR EAST (excl. Mainland China)	92	98	100	103	107	106	111	114
Burma	102	98	96	97	108	92	109	115
Ceylon	97	90	101	113	99	101	106	109
China: Taiwan	95	97	99	100	108	114	119	116
Federation of Malaya	90	89	101	103	116	114	111	121
India	90	101	101	102	106	102	108	109
Indonesia	89	98	106	102	104	105	111	112
Japan	97	85	95	114	110	114	119	126
Korea, South	86	107	104	106	98	108	113	116
Pakistan	96	100	103	96	104	101	99	106
Philippines	94	99	100	101	107	110	114	114
Thailand	89	109	84	105	114	91	104	108
AFRICA	94	98	101	101	105	104	109	110
Algeria	90	98	107	95	109	97	95	99
Ethiopia	99	100	100	100	100	97	97	99
Morocco: former French Zone	91	103	110	95	102	81	108	101 [1]
South Africa	89	98	100	103	110	106	110	111
Tunisia	95	110	103	80	113	99	130	111
NEAR EAST	94	100	97	101	108	112	116	117
Iran	92	98	98	103	109	114	114	119
Iraq	86	105	118	89	102	117	102	95
Israel	82	91	100	103	123	127	152	162
Turkey	100	110	85	98	106	105	121	121
U.A.R.: Egyptian Region	86	93	103	106	112	116	112	117
Syrian Region	93	107	118	68	114	134	83	83
OCEANIA	97	97	98	103	105	102	117	118
Australia	98	100	99	104	99	95	120	113
New Zealand	98	96	100	103	103	108	111	113

NOTE: These indices may differ from national indices produced by the countries themselves because of differences in coverage, weights and methods of calculation.
[1] Including former Spanish zone.

Annex table 1B. - Indices of per caput food production by countries and regions

	1952/53	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60 (Preliminary)
	Average 1952/53-1956/57 = 100							
Western Europe	95	102	101	102	101	105	106	109
Austria	91	103	96	103	107	112	120	112
Belgium-Luxembourg	95	97	103	106	99	107	111	103
Denmark	100	102	101	96	101	111	109	111
Finland	100	106	100	96	98	105	106	108
France	93	100	105	103	100	102	100	104
Germany, Western	97	102	101	99	101	101	106	101
Greece	83	106	100	103	108	123	118	121
Ireland	94	97	105	100	104	118	106	100
Italy	93	104	96	105	103	101	115	117
Netherlands	101	101	101	102	95	102	108	108
Norway	99	100	99	96	106	98	97	95
Portugal	88	107	105	101	99	102	94	90
Spain	102	96	103	98	102	106	107	113
Sweden	105	104	101	91	100	98	95	92
Switzerland	103	101	103	98	95	94	103	103
United Kingdom	97	98	100	99	106	104	100	106
Yugoslavia	73	117	90	117	102	142	114	159
North America	103	100	97	99	101	96	102	102
Canada	118	108	78	96	102	84	85	87
United States	101	99	100	100	101	98	104	103
Latin America	99	98	101	99	103	104	105	102
Argentina	103	99	100	95	104	99	102	91
Brazil	93	98	101	100	108	107	111	106
Chile	105	98	103	100	96	101	96	96
Colombia	101	101	97	102	99	97	99	98
Cuba	104	100	94	95	107	106	107	103
Guatemala	104	101	99	97	99	96	98	94
Honduras	108	108	94	92	100	97	94	92
Mexico	92	94	103	103	107	117	124	123
Panama	96	104	98	102	99	105	106	103
Peru	104	104	102	101	91	91	95	96
Uruguay	98	111	101	97	94	84	73	71
Venezuela	99	101	101	100	99	103	99	95
Far East (excl. Mainland China)	94	100	100	102	104	101	105	107
Burma	105	98	95	96	106	90	105	109
Ceylon	102	92	101	110	95	94	96	96
China: Taiwan	102	101	99	97	101	103	104	98
Federation of Malaya	95	91	100	102	111	106	99	105
India	92	102	101	100	103	98	102	103
Indonesia	92	100	106	101	101	99	103	100
Japan	100	86	94	113	107	111	114	119
Korea, South	88	107	103	106	96	104	108	110
Pakistan	99	102	103	94	102	97	94	99
Philippines	99	101	100	98	103	103	103	101
Thailand	93	110	84	103	110	86	97	99
Africa	99	101	101	98	101	96	97	95
Algeria	94	100	108	94	105	91	88	86
Morocco: former French Zone	94	105	111	93	97	77	98	80 [1]
South Africa	93	99	100	101	106	100	102	102
Tunisia	98	111	103	78	110	95	124	105
Near East	97	103	97	99	104	106	105	104
Iran	96	101	98	101	104	107	104	106
Iraq	92	109	118	86	96	107	92	81
Israel	87	94	101	101	115	111	129	134
Turkey	105	113	85	96	101	97	108	106
U.A.R., Egyptian Region	91	96	103	103	107	108	102	104
Syrian Region	102	111	118	65	106	121	71	69
Oceania	104	102	98	101	96	92	106	101
Australia	102	103	99	102	95	89	110	101
New Zealand	103	98	100	101	98	102	102	101

Note: These indices may differ from national indices produced by the countries themselves because of differences in coverage, weights and methods of calculation.

[1] Including former Spanish zone.

ANNEX TABLE 2A. - WORLD [1] PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61 (Preliminary)
	Million metric tons								
Wheat	95.0	113.6	119.3	124.2	123.1	125.9	139.0	135.3	140.8
Barley	28.5	36.1	45.1	46.4	52.4	49.8	51.7	51.8	53.9
Oats	37.5	42.5	42.3	45.7	43.9	40.8	43.3	37.6	41.4
Maize	94.1	119.9	123.3	130.1	137.2	140.2	151.7	168.3	170.6
Rice (milled equivalent)	70.2	75.0	82.7	88.6	93.4	86.7	96.1	101.4	107.3
Sugar (centrifugal)	20.0	26.6	31.6	32.2	33.8	35.5	39.0	39.2	42.9
Citrus fruit	11.1	15.1	17.8	18.2	18.0	18.1	19.8	20.3	19.6
Apples	11.0	12.7	13.8	12.8	14.7	9.1	19.1	12.6	18.8
Bananas	8.1	11.6	12.7	13.2	13.6	14.6	14.5	14.9	13.8
Vegetable oils and oilseeds (oil equivalent)	9.2	10.7	13.3	13.5	14.9	14.9	15.3	15.0	15.7
Animal fats [2]	3.01	4.14	4.65	5.06	5.36	5.33	5.33	5.68	5.72
Coffee	2.41	2.24	2.43	2.86	2.52	3.18	3.51	4.59	4.02
Cocoa	0.74	0.27	0.82	0.83	0.90	0.77	0.92	1.02	1.11
Tea	0.47	0.57	0.67	0.60	0.70	0.73	0.76	0.81	0.75
Wine	18.0	17.6	21.2	21.4	20.8	16.8	21.8	22.7	22.1
Tobacco	1.96	2.44	2.78	2.89	2.90	2.77	2.71	2.82	2.84
Cotton (lint)	5.29	5.78	6.48	6.82	6.51	6.18	6.38	6.83	7.14
Jute	1.95	2.04	1.67	2.32	2.31	2.17	2.44	2.13	2.05
Wool (greasy)	1.51	1.57	1.76	1.81	1.90	1.86	1.95	2.05	2.01
Rubber (natural)	1.00	1.74	1.85	1.95	1.92	1.98	1.97	2.07	1.98
Milk (total)	193.6	204.6	228.3	230.5	236.1	240.7	242.6	245.8	250.9
Meat [3]	26.9	30.5	35.6	37.3	39.1	39.3	39.4	40.0	40.8
Eggs	5.82	7.63	8.84	8.98	9.16	9.42	9.65	9.99	9.91
	Indices: average 1952/53-1956/57 = 100								
Index of all farm products	77	88	98	103	107	107	113	116	117

	1953	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million cubic meters							
FOREST PRODUCTS								
Roundwood	1 471	1 553	1 631	1 669	1 670	1 663	1 720	1 770
Sawnwood	267.7	275.3	296.9	295.9	290.7	301.9	314.2	321.3
Plywood	8.3	9.0	10.8	11.3	11.7	12.9	14.6	15.2
	Million metric tons							
Wood pulp	39.1	42.4	46.6	49.8	50.3	50.2	55.2	57.4
Newsprint	9.8	10.4	11.2	12.0	12.3	12.1	13.1	14.0
Other paper and board	38.5	40.8	45.7	48.2	49.2	50.6	56.0	58.0

[1] Excluding U.S.S.R., Eastern Europe, and Mainland China, except for forest products. - [2] Lard and tallow. - [3] Beef and veal, mutton and lamb, pork.

ANNEX TABLE 2B. - WORLD EXPORTS[1] OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million metric tons								
Wheat and wheat flour (wheat equivalent)	15.36	25.03	22.64	24.72	31.64	29.47	27.55	29.28	32.88
Barley	1.74	3.23	5.47	5.16	7.04	6.35	6.50	6.17	4.92
Oats	0.72	1.23	1.48	0.91	1.33	1.44	1.47	1.41	1.24
Maize	9.33	4.34	5.42	4.68	5.86	7.10	8.79	10.00	10.73
Rice (milled equivalent)	9.67	4.40	4.29	4.85	5.46	5.55	4.95	4.76	5.50
Sugar (raw equivalent)[2]	9.65	10.76	11.92	13.33	13.54	14.70	14.36	13.30	15.86
Citrus fruit[3]	1.86	1.89	2.60	2.84	2.39	2.69	2.78	3.11	3.37
Apples	0.69	0.57	0.71	0.98	0.87	1.14	0.85	1.29	1.26
Bananas	2.48	2.35	2.95	3.10	3.09	3.39	3.55	3.71	3.72
Vegetable oils and oilseeds (oil equivalent)[4]	4.19	3.63	4.52	4.58	4.98	5.17	4.89	5.07	5.32
Coffee	1.66	1.94	1.80	2.08	2.34	2.24	2.23	2.59	2.61
Cocoa beans	0.69	0.70	0.72	0.72	0.76	0.80	0.66	0.77	0.92
Tea	0.40	0.42	0.51	0.44	0.52	0.50	0.54	0.52	0.51
Wine	1.94	1.64	2.39	2.70	2.49	2.79	2.77	2.40	2.66
Tobacco	0.49	0.54	0.59	0.64	0.64	0.68	0.66	0.64	0.66
Cotton (lint)	3.01	2.36	2.64	2.39	2.85	3.08	2.66	2.80	3.47
Jute	0.82	0.86	0.90	1.00	0.89	0.82	0.96	0.87	0.79
Wool (actual weight)	1.08	1.10	1.04	1.17	1.21	1.23	1.17	1.40	1.34
Rubber (natural)[5]	1.04	1.82	1.87	2.07	2.07	2.05	2.14	2.34	2.08
Meat (fresh, chilled, and frozen)[6]	1.15	0.96	1.11	1.18	1.32	1.43	1.49	1.58	1.56
Eggs (in the shell)	0.25	0.24	0.34	0.35	0.36	0.38	0.39	0.43	0.42
FOREST PRODUCTS	*Million cubic meters*								
Roundwood[7]		[8] 18.4	21.3	27.0	26.6	27.3	26.0	28.4	30.0
Sawnwood		[8] 28.7	32.1	35.7	31.7	33.9	33.8	36.1	39.9
Plywood		[8] 0.5	0.8	1.0	0.9	1.1	1.2	1.6	1.7
	Million metric tons								
Wood pulp		[8] 6.0	6.9	7.6	7.8	7.8	7.7	8.5	9.4
Newsprint		[8] 6.0	6.2	6.6	7.0	6.9	6.8	7.0	7.4
Other paper and board		[8] 2.3	2.8	3.2	3.2	3.6	3.5	4.0	4.5

[1] Including exports from the rest of the world to the U.S.S.R., eastern Europe, and Mainland China, but excluding exports from these countries, except for forest products. - [2] Excluding United States trade with its territories. - [3] Oranges and lemons only. - [4] Excluding copra imported into Malaya and Singapore for re-export, but including copra smuggled from Indonesia and North Borneo into Malaya and Singapore. - [5] Excluding imports into Malaya and Singapore for re-export, but including rubber smuggled from Indonesia into Malaya and Singapore. - [6] Beef and veal, mutton and lamb, pork. - [7] Logs, pulpwood, pitprops, fuelwood, poles, pilings and posts. - [8] 1953.

ANNEX TABLE 3A. - WESTERN EUROPE: PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61 (Preliminary)
	Million metric tons								
Wheat	31.07	30.32	35.70	37.80	32.00	40.55	39.08	42.68	39.51
Rye	7.49	6.65	7.64	6.69	7.14	7.21	6.99	7.19	7.39
Barley	9.08	10.93	13.72	14.74	19.04	17.51	17.73	20.34	22.37
Oats	16.44	14.84	14.58	14.78	15.98	13.22	12.89	12.58	14.28
Maize	9.73	7.17	8.58	9.74	10.14	12.18	11.04	14.26	14.73
Sugar (centrifugal)	4.02	5.13	6.56	6.89	6.50	7.07	8.19	7.32	9.85
Potatoes	69.87	76.33	80.99	73.11	84.33	79.02	72.73	73.07	79.79
Citrus fruit	1.99	2.10	2.63	2.55	1.84	2.76	2.91	3.27	3.00
Apples	7.42	8.72	9.49	8.70	10.30	4.26	13.79	7.31	14.02
Olive oil	0.81	0.87	0.84	0.69	0.90	1.04	0.82	1.05	1.03
Animal fats [1]	1.04	0.89	1.18	1.30	1.32	1.38	1.45	1.49	1.53
Wine	14.13	13.09	15.33	16.08	15.58	11.53	16.02	16.65	16.16
Tobacco	0.19	0.25	0.29	0.34	0.30	0.36	0.30	0.32	0.25
Milk (total)	77.02	76.73	90.90	89.77	91.95	95.89	96.49	98.77	102.40
Meat [2]	8.56	7.40	10.28	10.53	10.66	11.07	11.20	11.62	11.95
Eggs	1.95	2.10	2.67	2.72	2.79	2.94	3.10	3.25	3.28
	Indices: average 1952/53-1956/57 = 100								
Index of all farm products	82	86	101	103	103	107	109	113	116

	1938	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million standards								
FOREST PRODUCTS [3]									
Sawn softwood	10.24	9.92	10.86	11.29	10.94	10.77	10.74	10.49	11.03
	Million cubic meters								
Sawn hardwood	9.07	9.30	10.00	10.71	11.01	11.54	11.60	11.44	11.84
Plywood	1.09	1.24	1.86	1.94	1.89	2.08	2.13	2.30	2.54
	Million metric tons								
Fiberboard (hard and insulating)	0.17	0.67	1.05	1.19	1.27	1.34	1.45	1.52	1.69
Wood pulp (chemical)	6.67	5.96	7.66	8.37	8.69	9.24	9.15	9.87	10.31
Wood pulp (mechanical) [4]	3.95	3.46	4.40	4.66	4.96	5.08	5.08	5.62	5.92
Newsprint	2.80	2.33	2.86	3.11	3.43	3.53	3.51	3.81	4.11
Other paper and board	8.29	8.85	12.11	13.18	13.69	14.72	15.16	16.26	17.89

[1] Lard and tallow. - [2] Beef and veal, mutton and lamb, pork. - [3] Including eastern Europe. - [4] Only partial coverage of production of exploded and defibrated pulp.

Annex table 3B. - Western Europe: Exports and imports of major commodities

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million metric tons								
Gross exports									
Wheat and wheat flour (wheat equivalent)	1.47	0.76	2.30	3.39	2.31	3.10	3.87	3.77	3.16
Sugar (raw equivalent)	0.86	1.37	1.68	1.83	1.56	1.84	1.36	1.33	1.37
Citrus fruit [1]	0.97	0.91	1.26	1.40	0.86	0.97	1.20	1.35	1.48
Apples	0.19	0.31	0.41	0.66	0.53	0.74	0.38	0.79	0.72
Wine	0.50	0.48	0.77	0.76	0.93	0.86	1.16	0.73	0.88
Bacon, ham, and salted pork	0.26	0.14	0.27	0.29	0.28	0.30	0.30	0.31	0.37
Eggs (in the shell)	0.20	0.17	0.26	0.27	0.28	0.31	0.31	0.34	0.32
Wool (actual weight)	0.23	0.11	0.09	0.10	0.11	0.11	0.10	0.13	0.13
	Million cubic meters								
Coniferous logs [2]	2.39	1.71	0.88	0.84	0.61	0.69	0.92	0.96	1.25
Broadleaved logs [2]	0.50	0.45	0.67	0.94	0.67	0.66	0.58	0.78	1.00
Pulpwood [2]	3.03	3.53	4.11	5.74	5.22	5.15	4.13	4.68	5.74
Pitprops [2]	3.16	3.00	2.44	3.00	3.03	3.13	2.62	2.10	1.71
Sawn softwood [2]	13.86	12.66	14.88	15.39	14.05	14.77	13.63	15.10	16.81
Plywood [2]	0.36	0.30	0.45	0.50	0.40	0.44	0.41	0.52	0.62
	Million metric tons								
Wood pulp [2]	4.55	3.51	4.39	4.70	4.97	4.90	4.83	5.34	5.87
Newsprint [2]	0.92	0.87	1.02	1.12	1.30	1.29	1.34	1.36	1.55
Other paper and board [2]	1.20	1.51	2.24	2.46	2.48	2.72	2.64	3.00	3.41
Gross imports									
Wheat and wheat flour (wheat equivalent)	11.95	14.42	12.88	13.19	15.78	14.04	12.21	12.77	11.04
Barley	2.41	2.53	3.95	3.58	5.06	4.62	4.69	4.75	4.27
Maize	8.46	4.03	4.27	4.51	5.02	4.78	6.32	7.66	8.95
Rice (milled equivalent)	1.17	0.33	0.41	0.57	0.58	0.43	0.51	0.61	0.63
Sugar (raw equivalent)	3.47	4.25	3.79	4.07	4.41	5.38	4.87	4.61	4.59
Vegetable oils and oilseeds (oil equivalent)	3.00	2.52	3.02	3.09	3.43	3.56	3.30	3.34	3.62
Oranges	1.28	1.33	1.92	2.06	1.73	1.95	2.10	2.24	2.45
Coffee	0.69	0.48	0.61	0.68	0.75	0.76	0.80	0.88	0.93
Cocoa beans	0.36	0.33	0.40	0.40	0.39	0.45	0.39	0.43	0.47
Tea	0.26	0.23	0.28	0.26	0.27	0.31	0.30	0.27	0.28
Wine	1.68	1.39	2.00	2.40	2.13	2.53	2.64	2.18	2.45
Tobacco	0.37	0.34	0.39	0.41	0.40	0.41	0.41	0.40	0.47
Cotton (lint)	1.76	1.40	1.58	1.42	1.51	1.72	1.43	1.44	1.70
Rubber (natural)	0.36	0.59	0.69	0.78	0.73	0.76	0.74	0.65	0.68
Meat (fresh, chilled, frozen) [3]	1.12	0.81	0.77	0.93	1.14	1.18	1.12	1.08	1.17
Canned meat	0.08	0.18	0.20	0.20	0.19	0.23	0.24	0.24	0.23
Bacon, ham, and salted pork	0.39	0.21	0.31	0.31	0.32	0.34	0.35	0.36	0.41
Butter	0.57	0.39	0.32	0.40	0.44	0.45	0.46	0.47	0.48
Cheese	0.23	0.27	0.28	0.28	0.30	0.31	0.33	0.34	0.34
Eggs (in the shell)	0.31	0.21	0.29	0.31	0.32	0.34	0.36	0.41	0.43

[1] Oranges and lemons only. - [2] Including Eastern Europe. Prewar figures refer to 1938. - [3] Beef and veal, mutton and lamb, pork.

Annex table 4A. - Eastern Europe and U.S.S.R.: Production of major commodities

	Average 1949-53	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million metric tons							
EASTERN EUROPE [1]								
Wheat	11.8	9.6	11.9	10.7	13.2	11.8	13.8	12.9
Rye	10.9	9.8	11.2	10.7	11.4	11.2	11.9	11.5
Barley	4.4	4.3	5.2	4.6	5.3	4.8	5.6	6.0
Oats	5.2	4.7	5.3	5.1	5.3	5.3	5.2	5.5
Maize	5.8	8.9	10.7	7.4	11.5	7.9	11.3	11.0
Potatoes	56.0	64.2	51.6	66.2	64.5	58.5	60.2	60.5
Tomatoes	0.9	0.9	1.0	1.0	1.2	1.2	1.3	1.5
Onions	0.6	0.7	0.6	0.5	0.6	0.6	0.8	...
Apples	0.9	1.2	1.0	1.6	0.8	2.3	1.2	...
Plums	0.6	0.6	0.8	0.6	0.6	1.1	1.3	...
Grapes	1.7	1.5	2.3	1.4	2.1	3.0	2.3	...
Sugar beet	20.8	23.5	24.0	19.4	25.9	27.0	23.2	32.0
Sunflowerseed	0.6	0.7	0.7	0.6	0.6	0.6	0.9	...
Tobacco	0.1	0.1	0.2	0.1	0.2	0.2	0.2	...
Milk	20.6	22.5	23.6	24.0	25.6	27.2	28.0	26.8
Eggs [2]	9.6	10.6	11.5	12.7	13.6	14.3	15.3	15.1
U. S. S. R.								
Total grain	80.9	85.6	106.8	127.6	105.0	141.2	125.9	133.2
Wheat	34.5	42.4	47.3	67.4	58.1	76.6	69.1	63.7
Rye	15.5 [3]	15.6	16.5	14.1	14.5	15.7	16.9	...
Barley	7.8 [3]	7.8	10.3	12.9	8.5	13.0	10.1	...
Oats	10.1 [3]	10.8	11.8	13.2	12.7	13.4	13.5	...
Maize	5.3	3.4	14.7	12.5	7.0	16.7	12.0	...
Millet	2.7 [3]	3.0	3.0	4.6	1.6	2.9	1.3	...
Rice	0.2 [3]	0.2	0.2	0.2	0.2	0.2	0.2	...
Potatoes	75.7	75.0	71.8	96.0	87.8	86.5	86.6	84.0
Other vegetables	10.0	11.9	14.1	14.3	14.8	14.9	14.8	15.9
Fruits	2.2 [3]	...	...	2.2	3.5	3.4	3.5	...
Grapes	1.0 [3]	...	...	1.2	1.4	1.7	1.7	...
Sugar beet	21.1	19.8	31.0	32.5	39.7	54.7	43.9	56.9
Oilseeds	2.5	...	...	4.4	3.2	5.1	3.4	4.3
Sunflowerseed	2.0	1.9	3.8	3.9	2.8	4.6	3.1	3.8
Tobacco	0.2 [3]	0.2	0.2	0.2	0.2	0.2	0.2	...
Milk	35.7	38.2	43.0	49.1	54.7	58.7	61.7	61.5
Butter	0.5 [3]	...	...	...	0.8	0.8	0.8	0.8
Meat	4.9	6.3	6.3	6.6	7.4	7.7	8.9	8.7
Eggs [2]	12.9	17.2	18.5	19.5	22.3	23.0	25.6	26.4
Flax	0.2	0.2	0.4	0.5	0.4	0.4	0.4	0.4
Cotton (lint)	3.5	4.2	3.9	4.3	4.2	4.4	4.7	4.4
Wool	0.2	0.2	0.3	0.3	0.3	0.3	0.4	0.4

[1] Bulgaria, Czechoslovakia, Eastern Germany, Poland and Romania. - [2] Million units. - [3] 1953.

ANNEX TABLE 4B. - EASTERN EUROPE AND U.S.S.R.: EXPORTS AND IMPORTS OF MAJOR COMMODITIES

	U. S. S. R.					Eastern Europe [1]				
	1955	1956	1957	1958	1959	1955	1956	1957	1958	1959
	Thousand metric tons									
GROSS EXPORTS										
Wheat	2 035.8	1 452.4	5 450.8	3 878.7	6 052.0	460.6	209.6	68.2	125.1	159.8
Rye	698.9	519.4	440.6	461.0	548.9	74.4	151.8	8.6	5.3	3.1
Barley	565.0	785.4	1 214.0	278.3	121.6	57.3	110.1	111.7	99.7	64.8
Oats	75.6	164.3	223.5	261.1	131.4	—	0.1	—	0.1	1.5
Maize	307.4	293.7	84.6	220.5	154.9	714.7	549.8	220.9	479.1	112.9
Fresh meat	10.8	30.9	74.4	33.4	173.6	...	70.2	65.4	94.0	88.5
Butter	5.1	26.3	49.1	24.7	80.3	7.8	5.3	5.1	32.5	30.7
Cheese	0.1	0.8	7.9	0.4	1.0	3.4	5.1	6.8	8.6	17.4
Eggs [2]	—	—	—	—	—	796	869	789	1 022	1 284
Cattle [3]	—	—	—	—	—	34.2	91.1	86.5	94.5	104.7
Pigs [3]	—	—	—	—	—	203.7	408.3	195.8	641.5	660.0
Tobacco	4.4	7.5	6.0	6.2	7.1	36.1	53.6	61.2	51.2	72.5
Cotton (lint)	336.9	309.5	318.7	310.9	344.5	4.3	8.3	4.3	5.3	1.6
Wool (clean basis)	14.6	12.7	13.8	17.0	16.9	0.8	1.0	0.2	0.4	1.8
Flax	9.5	37.5	44.7	43.3	77.5	2.4	3.1	6.3	7.8	10.9
Oilseeds	66.5	59.9	49.8	47.1	83.3	58.1	60.4	49.5	5.1	7.9
Vegetable oils	24.0	55.6	47.8	52.2	82.5	28.2	35.0	34.6	27.4	19.4
Sugar (raw equivalent)	227.9	189.6	207.1	217.8	214.4	901.8	336.8	409.1	878.2	1 126.8
GROSS IMPORTS										
Wheat	29.1	443.3	122.1	323.3	246.9	2 625.5	2 227.0	5 216.7	3 296.8	4 800.0
Rye	—	—	—	—	—	765.3	872.2	403.2	485.1	402.9
Barley	—	—	—	176.4	1.0	796.9	671.5	1 087.6	436.3	478.1
Oats	—	—	—	31.0	8.5	40.0	110.7	178.4	143.2	64.5
Maize	275.8	50.2	30.3	261.5	—	433.5	476.4	449.6	425.6	386.9
Rice	487.1	637.6	370.5	500.5	689.1	169.0	171.7	206.3	263.2	414.8
Meat	231.8	189.0	94.3	116.9	83.0	...	137.8	179.8	156.4	349.3
Butter	5.6	5.8	8.2	25.2	—	33.0	41.5	60.1	30.8	84.3
Cheese	0.4	0.3	0.3	—	3.1	12.4	10.7	17.8	12.4	15.4
Eggs [2]	231	225	224	373	110	285	264	335	57	81
Cattle [3]	146.3	187.0	136.2	121.1	142.3	25.1	7.4	9.1	18.5	16.7
Pigs [3]	51.3	62.4	—	58.0	54.7	45.1	90.6	64.8	172.7	92.8
Citrus fruit	87.7	87.8	108.5	132.6	103.9	72.8	61.7	94.1	116.8	159.4
Coffee	1.5	3.3	5.1	4.1	13.3	14.0	18.1	21.1	24.3	43.8
Tea	10.2	16.0	21.0	25.7	29.8	4.9	4.5	7.4	6.7	9.4
Cocoa beans	14.1	16.4	44.1	10.4	39.8	21.0	22.3	23.9	31.3	40.4
Cotton (lint)	19.9	51.4	108.8	142.1	190.3	350.5	352.0	392.1	402.6	431.8
Wool	46.5	48.5	57.3	55.2	57.8	43.1	43.2	52.3	54.1	60.8
Flax	—	—	—	—	—	13.5	17.1	19.8	21.6	26.3
Jute	20.0	20.0	16.4	23.0	22.0	42.0	42.1	45.9	53.1	48.4
Oilseeds	759.9	801.5	716.0	551.7	715.2	244.3	209.7	387.4	287.5	296.5
Vegetable oils	195.3	96.5	45.6	73.3	71.6	58.8	55.1	93.8	102.2	142.8
Natural rubber	35.3	140.7	145.5	258.7	242.1	67.6	84.0	107.6	123.7	110.1
Sugar (raw equivalent)	996.6	347.0	671.0	394.6	334.8	230.2	79.1	89.0	94.9	78.2
Tobacco	55.2	73.3	91.1	84.3	96.6	40.9	36.2	48.9	51.8	46.9

[1] Albania, Bulgaria, Czechoslovakia, Eastern Germany, Poland, Romania. - [2] Million units. - [3] Thousand units.

ANNEX TABLE 4C. - U.S.S.R.: PRODUCTION AND EXPORTS OF FOREST PRODUCTS

	Average 1948-52	1953	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million standards								
PRODUCTION									
Sawn softwood	8.80	12.08	12.55	13.75	13.93	14.92	17.10	18.01	18.70
	Million cubic meters								
Sawn hardwood	7.30	9.96	10.35	11.34	11.49	12.30	14.10	14.85	15.00
Plywood	0.66	0.95	1.02	1.05	1.12	1.15	1.23	1.30	1.30
	Million metric tons								
Fiberboard	0.02	0.04	0.05	0.05	0.07	0.09	0.11	0.16	0.20
Wood pulp (chemical)	1.08	1.56	1.68	1.74	1.85	1.96	2.09	2.19	2.25
Wood pulp (mechanical)	0.43	0.61	0.66	0.72	0.77	0.79	0.81	0.84	0.85
Newsprint	0.24	0.29	0.32	0.36	0.36	0.38	0.39	0.40	0.42
Other paper and board	0.92	1.76	1.95	2.04	2.22	2.41	2.57	2.69	2.73
	Million cubic meters								
EXPORTS									
Pulpwood	0.05	—	—	0.55	0.53	0.59	0.82	1.18	0.90
Pitprops	0.29	0.44	0.78	0.84	0.64	0.82	0.99	0.88	1.10
Sawn softwood	0.82	1.30	1.74	2.32	2.21	3.44	3.61	4.34	5.09
Plywood	0.05	0.05	0.06	0.09	0 05	0.10	0.11	0.12	0.13

Annex table 5A. - North America: Production of major commodities

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61 (Preliminary)
	Million metric tons								
Wheat	26.65	44.54	35.81	39.57	42.93	36.37	49.90	41.96	50.43
Oats	18.99	25.30	25.19	28.11	24.97	24.75	26.73	22.03	23.89
Maize	53.20	82.36	78.24	82.84	88.48	87.68	97.31	111.57	111.31
Rice (milled equivalent)	0.62	1.25	1.89	1.65	1.46	1.27	1.31	1.57	1.60
Potatoes	11.94	12.76	11.41	12.14	12.98	12.87	13.89	12.70	13.64
Citrus fruit	3.62	6.41	7.32	7.47	7.57	6.44	7.42	7.26	6.97
Vegetable oils and oilseeds (oil equivalent)	1.19	2.66	2.86	3.20	3.66	3.38	4.00	3.73	4.04
Animal fats [1]	1.30	2.40	2.51	2.77	3.00	2.86	2.74	3.07	3.07
Tobacco	0.62	1.02	1.10	1.06	1.06	0.83	0.88	0.89	0.96
Cotton (lint)	2.76	3.11	2.98	3.21	2.90	2.39	2.51	3.17	3.11
Milk (total)	54.44	59.55	63.03	63.64	64.67	65.04	64.90	64.75	65.00
Meat [2]	8.09	10.91	12.40	13.20	13.76	13.28	12.77	13.63	13.99
Eggs	2.42	3.93	4.09	4.09	4.16	4.13	4.11	4.19	3.99
	Indices: average 1952/53-1956/57 = 100								
Index of all farm products	68	93	97	101	103	98	106	109	111
	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million standards								
FOREST PRODUCTS									
Sawn softwood	11.86	18.14	18.43	19.99	19.04	17.36	17.16	18.27	17.66
	Million cubic meters								
Sawn hardwood	12.08	18.10	17.80	18.68	18.77	14.89	15.98	18.10	17.29
Plywood	0.82	3.49	4.99	6.52	6.71	6.74	7.62	8.82	9.10
	Million metric tons								
Fiberboard (hard and insulating)	0.64	1.21	1.50	1.67	1.72	1.63	1.71	1.96	1.92
Wood pulp (chemical)	5.20	13.70	17.02	19.16	20.62	20.25	20.27	21.91	23.00
Wood pulp (mechanical) [3]	3.44	7.23	8.32	8.87	9.20	9.00	8.70	9.92	10.50
Newsprint	3.38	5.74	6.51	6.92	7.32	7.40	7.04	7.54	8.00
Other paper and board	10.05	20.50	23.31	26.04	27.20	26.34	26.57	29.71	30.50

[1] Lard and tallow. - [2] Beef and veal, mutton and lamb, pork. - [3] Includes exploded and defibrated pulp.

Annex table 5B. - North America: Exports and imports of major commodities

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
GROSS EXPORTS	*Million metric tons*								
Wheat and wheat flour (wheat equivalent)	6.07	18.54	13.25	13.64	21.98	20 27	19.17	19.64	23.29
Barley	0.50	1.44	2.15	2.96	3.56	2.55	4.25	3.83	3.01
Maize	0.80	2.31	1.96	2.78	3.02	4.52	4.56	5.59	5.60
Rice (milled equivalenr)	0.07	0.54	0.56	0.52	0.82	0.74	0.57	0.69	0.89
Oranges	0.15	0.23	0.33	0.30	0.41	0.33	0.16	0.26	0.21
Vegetable oils and oilseeds (oil equivalent)	0.02	0.41	0.85	0.84	1.17	1.32	1.09	1.28	1.45
Tobacco	0.20	0.22	0.22	0.27	0.25	0.24	0.23	0.23	0.24
Cotton (lint)	1.29	1.03	0.94	0.56	1.03	1.57	1.04	0 83	1.73
	Million cubic meters								
Coniferous logs	...	0.33	0.60	0.71	0.72	0.54	0.60	0 79	0.93
Broadleaved logs	...	0.23	0.25	0.22	0.26	0.24	0 27	0.24	0.32
Pulpwood	...	5.68	4.64	4.58	4.89	4.51	3.29	2 91	3.12
Sawn softwood	...	8.41	11.14	12.59	10.79	10.22	10.76	11.38	12.57
	Million metric tons								
Wood pulp	0.80	1.83	2.38	2.72	2.63	2.64	2.48	2 81	3.30
Newsprint	2.80	4.50	5.14	5.42	5.55	5.51	5.27	5.47	5.72
GROSS IMPORTS									
Sugar (raw equivalent) [1]	3.21	3.88	4.05	4 22	4.45	4.42	5.00	4 85	4.91
Citrus fruit [2]	0.11	0.19	0.22	0.21	0.21	0.21	0.20	0.24	0.22
Bananas	1.35	1.48	1.61	1.58	1.67	1.70	1.76	1.91	2.03
Vegetable oils and oilseeds (oil equivalent)	0.90	0.55	0.52	0.56	0.54	0.52	0.54	0 56	0.57
Coffee	0.81	1.27	1 07	1.23	1.33	1.30	1.26	1.45	1.38
Cocoa	0 26	0 29	0 25	0 24	0.27	0 25	0.21	0 23	0 27
Tea	0 06	0 06	0 07	0.07	0 07	0 07	0 07	0 07	0 07
Jute	0.07	0 08	0 06	0 05	0 08	0 06	0.04	0 07	0 06
Sisal	0 14	0.18	0 17	0 18	0.16	0 16	0.15	0 16	0.11
Wool (actual weight)	0 10	0 29	0.15	0.17	0.17	0 13	0 12	0 19	0.15
Rubber (natural)	0 52	0 81	0 65	0.70	0 64	0 61	0.52	0 63	0.45

[1] Excluding United States trade with its territories. - [2] Oranges and lemons only.

Annex table 6A. - Oceania: Production of major commodities

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61 (Preliminary)
	Million metric tons								
Wheat	4.38	5.30	4.70	5.39	3.74	2.76	6.02	5.63	7.34
Sugar (centrifugal)	0.94	1.04	1.48	1.36	1.36	1.51	1.64	1.56	1.63
Wool (greasy)	0.59	0.69	0.79	0.85	0.93	0.88	0.97	1.03	0.99
Milk (total)	10.18	10.25	10.54	11.36	11.80	11.53	11.38	11.85	12.00
Meat [1]	1.42	1.60	1.81	1.87	1.96	1.99	2.20	2.18	2.09
	Indices: average 1952/53-1956/57 = 100								
Index of all farm products	78	90	98	103	105	102	117	118	120
		Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million cubic meters								
Forest products									
Sawnwood		4.19	4.73	4.82	4.60	4.50	4.71	4.99	5.08

[1] Beef and veal, mutton and lamb, pork.

Annex table 6B. - Oceania: Exports and imports of major commodities

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million metric tons								
Gross exports									
Wheat and wheat flour (wheat equivalent)	2.87	3.13	1.99	2.55	3.57	2.56	1.42	2.68	3.47
Barley	0.07	0.26	0.63	0.36	0.63	0.64	0.32	0.88	0.38
Oats	0.01	0.19	0.03	0.11	0.20	0.09	0.07	0.40	0.24
Sugar (raw equivalent)	0.56	0.47	0.81	0.80	0.82	0.98	0.90	0.84	1.04
Copra and coconut oil (oil equivalent)	0.13	0.13	0.16	0.17	0.17	0.16	0.16	0.17	0.16
Beef	0.15	0.13	0.17	0.25	0.24	0.28	0.28	0 32	0.25
Mutton and lamb	0.27	0.30	0.34	0.33	0.31	0.30	0.34	0 [illegible]9	0.42
Butter	0.24	0.21	0.18	0.24	0.25	0.21	0.24	0.28	0.22
Cheese	0.10	0.12	0.11	0.11	0.11	0.10	0.10	0.10	0.10
Wool (actual weight)	0.49	0.66	0.62	0.71	0.72	0.80	0.73	0.87	0.85
Gross imports									
Wheat and wheat flour (wheat equivalent)	0.06	0.21	0.26	0.28	0.32	0.34	0.32	0.27	0.21
Sugar (raw equivalent)	0.09	0.11	0.12	0.12	0.11	0.12	0.13	0.11	0.12
Rubber (natural)	0.01	0.04	0.05	0.06	0.05	0.04	0.05	0.05	0.05

ANNEX TABLE 7A. - LATIN AMERICA: PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61 (Preliminary)
	Million metric tons								
Wheat	8.62	7.97	11.69	9.45	11.13	10.11	10.60	9.45	8.20
Maize	18.00	15.00	17.27	18.88	18.45	20.34	21.70	21.00	22.62
Rice (milled equivalent)	1.33	3.07	3.83	3.64	4.19	3.99	4.22	4.31	4.84
Sugar (centrifugal)	6.89	12.53	13.11	13.11	14.58	15.09	16.85	17.13	17.99
Citrus fruit	3.28	3.73	4.03	4.21	4.41	4.53	4.69	4.85	4.70
Bananas	4.20	7.80	9.13	9.38	9.80	10.60	10.40	11.00	9.80
Coffee	2.11	1.88	1.94	2.23	1.88	2.50	2.74	3.76	3.12
Cocoa	0.24	0.25	0.32	0.29	0.31	0.29	0.34	0.34	0.24
Tobacco	0.21	0.31	0.35	0.38	0.39	0.39	0.41	0.41	0.41
Cotton (lint)	0.59	0.86	1.12	1.28	1.16	1.28	1.27	1.19	1.34
Milk (total)	12.22	14.60	17.38	18.22	18.87	20.00	19.86	20 00	20.30
Meat [1]	5.03	6.04	6.10	6.36	7.10	7.21	7.51	6.79	6.92
Eggs	0.48	0.58	0.73	0.77	0.80	0.88	0.92	1.03	1.05
	Indices: average 1952/53-1956/57 = 100								
Index of all farm products	73	89	100	102	107	112	117	120	117

	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million cubic meters							
FOREST PRODUCTS								
Sawnwood	8.10	9.12	9.29	9.27	8.52	9.08	9.28	9.22
	Million metric tons							
Wood pulp	0.22	0.30	0.29	0.34	0.38	0.43	0.50	0.52
All paper and board	0.69	0.88	1.19	1.28	1.33	1.50	1.62	1.65

[1] Beef and veal, mutton and lamb, pork.

Annex table 7B. - Latin America: Exports and imports of major commodities

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million metric tons								
Gross exports									
Wheat and wheat flour (wheat equivalent)	3.45	2.00	3.38	4.23	3.03	2.83	2.45	2.48	2.49
Maize	6.61	1.20	2.27	0.53	1.11	0.84	1.74	2.74	2.63
Rice (milled equivalent)	0.10	0.25	0.16	0.13	0.25	0.13	0.17	0.13	0.13
Sugar (raw equivalent)[1]	4.05	7.06	5.56	7.71	7.91	8.65	8.85	8.13	9.86
Bananas	2.04	1.92	2.32	2.37	2.37	2.63	2.79	2.94	2.98
Linseed and linseed oil (oil equivalent)	0.55	0.19	0.29	0.18	0.08	0.17	0.18	0.23	0.22
Coffee	1.40	1.61	1.35	1.57	1.70	1.57	1.56	1.87	1.85
Cocoa beans	0.21	0.18	0.22	0.22	0.21	0.20	0.19	0.17	0.24
Cotton (lint)	0.34	0.39	0.73	0.69	0.76	0.52	0.59	0.74	0.60
Wool (actual weight)	0.19	0.19	0.16	0.17	0.19	0.13	0.18	0.19	0.19
Meat (fresh, chilled and frozen)[2]	0.59	0.34	0.25	0.28	0.49	0.50	0.52	0.47	0.42
Canned meat	0.12	0.12	0.10	0.10	0.10	0.14	0.13	0.11	0.08
	Million cubic meters								
Broadleaved logs	...	0.40	0.34	0 40	0.43	0.37	0 38	0.40	0.42
Sawn softwood	...	1.25	1.19	1.60	1.03	1.74	1.49	1.21	1.28
	Million metric tons								
Gross imports									
Wheat and wheat flour (wheat equivalent)	1.69	2.84	3.39	3.79	3.47	3.55	3.41	3.82	3.94
Rice (milled equivalent)	0.39	0.37	0.30	0.22	0 22	0.32	0.40	0.34	0.27
Sugar (raw equivalent)	0.25	0.36	0.43	0.47	0.28	0 48	0.35	0.38	0.24
Potatoes	0.18	0.24	0.21	0.19	0.20	0.21	0.15	0.14	0.15

[1] Excluding trade between the United States and its territories. - [2] Beef and veal, mutton and lamb, pork.

ANNEX TABLE 8A. - FAR EAST (EXCLUDING MAINLAND CHINA): PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61 (Preliminary)
	Million metric tons								
Wheat	12.13	11.35	13.45	13.96	13.78	14.66	12.96	15.56	15.63
Millet and sorghum	14.94	13.22	18.11	15.41	15.26	16.52	17.95	16.72	16.71
Rice (milled equivalent)	65.28	66.76	72.41	78.84	83.17	76.55	86.05	90.66	96.28
Sugar (centrifugal)	4.18	3.14	4.69	5.07	5.22	5.59	5.69	6.20	6.47
Sugar (noncentrifugal)	3.67	4.05	4.48	4.47	5.08	5.13	5.59	5.10	5.14
Starchy roots	21.62	28.34	33.97	35.93	35.68	37.13	39.69	41.21	43.10
Pulses [1]	6.78	7.20	8.31	9.42	9.25	9.88	8.97	11.46	10.01
Vegetable oils and oilseeds (oil equivalent)	3.96	4.02	5.06	4.86	5.22	5.09	5.10	4.84	5.08
Tea	0.46	0.54	0.63	0.56	0.66	0.67	0.70	0.74	0.69
Tobacco	0.79	0.61	0.75	0.79	0.84	0.86	0.77	0.82	0.84
Cotton (lint)	1.22	0.89	1.30	1.20	1.26	1.30	1.23	1.05	1.24
Jute	1.94	2.00	1.64	2.28	2.26	2.12	2.39	2.08	2.00
Rubber (natural)	0.97	1.65	1.74	1.82	1.77	1.83	1.82	1.90	1.80
Meat [2]	1.65	1.84	2.00	2.21	2.35	2.38	2.41	2.46	2.47
Milk (total)	23.23	25.40	27.61	27.65	28.34	27.92	28.54	28.72	29.20
	Indices: average 1952/53-1956/57 = 100								
Index of all farm products	86	86	100	103	107	106	111	114	118

FOREST PRODUCTS	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million cubic meters							
Sawnwood	16.86	21.03	25.04	30.00	31.84	30.25	31.19	31.50
Plywood	0.25	0.67	0.84	1.02	1.20	1.32	1.59	1.80
	Million metric tons							
Wood pulp	0.78	1.65	1.93	2.21	2.47	2.38	3.02	3.50
Newsprint	0.16	0.45	0.48	0.55	0.59	0.61	0.75	0.85
Other paper and board	0.90	1.77	2.09	2.42	2.81	2.87	3.65	4.30

[1] Dry beans, dry peas, broad beans, chick-peas, lentils. - [2] Beef and veal, mutton and lamb, pork.

ANNEX TABLE 8B. - FAR EAST (EXCLUDING MAINLAND CHINA): EXPORTS AND IMPORTS OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million metric tons								
GROSS EXPORTS									
Rice (milled equivalent)	8.96	3 05	3 08	3 55	3.51	4.00	3 32	3.56	3.85
Sugar (raw equivalent)	3.31	1.01	1.83	1 86	2 00	1.97	1 96	1.80	2.23
Vegetable oils and oilseeds (oil equivalent)[1]	1.72	1.32	1.24	1 52	1.54	1.44	1.22	1.15	1.26
Tea	0 36	0.39	0.47	0.40	0.47	0.44	0.49	0.45	0.45
Cotton (lint)	0.68	0.27	0.19	0 28	0.24	0.18	0 18	0.13	0.14
Jute	0.79	0.84	0 89	0.99	0.87	0 81	0.94	0 85	0.77
Rubber (natural)[2]	0.96	1.69	1.75	1 92	1.81	1.83	1.83	2 13	1.84
	Million cubic meters								
Broadleaved logs	...	0.76	2.20	2 50	2.98	3.27	3.82	5.37	6.00
Sawn hardwood	...	0 56	0.89	1.08	1.09	1.06	1.10	1.17	1.30
Plywood	...	0.02	0.17	0 24	0.30	0.35	0.45	0.65	0.90
	Million metric tons								
GROSS IMPORTS									
Wheat and wheat flour (wheat equivalent)	1.03	4.95	4.15	4.49	5 68	7.87	7.87	8.37	10.45
Rice (milled equivalent)	6.13	3.12	3.40	3.11	4 03	4 04	3.88	3.09	3.50
Barley	0 05	0.69	0.82	0 61	1.20	1.12	1.07	0.55	0 06
Maize	0 21	0 20	0.24	0 44	0 49	0.68	0 83	1.17	1.65
Sugar (raw equivalent)	1.68	1.16	2.56	2 30	2.07	1.89	2.08	1.91	2.07
Vegetable oils and oilseeds (oil equivalent)	0.37	0.25	0.38	0.49	0.48	0.54	0.51	0.57	0.64
Cotton (lint)	0.90	0.52	0.74	0.66	0.86	0.89	0.76	0.91	1.16
Jute	0.05	0.27	0.25	0.29	0 23	0.18	0.14	0.12	0.23

[1] Excluding copra imported into Malaya and Singapore for re-export, but including copra smuggled from Indonesia and North Borneo into Malaya and Singapore. - [2] Excluding imports into Malaya and Singapore for re-export, but including rubber smuggled from Indonesia into Malaya and Singapore.

ANNEX TABLE 9A. - NEAR EAST: PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61 (Preliminary)
	Million metric tons								
Wheat	9.50	10.95	13.56	14.08	15.21	17.80	16.54	16.31	16.22
Barley	4.24	4.67	5.87	5.40	6.09	7.45	6.39	5.93	6.22
Rice (milled equivalent)	1.09	1.34	1.50	1.35	1.65	1.81	1.41	1.67	1.57
Total grains [1]	19.07	22.04	26.60	27.54	29.34	33.83	31.02	30.30	30.50
Sugar (centrifugal)	0.22	0.42	0.59	0.69	0.71	0.78	0.86	1.00	0.85
Pulses [2]	0.70	0.79	0.84	0.83	0.83	0.91	0.81	0.92	0.90
Citrus fruit	0.79	0.85	1.11	1.25	1.18	1.32	1.50	1.49	1.47
Dates	0.87	0.85	1.06	1.01	1.11	1.11	1.10	1.06	1.07
Bananas	0.05	0.07	0.09	0.10	0.11	0.11	0.14	0.13	0.14
Vegetable oils and oilseeds (oil equivalent)	0.32	0.41	0.52	0.50	0.61	0.53	0.63	0.59	0.62
Tobacco	0.09	0.12	0.13	0.15	0.15	0.16	0.14	0.15	0.16
Cotton (lint)	0.56	0.66	0.74	0.76	0.81	0.80	0.95	0.98	1.02
Milk (total)	9.70	10.19	10.20	11.19	11.60	11.47	12.30	12.64	12.90
Meat [3]	0.65	0.85	1.02	1.11	1.21	1.23	1.15	1.16	1.16
	Indices: average 1952/53-1956/57 = 100								
Index of all farm products	72	84	97	101	108	112	116	117	118

[1] Wheat, barley, oats, maize, millet, sorghum, rice (milled equiv.), rye, mixed grains. - [2] Dry beans, dry peas, broad beans, chick-peas, lentils. - [3] Beef and veal, mutton and lamb, pork.

ANNEX TABLE 9B. - NEAR EAST: EXPORTS AND IMPORTS OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million metric tons								
GROSS EXPORTS									
Wheat and wheat flour (wheat equivalent)	0.24	0.27	1.28	0.33	0.42	0.44	0.26	0.45	0.09
Barley	0.36	0.46	1.03	0.46	0.78	0.53	0.58	0.25	0.27
Rice (milled equivalent)	0.15	0.27	0.13	0.25	0.25	0.32	0.40	0.03	0.29
Total grains [1]	0.94	1.11	2.64	1.11	1.54	1.41	1.33	0.86	0.59
Citrus fruit [2]	0.30	0.20	0.36	0.30	0.35	0.37	0.39	0.46	0.50
Tobacco	0.04	0.07	0.07	0.06	0.07	0.09	0.06	0.07	0.06
Cotton (lint)	0.47	0.47	0.52	0.57	0.51	0.55	0.54	0.76	0.71
GROSS IMPORTS									
Wheat and wheat flour (wheat equivalent)	0.29	1.43	0.86	1.32	2.20	2.51	2.29	2.82	3.24
Total grains [1]	0.52	1.79	1.10	1.85	2.71	3.06	2.89	3.80	4.25
Sugar (raw equivalent)	0.33	0.54	0.73	0.86	0.94	0.93	1.03	1.06	1.07
	Million cubic meters								
Sawn softwood		0.38	0.71	0.63	0.55	0.58	0.55	0.68	0.58

[1] Wheat and wheat flour, barley, maize, oats, sorghums, millet, rye, rice (milled). - [2] Oranges and lemons.

Annex table 10A. - Africa: Production of major commodities

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59	1959/60	1960/61 (Preliminary)
	Million metric tons								
Wheat	2.66	3.16	4.36	3.93	4.33	3.71	3.92	3.68	3.45
Barley	2.60	3.19	4.06	2.93	3.69	2.18	3.23	2.61	2.52
Maize	4.62	7.12	8.53	8.75	9.34	8.76	9.33	9.37	9.48
Millet and sorghum	9.31	10.71	11.49	11.28	11.32	12.23	12.23	12.30	12.31
Rice (milled equivalent)	1.11	1.74	1.91	1.98	1.94	2.10	2.07	2.16	2.05
Sugar (centrifugal)	0.95	1.36	1.64	1.83	1.97	2.15	2.23	2.30	2.17
Starchy roots	35.40	45.45	51.57	52.35	48.78	50.44	50.21	50.61	50.71
Pulses [1]	1.02	1.47	1.64	1.55	1.53	1.37	1.45	1.50	1.48
Citrus fruit	0.38	0.79	1.00	1.09	1.18	1.26	1.30	1.41	1.43
Bananas	0.30	0.46	0.63	0.74	0.68	0.75	0.63	0.64	0.62
Groundnuts (oil equivalent)	0.56	0.72	0.82	0.96	0.99	1.18	1.03	1.00	1.03
Vegetable oils and oilseeds (oil equivalent)	1.73	2.21	2.52	2.53	2.78	2.81	2.88	2.73	2.85
Coffee	0.14	0.28	0.39	0.51	0.51	0.54	0.61	0.67	0.73
Cocoa	0.49	0.50	0.49	0.53	0.58	0.46	0.57	0.66	0.84
Wine	2.14	1.72	2.51	2.07	2.49	2.15	2.04	2.59	2.53
Cotton (lint)	0.14	0.22	0.26	0.26	0.28	0.30	0.31	0.31	0.28
Sisal	0.16	0.23	0.29	0.30	0.31	0.33	0.35	0.37	0.37
Milk (total)	6 82	7.90	8.65	8.72	8.82	8.90	9.11	9.10	9.14
Meat [2]	1.52	1.89	2.00	1.97	2.09	2.10	2.16	2.15	2.18
	Indices: average 1952/53-1956/57 = 100								
Index of all farm products	70	88	101	101	105	104	109	110	111

	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Millions cubic meters							
FOREST PRODUCTS								
Sawnwood	1.30	1.76	1.77	2.00	1.91	1.92	1.85	1.76

[1] Dry beans, dry peas, broad beans, chick-peas, lentils. - [2] Beef and veal, mutton and lamb, pork.

Annex table 10B. - Africa: Exports and imports of major commodities

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Million metric tons								
Gross exports									
Wheat and wheat flour (wheat equivalent)[1]	0.61	0.33	0.53	0.63	0.35	0.30	0.38	0.24	0.36
Barley	0.21	0.55	0.64	0.46	0.48	0.10	0.25	0.25	0.16
Maize	0.67	0.36	0.79	1.02	1.31	1.39	1.56	0.83	0.88
Sugar (raw equivalent)	0.69	0.71	1.00	1.05	1.08	1.15	1.18	1.11	0.97
Oranges	0.15	0.40	0.53	0.66	0.56	0.76	0.69	0.73	0.86
Bananas	0.14	0.22	0.34	0.36	0.35	0.39	0.38	0.35	0.37
Groundnuts and groundnut oil (oil equivalent)	0.33	0.32	0.51	0.46	0.59	0.55	0.67	0.63	0.54
Palm kernels and oil (oil equivalent)	0.30	0.33	0.38	0.37	0.38	0.35	0.39	0.38	0.37
Palm oil	0.24	0.33	0.39	0.37	0.38	0.36	0.37	0.40	0.39
Coffee	0.13	0.28	0.35	0.43	0.51	0.52	0.54	0.59	0.62
Cocoa beans	0.46	0.48	0.47	0.48	0.52	0.57	0.44	0.56	0.67
Wine	1.41	1.12	1.59	1.90	1.53	1.90	1.52	1.63	1.75
Tobacco	0.03	0.07	0.09	0.08	0.09	0.08	0.08	0.09	0.11
Cotton (lint)	0.13	0.19	0.24	0.24	0.26	0.24	0.27	0.29	0.25
Sisal	0.16	0.22	0.27	0.29	0.30	0.32	0.34	0.36	0.36
	Million cubic meters								
Broadleaved logs		1.19	1.88	2.36	2.32	2.64	2.88	3.24	4.10
	Million metric tons								
Gross imports									
Wheat and wheat flour (wheat equivalent)	0.28	0.75	0.77	0.78	0.98	0.95	0.79	1.66	1.71
Rice (milled equivalent)	0.39	0.18	0.23	0.35	0.34	0.46	0.37	0.53	0.48
Sugar (raw equivalent)	0.41	0.55	0.87	0.94	0.96	1.00	1.01	1.08	1.13

[1] Including coarse ground flour.

Annex table 11. - Total catch (live weight) of fish, crustaceans and mollusks in selected countries

	1938	Average 1953-57	1953	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Thousand metric tons									
World total	20 500.0	28 210.0	25 240.0	27 010.0	28 350.0	29 850.0	30 830.0	32 100.0	35 600.0	37 500.0
A. 1953-57 average catch: 1 000 000 tons and more										
Japan	3 562.0	4 828.1	4 521.6	4 544.6	4 912.8	4 762.6	5 399.0	5 505.0	5 884.6	6 192.5
United States [1]	2 660.1	2 799.0	2 674.8	2 780.6	2 790.4	2 989.4	2 759.8	2 708.7	2 890.8	2 796.9
China: Mainland	...	2 494.4	1 900.0	2 294.0	2 518.0	2 640.0	3 120.0	4 060.0	5 020.0	...
U.S.S.R.	1 523.0	2 376.6	1 983.0	2 258.0	2 495.0	2 616.0	2 531.0	2 621.0	2 756.0	3 051.0
Norway	1 152.5	1 897.0	1 557.1	2 068.2	1 813.4	2 201.3	1 754.8	1 438.8	1 663.9	1 598.9
United Kingdom	1 198.1	1 071.5	1 122.0	1 070.2	1 100.4	1 050.4	1 014.7	999.0	988.9	923.8
Canada (incl. Newfoundland)	836.8	1 004.0	924.2	1 027.4	965.0	1 105.5	997.1	1 000.7	1 050.6	...
B. 1953-57 average catch: 500 000 tons and more but less than 1 000 000 tons										
India	...	946.3	819.0	828.5	839.0	1 012.3	1 233.0	1 064.4	822.8	1 159.9
Germany, Western	776.5	775.1	764.3	703.9	814.8	800.6	791.7	743.1	768.0	674.0
Spain (incl. Ceuta and Melilla)	423.5	723.5	642.8	665.5	770.3	761.6	777.2	844.9	...	...
Indonesia	472.0	671.3	616.9	628.5	669.8	713.9	727.4	685.0	723.3	...
South Africa (incl. South West Africa)	66.7	597.2	638.8	623.1	607.1	536.9	580.6	649.9	749.4	898.8
France (incl. Algeria)	530.3	519.1	520.3	500.2	522.7	537.9	514.5	519.7	578.3	596.3
C. 1953-57 average catch: 100 000 tons and more but less than 500 000 tons										
Iceland	327.2	476.1	424.7	455.4	480.3	517.3	502.7	580.4	640.8	592.8
Portugal	247.2	446.2	425.2	438.7	424.7	472.2	470.3	455.5	427.8	475.1
Denmark	97.1	424.8	342.8	359.4	425.3	463.0	533.3	598.1	673.7	581.2
Philippines	80.9	377.0	311.9	364.6	385.2	416.0	407.5	447.3	457.5	476.5
Netherlands	256.2	320.2	343.3	339.2	319.5	298.1	300.8	313.8	319.6	314.7
Angola	26.2	317.6	220.4	261.2	290.4	420.5	395.5	278.2	267.4	252.0
Korea, South	838.3	306.4	260.9	255.0	262.2	346.0	408.1	395.1	382.1	342.5
Pakistan	...	267.9	249.0	259.7	270.9	277.0	282.8	283.7	290.1	304.5
Korea, North	925.2	240.1	122.0	235.0	312.0	...	291.5	...	...	...
Thailand	161.0	220.0	205.0	229.8	213.0	217.9	234.5	196.3	204.7	...
Italy	181.2	215.7	208.4	217.6	218.0	219.6	210.3	209.3	213.3	212.2
Peru	...	212.9	147.8	176.1	213.3	297.3	483.1	930.2	2 152.4	...
Sweden	129.2	205.9	199.7	201.1	219.5	197.4	222.1	238.0	...	...
Brazil	103.3	189.4	160.7	172.0	190.3	208.0	216.2	212.2	243.8	...
Chile	32.2	173.2	107.2	143.5	214.3	188.3	213.1	225.8	272.8	...
China: Taiwan	89.5	172.8	130.4	152.2	180.3	193.2	208.0	229.7	246.3	259.1
Cambodia	...	150.0	...	150.0	150.0	150.0	...	...	...	...
Federation of Malaya	...	139.6	147.0	137.3	136.8	138.5	138.3	139.5	145.9	167.1
Viet-Nam	180.0	128.3	...	...	120.0	130.0	135.0	143.0	153.5	...
Poland	12.5	126.1	107.4	117.9	126.9	139.3	138.8	145.1	162.2	183.9
Morocco	43.7	118.0	138.8	103.5	94.3	108.2	145.1	161.7	144.4	154.1
Turkey	76.0	117.9	102.5	119.4	111.5	139.5	116.7	101.3	96.7	...
Mexico	17.1	103.3	67.3	90.9	105.8	134.8	117.5	164.0	190.6	...
Faeroe Islands	63.0	101.1	88.8	89.4	105.6	116.3	105.6	106.7	87.2	...
Burma	...	100.0	...	...	...	100.0	100.0	...	...	...
Muscat and Oman	...	100.0	...	...	...	100.0	...	...	...	...

ANNEX TABLE 11. - TOTAL CATCH (LIVE WEIGHT) OF FISH, CRUSTACEANS AND MOLLUSKS IN SELECTED COUNTRIES (*concluded*)

	1938	Average 1953-57	1953	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Thousand metric tons									
D. 1953-57 average catch: 50,000 tons and more but less than 100,000 tons										
Congo (Leopoldville)	0.9	90.8	70.2	78.9	86.1	96.2	122.4	136.6	153.4	...
Argentina	55.3	78.3	77.2	78.2	79.0	75.4	81.6	80.6	88.6	100.9
Germany, Eastern	...	73.0	62.3	62.8	68.6	74.9	96.5	93.2	105.6	...
Belgium	42.8	71.8	74.4	72.6	80.0	69.1	62.9	64.3	57.5	63.7
Venezuela	21.7	65.9	63.3	51.8	69.6	61.3	83.1	78.3	83.3	...
U.A.R. Egyptian Region	38.1	63.5	52.1	56.7	63.4	70.3	75.2	80.0	85.6	88.5
Finland	44.4	63.1	62.1	65.5	63.3	60.2	64.5	61.5	67.4	66.0
Greece	25.0	59.7	46.0	52.5	60.0	65.0	75.0	80.0	82.0	...
Hong Kong	...	55.7	44.8	51.9	57.5	57.2	67.2	69.5	67.0	62.3
Australia	33.5	52 6	52.0	53.7	52.5	49.9	55.3	53.6	57.2	...
Tanganyika	16.0	52.5	50.0	50.0	52.4	55.0	55.0	55.0	60.0	60.0
E. 1953-57 average catch: less than 50,000 tons [2]										
Aden	...	41.3	75.6	51.9	34.8	21.8	22.6	21.5	24.4	22.3
New Zealand	27.0	37.6	36.6	36.9	39.2	...	...	...	...	...
Uganda	...	36.2	24.2	25.0	34.9	45.7	51.3	52.8	55.6	61.4
Ceylon	...	33.1	25.5	29.7	31.3	40.3	38.5	40.7	48.3	51.1
Kenya	...	31.3	...	36.8	30.1	32.6	25.5	22.0	22.6	28.2
Greenland	4.7	26.9	25.0	24.9	25.8	27.4	31.5	33.5	34.6	35.2
Ireland	12.8	26.2	19.0	21.5	23.6	30.5	36.6	37.5	38.6	42.8
Yugoslavia	16.8	26.1	25.7	23.0	22.6	28.4	30.7	31.4	29.4	30.9
Ghana	...	24.9	20.1	24.2	25.3	26.3	28.4	30.9	36.0	31.7
Colombia	10.0	20.3	16.0	16.0	18.0	21.2	30.1	25.0	21.1	29.7
Ecuador	1.8	17.0	9.1	12.5	15.0	21.8	26.4	31.1	35.9	43.2
Cuba	10.0	14.4	10.2	11.5	12.8	15.6	22.0	21.9	28.2	...
Ryukyu Islands	12.0	13.3	8.8	15.1	13.6	13.7	15.8	16.5	21.0	15.2
Sudan	8.8	12.4	12.1	12.9	13.6	13.5	19.9	19.2	...	...
Tunisia	9.6	11.6	11.5	13.6	10.8	11.9	14.0	15.2	...	...
Rhodesia and Nyasaland	...	10.1	4.6	6.9	8.8	9.9	20.3	24.8	19.4	13.6
Israel	1.7	8.9	7.7	9.2	10.7	10.3	11.6	12.6	13.2	13.8
Zanzibar and Pemba	7.5	8.8	8.8	8.7	8.8	8.8	8.8	8.8	8.8	9.0
Singapore	1.5	8.3	5.7	6.3	6.2	9.6	13.8	12.3	11.5	9.2
St. Pierre and Miquelon	1.9	7.3	5.9	6.8	6.8	9.3	7.9	8.3	9.4	10.3
Ethiopia and Eritrea, Fed. of	...	6.2	...	5.0	6.2	6.2	7.5	19.1	20.1	10.5
Ruanda Urundi	...	6.1	4.2	5.6	5.6	5.4	9.7	11.5	11.0	9.2
American Samoa	...	5.0	...	1.6	4.5	6.1	7.6	13.3	12.7	12.6
Uruguay	3.6	4.9	3.4	4.0	4.9	5.4	6.9	6.4	...	...
Trinidad and Tobago	2.7	3.7	3.0	5.1	3.9	3.6	2.9	4.2	7.2	7.2
Netherlands New Guinea	3.5	3.6	3.5	3.5	3.6	3.2	4.0	4.0	4.0	4.0
Mozambique	2.0	3.5	3.8	3.7	3.3	3.3	3.5	4.1	4.7	4.0
Madagascar	...	2.7	...	2.6	2.6	2.6	3.0	3.0	3.0	3.0
Surinam	0.4	2.4	1.6	1.9	2.5	3.3	2.7	1.9	1.8	1.9
Switzerland	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.5	2.5
Mauritius	2.0	1.7	1.6	1.6	1.7	1.7	1.7	1.6	1.3	1.4
Malta and Gozo	1.1	0.9	1.0	0.8	0.8	0.8	1.0	1.1	1.1	1.2

[1] Includes Hawaii.
[2] Only 32 of the 143 countries included in group E publish regularly annual statistics of fish catch.

ANNEX TABLE 12. - UNITED STATES COMMODITY CREDIT CORPORATION: QUANTITY AND VALUE OF INVESTMENT [1]

	Quantity (30 April)								Value (30 April)							
	1954	1955	1956	1957	1958	1959	1960	1961	1954	1955	1956	1957	1958	1959	1960	1961
	Thousand metric tons								*Million dollars*							
Wheat	24 208	28 156	29 073	24 453	24 174	33 937	35 512	37 888	2 155	2 633	2 795	2 411	2 402	3 105	3 253	3 389
Rice	58	763	1 322	804	732	535	455	240	6	98	232	107	104	81	65	27
Barley	622	2 044	1 987	1 774	2 698	3 242	3 383	2 184	34	107	92	87	114	155	113	100
Oats	589	1 052	1 222	650	732	1 376	646	598	32	58	60	32	32	57	27	24
Maize	20 568	22 255	29 192	34 801	37 211	39 206	45 291	45 012	1 296	1 437	1 926	2 289	2 414	2 486	2 786	3 091
Grain sorghum	1 029	2 927	2 887	2 040	8 295	13 498	14 964	18 784	60	167	128	105	393	706	833	1 048
Butter	165	149	34	16	45	20	27	40	245	212	44	21	60	26	35	54
Cheese	164	176	130	87	74	5	4	—	146	156	111	73	62	4	3	—
Dried milk	298	101	81	65	70	59	108	117	109	38	30	24	26	20	34	37
Linseed	382	201	41	351	59	279	18	6	56	25	5	42	7	31	2	1
Linseed oil	31	37	26	—	—	—	14	—	13	14	9	—	—	—	4	—
Cottonseed oil	469	170	5	—	—	27	—	—	185	64	2	—	—	7	—	—
Cotton linters	279	318	141	20	—	—	—	—	58	67	31	5	—	—	—	—
Cotton, upland	1 674	1 817	2 839	2 056	973	1 628	1 179	542	1 268	1 439	2 268	1 580	642	1 260	947	431
Wool	55	70	54	24	—	—	—	—	81	103	82	35	—	—	—	—
Tobacco	281	366	402	451	427	414	317	280	270	406	535	609	590	594	441	393
Other commodities									175	237	283	396	405	401	290	153
TOTAL									6 189	7 261	8 633	7 816	7 251	8 933	8 833	8 748
									Percentage							
Change from previous year									+ 97	+ 17	+ 19	— 9	— 7	+ 23	— 1	— 1

SOURCE: *Report of financial conditions and operations*, United States Department of Agriculture, Commodity Credit Corporation, April 1955, 1956, 1957, 1958, 1959, 1960, 1961.
[1] Stocks pledged for outstanding loans and stocks in price support inventory.

Annex table 13A. - Food supplies available for human consumption in selected countries

Country	Period	Cereals	Starchy roots	Sugar	Pulses	Vegetables	Meat	Eggs	Fish [1]	Milk [2]	Fats
		Kilograms per caput per year									
Western Europe											
Austria	1948–50	130	108	23	3	61	30	4	2	170	15
	1951–53	116	101	26	3	61	41	6	2	201	16
	1959/60	113	88	34	4	66	53	11	3	239	18
Belgium-Luxembourg	1948–50	106	148	28	4	60	47	12	7	141	21
	1951–53	104	147	28	4	66	49	13	7	160	22
	1959/60	91	143	33	4	68	59	15	6	202	22
Denmark	1948–50	104	141	36	7	72	62	9	18	272	18
	1951–53	95	137	41	6	64	58	8	13	269	25
	1959/60	79	128	47	4	63	73	10	15	291	27
Finland	1949–50	122	119	31	2	18	29	5	12	343	15
	1951–53	120	115	34	2	9	29	7	10	356	17
	1958/59	111	101	41	2	22	32	8	11	371	19
France	1948–50	121	133	23	6	110	56	10	6	142	14
	1951–53	116	122	26	6	139	61	11	6	148	16
	1959/60	107	100	32	7	128	74	11	5	208	17
Germany, Western	1948–50	114	209	24	4	51	29	5	8	166	16
	1951–53	99	172	25	3	46	41	8	7	192	23
	1959/60	85	139	27	4	40	54	13	7	220	25
Greece	1948–50	154	34	9	15	66	11	3	6	78	15
	1952–53	146	40	9	16	90	13	3	6	109	15
	1959	164	40	12	17	116	21	6	8	164	18
Ireland	1948–50	133	190	35	2	59	53	12	3	250	18
	1951–53	132	175	40	2	59	53	15	3	258	20
	1959	115	145	43	4	63	60	15	4	318	22
Italy	1948–50	149	38	12	13	81	15	6	4	93	10
	1951–53	146	40	14	15	93	18	7	4	100	12
	1959/60	142	53	20	13	138	27	8	4	134	16
Netherlands	1948–50	98	159	36	4	68	28	5	7	262	23
	1951–53	95	116	36	4	64	35	7	6	255	25
	1959/60	86	90	40	4	62	44	12	5	291	25
Norway	1948–50	116	128	24	3	28	33	7	25	287	23
	1951–53	103	107	32	3	31	34	7	20	275	26
	1959/60	79	105	39	4	35	37	8	19	325	25
Portugal	1948–50	120	108	12	13	107	16	3	16	22	14
	1951–53	125	117	14	11	111	15	3	17	23	15
	1959	118	86	18	11	105	16	3	19	27	15
Spain	1952–53	123	104	11	15	102	14	5	10	...	15
	1959/60	117	124	17	18	121	16	5	12	74	20
Sweden	1948–50	88	120	44	4	25	49	10	16	...	20
	1951–53	83	111	41	3	25	50	10	18	312	20
	1959/60	75	99	39	4	27	52	10	18	320	21
Switzerland	1948–50	117	89	38	8	73	44	9	2	319	15
	1951–53	109	80	38	9	73	48	9	2	304	15
	1959/60	83	73	41	9	76	54	10	3	300	20
United Kingdom	1948–50	106	115	39	5	61	50	13	11	204	21
	1951–53	97	104	40	5	56	55	12	10	202	21
	1959/60	84	88	50	6	59	71	15	10	235	22
Yugoslavia	1952–53	190	64	88	8	32	20	2	1	104	8
	1959	183	73	14	10	50	27	3	2	149	11

ANNEX TABLE 13A. - FOOD SUPPLIES AVAILABLE FOR HUMAN CONSUMPTION IN SELECTED COUNTRIES (*continued*)

Country	Period	Cereals	Starchy roots	Sugar	Pulses	Vegetables	Meat	Eggs	Fish [1]	Milk [2]	Fats
		Kilograms per caput per year									
NORTH AMERICA											
Canada	1948–50	75	75	47	7	70	70	15	6	263	20
	1951–53	75	67	44	5	71	73	15	6	266	20
	1959/60	71	63	45	5	77	82	16	6	274	19
United States	1948–50	77	52	41	8	105	82	22	5	296	20
	1951–53	73	50	40	8	100	84	22	5	302	20
	1959	66	47	6	41	97	94	20	5	307	21
LATIN AMERICA											
Argentina	1948	126	88	35	2	40	116	7	2	145	16
	1951–53	105	79	32	4	45	103	9	2	144	18
	1959	120	85	31	3	43	100	7	2	126	16
Brazil	1948	79	123	30	26	24	[3] 39	3	2	73	6
	1951–52	91	117	33	24	26	28	3	2	...	7
	1958	90	73	33	26	...	29	5	...	58	65
Chile	1948	134	80	25	6	54	38	2	7	65	6
	1951–52	129	61	27	9	56	30	5	9	83	8
	1958	125	64	33	13	...	...	...	31	92	7
Colombia	1956–58	61	84	52	9	13	41	3	1	69	5
Ecuador	1954–56	78	78	25	13	23	11	4	3	76	4
	1957–59	74	90	23	13	30	15	5	4	93	4
Mexico	1954–56	141	10	25	21	24	12	4	2	70	10
	1957–59	124	7	27	19	13	24	7	2	94	9
Paraguay	1957–59	84	...	15	16	36	48	1	—	79	4
Uruguay	1949	96	43	36	4	20	114	7	1	137	15
	1952–53	96	59	32	2	27	123	7	1	167	16
	1958	105	46	37	1	35	...	...	...	182	18
Venezuela	1952–53	82	89	33	15	10	19	4	6	95	6
	1959	82	92	37	15	16	25	4	8	141	9
FAR EAST											
Ceylon	1952–53	118	35	16	32	42	3	2	5	15	4
	1959	132	21	20	28	42	3	1	6	15	4
China: Taiwan	1948–50	137	73	9	[4] 6	62	11	1	6	1	2
	1951–53	145	63	9	[4] 8	62	17	1	9	2	3
	1959	156	68	9	[4] 10	59	17	2	11	9	4
India	1949–50	112	8	12	23	16	1	0.1	1	47	[5] 3
	1951–53	121	11	11	24	16	1	0.2	1	46	[5] 3
	1958/59	143	12	14	30	...	2	0.2	1	50	[5] 4
Japan	1948–50	157	62	4	[6] 7	61	2	1	13	4	1
	1951–53	147	57	10	[6] 14	69	3	2	19	8	2
	1959	151	66	14	[6] 18	72	6	4	23	20	4
Pakistan	1949–50	161	...	12	8	18	4	0.4	1	55	[5] 3
	1951–53	153	...	13	8	18	4	0.4	1	56	[5] 4
	1958/59	147	6	16	7	19	4	0.3	2	47	[5] 3
Philippines	1952–53	131	51	14	6	30	12	3	11	5	3
	1958	127	51	13	9	30	10	3	15	21	4

ANNEX TABLE 13A. - FOOD SUPPLIES AVAILABLE FOR HUMAN CONSUMPTION IN SELECTED COUNTRIES (*concluded*)

Country	Period	Cereals	Starchy roots	Sugar	Pulses	Vegetables	Meat	Eggs	Fish [1]	Milk [2]	Fats
		Kilograms per caput per year									
NEAR EAST											
Israel	1950/51	133	45	19	8	103	15	19	16	173	15
	1951-53	150	39	21	7	116	12	13	12	171	15
	1958/59	124	41	30	8	115	31	19	7	184	17
Turkey	1948-50	186	18	6	10	56	14	1	1	92	7
	1951-53	199	28	8	11	68	15	1	2	101	8
	1958/59	199	39	10	14	78	13	2	2	103	8
United Arab Republic: Egyptian Region	1948-50	174	11	13	12	46	10	1	3	60	[5] 3
	1951-53	176	9	14	10	51	11	1	3	47	[5] 4
	1957/58	188	10	12	12	107	14	1	6	43	[5] 5
AFRICA											
Libya	1959	115	17	28	9	80	10	2	1	58	7
Cyrenaica	1957	115	6	33	7	21	7	2	1	108	5
	1958	109	8	33	6	17	8	2	1	125	5
Mauritius	1955-56	131	17	39	12	28	5	—	6	45	9
	1959	130	17	38	11	29	5	2	6	49	10
Morocco: former French zone	1952-55	147	9	34	4	62	20	5	—	168	4
Rhodesia and Nyasaland, Federation of: Southern Rhodesia	1951-53	184	12	13	14	26	30	1	2	36	2
	1953	201	10	12	16	26	29	1	2	37	2
South Africa	1948-50	156	16	39	3	4	42	3	5	79	5
	1951-53	161	13	36	3	35	40	3	8	79	6
	1959	140	20	41	5	36	43	3	8	82	6
OCEANIA											
Australia	1948-50	97	50	53	5	66	110	12	4	203	15
	1951-53	94	51	51	4	60	108	10	3	197	16
	1959/60	92	52	53	5	57	116	11	4	209	16
New Zealand	1948/50	90	51	50	4	79	103	13	7	253	16
	1951-53	86	43	43	5	86	106	12	6	267	20
	1959	86	55	42	5	68	107	17	6	276	20

[1] Estimated edible weight. - [2] Milk and milk products estimated in terms of liquid milk. - [3] Not comparable with subsequent years as a different method of determination has been used. - [4] Including soybean curd in terms of soybean. - [5] Excluding butter. - [6] Including "miso" and "shoyu" (soybean preparations) in terms of soybean.

ANNEX TABLE 13B. - CALORIE AND PROTEIN CONTENT OF NATIONAL AVERAGE FOOD SUPPLIES IN SELECTED COUNTRIES

Country	Period	Calories	Total protein (grams)	Animal protein (grams)
		Per caput per day		
WESTERN EUROPE				
Austria	1948-50	2 670	77	30
	1951-53	2 700	80	38
	1959/60	2 950	87	46
Belgium-Luxembourg	1948-50	2 890	84	38
	1951-53	2 950	87	47
	1959/60	2 930	87	47
Denmark	1948-50	3 240	105	60
	1951-53	3 340	95	54
	1959/60	3 340	94	59
Finland	1949-50	2 980	96	52
	1951-53	3 070	96	53
	1958/59	3 120	95	54
France	1949-50	2 800	92	40
	1951-53	2 840	93	43
	1959/60	2 940	98	52
Germany, Western	1948-50	2 730	79	32
	1951-53	2 870	77	39
	1959/60	2 890	78	46
Greece	1948-50	2 490	76	17
	1952-53	2 460	76	18
	1959	2 900	93	27
Ireland	1948-50	3 430	96	47
	1951-53	3 500	97	50
	1959	3 570	96	57
Italy	1948-50	2 350	70	19
	1951-53	2 480	72	21
	1959/60	2 710	79	27
Netherlands	1948-50	2 930	82	39
	1951-53	2 900	80	41
	1959/60	2 970	80	45
Norway	1948-50	3 100	99	53
	1951-53	3 100	90	50
	1959/60	2 980	82	49
Portugal	1948-50	2 320	67	21
	1951-53	2 410	68	21
	1959	2 350	68	25
Spain	1952-53	2 490	70	18
	1959/60	2 750	74	20
Sweden	1948-50	3 110	87	52
	1951-53	3 090	88	54
	1959/60	2 920	82	54
Switzerland	1948-50	3 170	96	51
	1951-53	3 120	94	51
	1959/60	2 980	85	51
United Kingdom	1948-50	3 130	90	45
	1951-53	3 110	85	45
	1959/60	3 290	87	52
Yugoslavia	1952-53	2 690	87	20
	1959	2 980	96	26

ANNEX TABLE 13B. - CALORIE AND PROTEIN CONTENT OF NATIONAL AVERAGE FOOD SUPPLIES IN SELECTED COUNTRIES (*continued*)

Country	Period	Calories	Total protein (grams)	Animal protein (grams)
		Per caput per day		
NORTH AMERICA				
Canada	1948–50	3 110	93	57
	1951–53	3 050	93	58
	1959/60	3 150	96	64
United States	1948–50	3 180	91	61
	1951–53	3 150	92	63
	1959	3 130	93	66
LATIN AMERICA				
Argentina	1948	3 240	110	66
	1951–53	2 980	97	60
	1959	3 040	95	52
Brazil	1948	2 360	63	24
	1951–52	2 410	58	17
	1958	2 500	62	20
Chile	1948	2 370	73	23
	1951–52	2 430	74	25
	1958	2 450	78	27
Colombia	1956–58	2 170	48	23
Ecuador	1954–56	2 170	52	13
	1957–59	2 230	56	18
Mexico	1954–56	2 390	64	14
	1957–59	2 330	65	20
Paraguay	1957–59	2 500	68	26
Uruguay	1949	2 920	93	59
	1952–53	2 950	99	66
	1958	3 110	100	65
Venezuela	1952–53	2 010	54	20
	1959	2 300	64	27
FAR EAST				
Ceylon	1952–53	1 990	41	6
	1959	2 100	43	7
China: Taiwan	1948–50	1 980	43	8
	1951–53	2 140	50	12
	1959	2 310	57	15
India	1949–50	1 640	44	5
	1951–53	1 740	47	6
	1958/59	2 080	56	6
Japan	1948–50	1 900	49	9
	1951–53	1 960	58	13
	1959	2 210	68	18
Pakistan	1949–50	2 030	49	7
	1951–53	2 000	48	8
	1958/59	1 930	45	7
Philippines	1952/53	1 940	46	11
	1958	2 010	50	14

ANNEX TABLE 13B. - CALORIE AND PROTEIN CONTENT OF NATIONAL AVERAGE FOOD SUPPLIES IN SELECTED COUNTRIES (*concluded*)

Country	Period	Calories	Total protein (grams)	Animal protein (grams)
	Per caput per day			
NEAR EAST				
Israel	1950/51	2 680	88	34
	1951–53	2 780	87	27
	1958/59	2 810	86	33
Turkey	1948–50	2 510	81	15
	1951–53	2 730	88	17
	1958/59	2 850	90	15
United Arab Republic: Egyptian Region	1948–50	2 370	70	12
	1951–53	2 410	70	11
	1957/58	2 650	79	13
AFRICA				
Libya	1959	2 180	53	10
Cyrenaica	1957	2 110	55	16
	1958	2 090	55	18
Mauritius	1955–56	2 290	47	11
	1959	2 250	46	11
Morocco: former French zone	1952–55	2 350	72	18
Rhodesia and Nyasaland, Federation of: Southern Rhodesia	1951–53	2 450	75	16
	1953	2 630	81	16
South Africa	1948–50	2 640	73	27
	1951–53	2 690	74	27
	1959	2 580	73	30
OCEANIA				
Australia	1948–50	3 220	97	66
	1951–53	3 170	92	61
	1959/60	3 330	94	61
New Zealand	1948–50	3 360	100	67
	1951–53	3 350	103	70
	1959	3 430	105	72

Annex table 14. - Average world export unit values of agricultural products

	Average					1958	1959	1960	1959				1960			
	1947-49	1950-51	1952-53	1954-55	1956-57				I	II	III	IV	I	II	III	IV
	Indices, average 1952-53 = 100															
All agricultural products	91.8	104.9	100	96.9	92.8	87.5	84.7	85.7	84.6	84.9	85.5	86.8	87.2	87.4	85.0	84.9
Food and feed	107.5	96.0	100	91.1	90.3	87.3	87.3	86.4	88.4	86.9	88.1	87.8	87.2	86.6	85.5	86.5
Cereals	110.3	88.2	100	81.9	75.8	74.6	72.8	71.9	73.9	72.3	71.9	71.1	71.1	70.3	69.9	75.1
Edible oils and oilseeds	111.5	108.8	100	91.7	90.4	89.9	97.4	94.4	96.4	100.9	99.4	95.2	99.4	98.8	91.8	88.2
Meat	81.5	88.9	100	103.3	102.1	105.4	106.8	109.8	113.1	106.3	106.8	103.3	108.1	107.8	113.3	113.8
Dairy products	106.5	88.3	100	95.4	93.7	80.4	91.5	90.5	85.1	83.2	92.3	102.5	96.3	87.6	87.3	89.7
Beverages and tobacco	73.8	93.9	100	114.0	98.2	99.4	87.3	83.9	88.7	87.7	86.2	85.9	85.6	82.6	82.6	84.1
Agricultural raw materials	79.0	128.7	100	93.7	92.8	78.6	78.4	85.9	72.6	76.8	78.1	83.2	85.9	89.7	83.5	80.6
	U.S. dollars per metric tons															
Wheat	94.3	72.9	79.2	67.0	63.2	62.6	62.2	62.0	62.5	61.6	62.4	62.2	62.0	61.4	62.1	62.4
Wheat flour	128.7	99.7	112.5	98.4	86.6	82.0	78.0	75.9	78.5	78.4	78.5	77.0	73.2	75.9	75.8	79.9
Barley	87.4	65.6	70.2	54.4	53.0	51.3	52.6	52.7	56.9	52.5	49.8	51.4	54.0	52.2	51.3	54.5
Maize	78.5	69.1	77.5	61.2	57.5	50.5	50.2	50.1	50.9	51.0	50.0	49.2	51.8	49.5	50.5	49.0
Rice (milled)	152.6	131.0	175.3	132.2	115.6	120.3	110.6	102.5	115.3	113.2	110.4	105.0	102.3	100.5	94.8	113.7
Sugar (raw)	102.0	110.8	104.6	97.6	106.6	99.6	94.7	89.9	100.2	96.2	92.0	90.9	87.8	92.6	89.0	89.1
Apples	112.3	96.5	108.2	109.1	130.0	155.3	111.6	140.8	107.9	98.3	126.3	115.5	149.8	144.2	110.9	133.2
Bananas	100.0	102.2	98.6	100.0	102.7	93.7	86.9	90.7	84.4	87.5	88.9	87.0	91.6	90.9	92.8	87.5
Oranges and tangerines	120.7	105.2	99.4	103.6	129.7	127.8	107.8	114.0	100.4	98.0	125.3	129.2	111.2	116.5	115.5	116.7
Raisins	262.5	251.3	214.6	223.6	277.4	327.4	316.8	271.1	355.4	346.1	335.9	280.4	274.5	269.3	269.5	270.6
Copra	199.6	206.9	167.8	161.1	141.0	167.6	203.2	172.6	211.6	221.6	197.7	191.5	205.7	186.3	153.3	152.0
Palm kernels	130.3	146.7	153.9	129.0	122.0	125.1	159.4	156.2	153.3	161.3	161.8	160.9	170.5	164.2	150.2	137.1
Soybeans	123.5	110.7	111.4	104.0	93.3	87.1	84.6	83.4	84.6	86.9	86.6	82.6	84.0	83.5	84.4	82.5
Groundnuts (shelled)	194.3	176.4	220.9	198.5	200.0	171.6	164.0	182.6	158.5	164.4	169.7	167.7	171.4	193.6	194.5	181.7
Olive oil	902.3	663.0	585.1	545.0	695.7	598.2	501.3	517.6	473.3	493.7	562.0	504.7	508.6	518.3	530.7	521.3
Coconut oil	359.7	363.7	282.8	263.3	237.1	277.8	349.4	360.5	341.1	366.7	343.6	345.1	260.5	393.0	336.2	313.9
Palm oil	238.8	257.8	216.2	192.3	219.3	200.4	204.2	189.8	191.5	200.4	226.0	200.0	196.4	180.6	188.6	189.7
Palm-kernel oil	342.1	330.3	274.0	255.1	239.2	253.4	316.6	291.8	297.4	320.4	332.3	311.6	336.1	318.7	271.0	261.1
Soybean oil	464.2	390.4	308.8	319.4	339.4	302.3	252.7	228.9	262.2	260.7	247.9	242.0	227.1	213.7	242.3	237.4
Groundnut oil	468.3	441.6	407.5	361.8	401.8	361.9	326.2	355.1	322.5	336.7	341.3	303.1	344.9	364.7	362.7	342.5
Cattle	109.6	127.4	113.7	127.3	125.3	136.9	147.0	145.0	134.3	150.2	167.0	145.4	141.8	142.9	169.1	134.9
Beef and veal	330.2	406.5	438.5	458.4	429.6	505.3	578.2	601.5	586.9	576.6	593.4	564.7	606.4	606.6	607.5	583.7
Mutton and lamb	288.2	256.9	308.3	402.0	432.7	414.5	365.9	387.4	436.7	371.8	316.9	293.5	396.2	363.5	384.4	402.9
Bacon	714.0	631.3	693.0	664.8	700.9	706.2	667.5	664.0	706.7	617.7	665.3	654.0	605.1	602.1	703.1	749.7
Canned meat	595.7	803.2	920.9	889.9	846.3	854.7	888.0	905.0	883.6	886.9	886.1	892.4	873.3	909.6	929.9	908.5

ANNEX TABLE 14 - AVERAGE WORLD EXPORT UNIT VALUES OF AGRICULTURAL PRODUCTS (*concluded*)

	Average					1958	1959	1960	1959				1960			
	1947–49	1950–51	1952–53	1954–55	1956–57				I	II	III	IV	I	II	III	IV
	U.S. dollars per metric tons															
Cheese	720.2	606.7	672.4	661.5	726.1	636.5	741.1	724.0	729.4	694.3	724.7	806.8	782.9	700.7	735.0	691.5
Butter	1 018.1	849.8	960.4	961.1	855.8	641.3	897.9	837.8	760.3	774.1	944.3	1 063.0	968,4	787.8	728.6	818.6
Eggs in the shell	725.8	607.2	688.6	638.8	623.3	585.2	522.6	545.4	511.1	468.5	497.1	583.1	472.2	496.5	583.3	622.2
Milk, condensed and evaporated	352.1	308.1	339.7	310.5	324.2	312.2	307.9	308.9	306.8	294.7	302.5	328.9	325.7	302.2	301.5	308.3
Milk, powdered	548.3	390.2	486.9	394.2	404.9	374.1	355.7	415.8	338.6	354.2	372.2	355.3	422.0	482.8	416.9	365.3
Potatoes	56.8	50.1	58.6	49.3	56.0	59.6	57.6	61.1	58.7	56.1	50.5	61.3	54.7	72.2	48.2	58.6
Oilseed cake and meal	83.3	66.4	74.0	73.0	52.2	55.0	68.0	67.0	64.9	64.9	68.4	72.2	71.7	65.6	64.5	67.0
Coffee	527.7	1 018.9	1 123.9	1 239.6	1 040.1	921.0	751.4	727.7	777.2	768.0	732.0	731.2	756.5	723.9	714.5	712.5
Cocoa	548.4	638.8	678.5	945.8	573.6	847.1	741.2	591.0	782.5	746.8	729.2	685.6	629.5	578.4	568.5	583.0
Tea	1 152.0	1 023.5	981.2	1 383.5	1 256.5	1 221.5	1 208.9	1 239.5	1 156.9	1 177.6	1 216.9	1 250.3	1 226.4	1 178.0	1 208.9	1 313.3
Wine	244.7	172.0	165.1	142.0	162.3	216.3	174.1	176.3	181.3	171.0	168.1	176.0	168.1	175.7	175.0	184.4
Tobacco (unmanufactured)	1 127.7	1 111.2	1 195.5	1 246.1	1 284.2	1 291.8	1 290.5	1 278.5	1 270.1	1 289.0	1 311.1	1 289.0	1 290.6	1 261.1	1 289.3	1 274.0
Linseed	205.9	158.0	151.1	121.1	129.5	124.3	130.5	130.2	126.3	126.3	126.2	142.2	145.1	136.9	132.5	123.6
Linseed oil	515.8	354.3	314.1	186.3	279.6	250.7	212.1	247.6	212.5	180.6	216.3	249.1	246.5	246.6	255.5	243.7
Cotton	768.8	1 004.1	887.0	816.8	740.9	680.0	592.8	631.8	611.7	635.4	571.2	569.0	594.2	676.8	631.2	637.2
Jute	311.8	285.8	212.7	187.5	198.1	196.0	179.0	225.2	191.1	173.5	165.7	181.2	166.3	196.5	242.0	307.7
Sisal	279.4	347.5	392.1	168.1	151.6	141.3	174.1	211.7	152.0	163.7	183.1	192.5	206.2	216.1	212.9	212.3
Wool (greasy)	983.5	2 055.6	1 506.6	1 459.7	1 491.6	1 135.9	1 091.0	1 168.3	973.2	1 034.7	1 133.1	1 239.9	1 257.8	1 197.7	1 118.2	1 069.1
Rubber (natural)	385.8	880.9	592.2	579.2	626.2	525.4	665.9	743.6	559.6	635.5	687.9	758.2	801.7	822.8	715.2	634.3

ANNEX TABLE 15. - AVERAGE WORLD EXPORT UNIT VALUE AND TERMS OF TRADE OF AGRICULTURAL AND FOREST PRODUCTS BY MAIN COMMODITY GROUPS

	Average 1948-52	1949	1950	1951	1952	1953	1954	1955	1956	1957	1958	1959	1960 (Preliminary)
	Indices 1952-53 average = 100												
AVERAGE EXPORT UNIT VALUES (At current prices)													
All agricultural products	100	89	93	117	103	97	99	94	92	94	87	85	86
Food and feedingstuffs	102	101	90	102	101	99	93	89	89	91	87	87	86
Beverages and tobacco	87	73	89	99	99	101	123	105	98	98	99	87	84
Agricultural raw materials	107	82	100	157	108	92	92	95	91	95	79	78	86
Forest products [1]	93	81	72	114	107	93	93	94	95	94	90	88	91
Manufactured goods [2]	96	95	84	100	102	98	96	97	101	104	104	104	107
TERMS OF TRADE [3]													
All agricultural products	103	94	110	117	101	99	103	97	91	90	84	82	80
Food and feedingstuffs	106	106	107	102	99	101	97	92	88	88	84	84	81
Beverages and tobacco	90	76	106	99	97	103	128	108	97	95	96	84	78
Agricultural raw materials	110	86	119	157	106	94	96	98	90	91	76	75	80
Forest products [1]	96	85	85	114	105	95	97	97	94	90	87	85	85

[1] Not included in " All agricultural products ". - [2] United Nations index of average unit value of manufactured goods in international trade, adjusted to 1952-53 base. - [3] Indices of current prices deflated by index of average unit values of manufactured goods.

ANNEX TABLE 16. - EXPENDITURE ON FOOD AND BEVERAGES AS PERCENTAGE OF TOTAL CONSUMERS' EXPENDITURES IN SELECTED COUNTRIES

Country	1953	1954	1955	1956	1957	1958	1959
	Percentage						
Ghana	...	...	60.0	62.0	62.0	62.5	62.9
Ceylon	57.2	57.0	56.8	56.6	57.4	56.5	56.0
Ecuador	55.1	54.9	55.0	55.2	...	...	...
Taiwan	57.9	57.8	57.8	56.1	55.0	54.3	53.4
Korea, South	53.1	53.1	53.1	57.2	61.3	55.9	52.8
Italy	53.5	53.7	53.2	52.7	52.2	52.2	52.0
Ireland	48.0	47.9	48.0	48.0	48.1	48.7	48.6
Japan [1]	55.5	55.2	54.5	51.0	50.2	49.6	47.2
Rhodesia	...	47.6	46.3	45.7	45.5	46.3	46.3
Peru	44.6	44.5	44.6	44.5	44.5	44.8	...
Finland	45.2	44.5	43.4	44.0	45.3	46.0	44.5
Jamaica	50.5	47.7	46.6	45.6	43.9	44.3	43.9
Austria	45.9	45.4	44.4	43.9	43.8	43.7	42.9
Puerto Rico [1]	45.0	44 6	44.3	42.7	41.3	41.6	41.0
Malta	...	44.7	45.1	43.5	43.6	42.5	40.5
France	42.7	42.5	42 0	40.5	39.6	39.6	39.7
United Kingdom	39 6	38.5	37 5	38.8	38.8	38.2	37.5
South Africa	39.4	39.0	37.5	37.6	37.0	36.5	36.0
Norway	35.2	35.5	35.6	35.8	34.6	34.7	34.9
Belgium	35.3	35.0	33.9	34.3	33.8	35.0	34.6
Netherlands	37.2	36.5	34.8	34.4	34.1	34.4	34.3
Sweden	36.4	35.9	36.1	36.3	35.2	34.6	33.7
Australia	33.6	32.6	33.0	33.5	32.4	32.0	31.1
Canada	29.1	29.0	28.4	28.3	28.7	28.8	28.1
Denmark	28.1	27.7	28.5	28.3	27.2	27.0	...
United States	27.8	27.9	26.7	26.6	26.7	26.4	25.2

SOURCE: United Nations, *Yearbook of national accounts statistics, 1960.*
[1] Includes expenditure on tobacco.

ANNEX TABLE 17. - INSTITUTIONAL AGRICULTURAL CREDIT GRANTED AND OUTSTANDING IN SELECTED COUNTRIES

	Loans advanced during						Loans outstanding at the end of					
	1951	1952	1953	1955	1957	1959	1951	1952	1953	1955	1957	1959
	Million U.S. dollars											
NORTH AMERICA												
Canada	...	...	...	...	...	...	...	552	591	604	641	707
United States	3 502	2 900	2 815	3 358	3 575	4 729	7 837	8 408	8 249	9 813	11 247	13 906
OCEANIA												
Australia	582	699	...	...	...	...	...	486	538	892	923	1 016
New Zealand	88	101	80	111	125	...	202	239	241	369	441	503
WESTERN EUROPE												
Austria	41	...	...	...	...	...	...	57	63	100	118	155
Belgium	14	21	28	36	50	45	83	90	103	127	160	179
Denmark	...	...	...	...	...	...	...	...	...	...	1 094	1 260
Finland	...	...	...	...	...	...	187	193	223	403	418	368
France	...	1 241	1 629	1 966	763	...	...	965	1 179	1 508	2 122	...
Germany, Western	...	180	229	495	551	783	220	330	456	949	1 501	2 146
Greece	...	...	...	113	183	184	...	...	...	117	175	...
Italy	155	196	230	389	430	490	132	167	221	405	567	733
Netherlands	...	...	30	39	...	...	...	...	100	140	...	...
Norway	...	...	...	...	...	...	210	204	234	283	307	339
Poland	...	...	...	2 475	3 504	3 312	...	...	...	2 376	3 410	3 691
Portugal	...	...	...	114	...	155	...	...	...	30	...	47
Spain	3	...	13	37	34	38	12	–	–	62	97	84
Sweden	...	...	...	...	...	...	584	575	618	714	767	939
United Kingdom	...	...	...	...	...	...	...	632	637	741	...	940
Yugoslavia	...	80	36	131	382	1 031	...	...	132	264	465	...
LATIN AMERICA												
Argentina	...	423	581	...	451	...	...	461	583	497	362	...
Brazil	316	476	...	...	...	...	391	546	...	...	...	...
British Guiana	...	0.3	0.3	0.4	0.8	...	0.6	0.7	0.7	0.8	...	...
British Honduras	...	...	...	...	8.4	...	...	...	...	...	...	...
Chile	128	...	80	54	90	...	...	99	83	...	30	...
Colombia	170	210	239	400	229	219	80	108	110	323	184	203
Cuba	...	16	...	...	...	32	63	58	56	...	...	36
Dominican Republic	9	17	38	18	11	16	...	15	...	...	...	...
Ecuador	22	17	20	38	42	25	...	...	...	...	...	...
French Guiana	...	...	...	...	0.1	...	...	...	...	...	0.1	...
Guadaloupe	...	...	...	...	2.6	...	...	...	...	...	2.6	...
Honduras	...	...	2.7	4.0	...	...	...	...	2.6	2.0	...	...
Jamaica	...	0.1	2.8	0.8	1.5	...	...	...	2.3	2.5	4.2	...
Martinique	...	1.1	0.8	1.2	2.0	...	...	1.2	1.2	1.4	2.5	...
Mexico	...	315	134	504	720	...	...	118	124	86	97	...
Panama	...	...	0.8	1.9	2.3	...	...	...	0.6	1.5	2.1	...
Paraguay	...	...	1.0	...	0.7	...	...	...	0.7	0.6	0.5	...
Peru	10	12	15	17	27	...	...	...	...	...	...	...
Puerto Rico	...	30	27	37	...	...	...	33	35	44	...	...
Surinam	...	...	...	...	5	...	...	...	...	...	1	...
Trinidad	...	...	...	...	13	...	...	...	...	...	15	...
Venezuela	...	...	...	...	...	...	...	...	...	...	111	...
NEAR EAST												
Cyprus	5	5	5	...	14	14	6	7	10	...	21	25
Iran	...	...	11	18	...	25	...	...	5	8	...	39
Iraq	...	...	4	3	...	2	...	...	...	1	...	2
Israel	...	...	...	*90	*86	96	...	56	45	285	248	304
Jordan	...	...	1	2	...	3	...	...	...	...	...	13
Lebanon	...	1	1	2	6	14	...	...	...	...	...	1
Libya	...	68	203	...	...	1	...	...	...	...	...	1
Sudan	2	2	8	...	...	...	12	...	...	...	...	...
Turkey	234	431	360	421	527	...	...	333	365	485	787	...
U.A.R.: Egyptian Region	35	55	57	38	53	84	6	22	20	20	16	18
Syrian Region	10	9	2	4	...	8	9	...	...	23	...	7

Annex table 17. - Institutional agricultural credit granted and outstanding in selected countries (*concluded*)

	Loans advanced during						Loans outstanding at the end of					
	1951	1952	1953	1955	1957	1959	1951	1952	1953	1955	1957	1959
	Million U.S. dollars											
FAR EAST												
Burma	8	13	13	11	11	15	...	...	...	8	...	...
Cambodia	0.4	1	2	3	4	5	...	1	1	2	1	3
Ceylon	7	9	7	6	12	12	10	12	13	14	17	17
Federation of Malaya	...	4	1	1	1	1	...	6	1	1	2	3
Hong Kong	...	...	0.1	0.4	0.2	0.5	...	...	...	0.2	...	...
India	109	141	162	181	348	435	...	...	...	...	...	...
Indonesia	...	56	94	77	...	...	...	...	79	85	68	...
Japan	1 270	833	...	...	...	...	280	384	701	1 010	1 422	1 548
Korea, South	...	...	11	73	216	...	...	...	7	50	144	176
Laos	...	...	0.3	0.1	...	–	...	...	...	...	...	–
Pakistan	...	...	...	...	31	...	10	15	43	...	26	...
Philippines	80	98	115	128	173	304	86	144	171	216	389	...
Ryukyu Islands	...	...	...	5	11	...	...	...	...	3	7	...
Sarawak	...	...	7	11	10	9	...	...	5	15	14	18
Taiwan	...	...	...	...	389	...	...	...	...	...	63	...
Thailand	2	4	4	2	...	...	6	9	68	12	...	...
Viet-Nam, South	...	...	0.4	3	7	...	...	...	...	2	...	...
AFRICA												
Algeria	...	181	173	187	...	...	...	83	102	114	...	...
Congo (Leopoldville)	0.4	...	2	3	3	...	1	...	4	19	27	...
Ethiopia	...	0.1	0.1	0.1	...	...	0.1	0.1	0.2	...	...	...
Ghana	0.8	1.4	...	3	...	...	0.3	0.3	...	...	3	...
Kenya	...	...	...	...	25	22	...	...	...	35	33	...
Madagascar	...	3	1	2	...	...	...	4	3	3	...	...
Mauritius	...	...	...	...	16	...	...	...	...	...	10	...
Morocco	...	...	27	29	45	...	...	...	30	34	37	...
Mozambique	...	...	0.1	...	...	...	1	1	1	...	...	...
Nigeria	1	1	2	4	4	7	0.3	0.4	0.7	2	3	8
Reunion	...	...	...	...	8	...	...	...	...	...	9	...
Rhodesia and Nyasaland, Fed. of	...	...	...	...	...	...	...	...	...	...	...	56
Ruanda-Urundi	...	...	...	...	...	...	...	...	...	...	...	0.1
South Africa	...	...	...	...	...	...	...	...	...	...	...	416
Tanganyika	...	...	...	...	...	...	7	* 7	* 8	* 9	9	14
Togo	...	...	...	...	5	51	...	...	...	...	5	68
Tunisia	...	4	7	...	...	...	...	12	15	...	...	...
Uganda	...	...	...	...	...	...	...	...	...	...	...	0.2

* FAO estimate.

TIPOGRAFIA SQUARCI - ROMA

THE STATE OF FOOD AND AGRICULTURE

SPECIAL CHAPTERS

In addition to the usual review of the recent world food and agricultural situation, each issue of this report from 1956 has included one or more special studies of problems of longer-term interest. Special studies in earlier issues have covered the following subjects:

1956

Some factors influencing the growth of international trade in agricultural products

World fisheries: General trends and outlook with examples from selected countries

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

1960

Programing for agricultural development

SALES AGENTS FOR FAO PUBLICATIONS

Argentina	Editorial Sudamericana, S.A., Alsina 500, Buenos Aires.
Australia	Melbourne University Press, 369 Lonsdale Street, Melbourne, C. I.
Austria	Wilhelm Frick Buchhandlung, Graben 27, Vienna 1.
Belgium	Agence et Messageries de la Presse, 14-22 rue du Persil, Brussels.
Bolivia	Librería y Editorial "Juventud," Plaza Murillo 519, La Paz.
Burma	(*Wholesale*) Orient Longmans Private Ltd., 17 Chittaranjan Avenue, Calcutta 13, India.
Canada	Queen's Printer, Ottawa.
Ceylon	M. D. Gunasena and Co. Ltd., 217 Norris Road, Colombo 11.
Chile	Sala y Grijalbo Ltda., Bandera 140-F, Casilla 180D, Santiago.
Colombia	"Agricultura Tropical," Avenida Jiménez Nº 7-25, Ofes. 811/816, Bogotá; Librería Central, Calle 14, No. 6-88, Bogotá.
Costa Rica	Imprenta y Librería Trejos S.A., Apartado 1313, San José.
Denmark	Ejnar Munksgaard, Norregade 6, Copenhagen K.
Ecuador	"La Hacienda," Escobedo No. 1003 y P. Icaza, Casilla No. 3983, Guayaquil; Librería Muñoz Hnos. y Cía., Apartado 522, Quito.
El Salvador	Manuel Navas y Cía., 1ª Avenida Sur 35, San Salvador.
Ethiopia	International Press Agency, P. O. Box No. 120, Addis Ababa.
Federation of Malaya	Caxton Stationers Ltd., 13 Market Street, Kuala Lumpur.
Finland	Akateeminen Kirjakauppa, 2 Keskuskatu, Helsinki.
France	Les Editions A. Pedone, 13 rue Soufflot, Paris 5ᵉ.
Germany	Paul Parey, Lindenstrasse 44-47, Berlin SW 61.
Greece	"Eleftheroudakis," Constitution Square, Athens.
Guatemala	Sociedad Economico Financiera, Edificio Briz, Despacho 207, 6ª Av. 14-33, Zona 1, Guatemala.
Haiti	Max Bouchereau, Librairie "A la Caravelle," B. P. 111B, Port-au-Prince.
Hong Kong	Swindon Book Co., 25 Nathan Road, Kowloon.
Iceland	Halldor Jonsson, Mjostraeti 2, Reykjavik; Jonsson & Juliusson, Garöastraeti 2, Reykjavik.
India	(*Wholesale*) Orient Longmans Private Ltd., 17 Chittaranjan Avenue, Calcutta 13; Nicol Road, Ballard Estate, Bombay 1; 36A Mount Road, Madras 2; Kanson House, 24/1 Asaf Ali Road, Post Box 386, New Delhi; Gunfoundry Road, Hyderabad 1; (*Retail*) Oxford Book and Stationery Co., Scindia House, New Delhi; 17 Park Street, Calcutta.
Indonesia	Pembangunan Ltd., 84, Gunung Sahari, Jakarta.
Iran	Bagher Shariat, Atabak Road, Ferdowsi Str., Teheran.
Iraq	Mackenzie's Bookshop, Baghdad.
Ireland	The Controller, Stationery Office, Dublin.
Israel	Blumstein's Bookstores Ltd., P. O. Box 4101, Tel Aviv.
Italy	Libreria Internazionale U. Hoepli, Galleria Piazza Colonna, Rome; A.E.I.O.U., Via Meravigli 16, Milan.
Japan	Maruzen Company Ltd., 6 Tori-Nichome, Nihonbashi, Tokyo.
Korea	The Eul-Yoo Publishing Co., Ltd., 5, 2-Ka, Chong-ro, Seoul.
Lebanon	Librairies Antoine, B. P. 656, Beyrouth.
Mexico	Manuel Gómez Pezuela e Hijo, Donceles 12, México, D. F.
Morocco	Centre de diffusion documentaire du B. E. P. I., 8, rue Michaux-Bellaire, Rabat.
Netherlands	N. V. Martinus Nijhoff, Lange Voorhout 9, The Hague.
New Zealand	Whitcombe and Tombs Ltd., Auckland, Wellington, Hamilton, Christchurch, Dunedin, Invercargill, Timaru.
Nigeria	University Bookshop Nigeria Ltd., University College, Ibadan.
Norway	Johan Grundt Tanum Forlag, Karl Johansgt. 43, Oslo.
Pakistan	**East:** Orient Longmans Private Ltd., 17 Nazimuddin Road, Dacca; **West:** Mirza Book Agency, 9-A, Shah Alam Market, Lahore 7.
Panama	Agencia Internacional de Publicaciones, J. Menéndez, Plaza de Arango No. 3, Panamá.
Paraguay	Agencia de Librerías de Salvador Nizza, Calle Pte. Franco No. 39-43, Asunción.
Peru	Librería Internacional del Perú, S. A., Casilla 1417, Lima.
Philippines	The Modern Book Company, 518-520 Rizal Avenue, Manila
Poland	Ars Polona, Krakowskie Przedmiescie 7, Warsaw.
Portugal	Livraria Bertrand S.A.R.L., Rua Garrett 73-75, Lisbon.
South Africa	Van Schaik's Book Store, Pty., Ltd., P. O. Box 724, Pretoria.
Spain	José Bosch Librero, Ronda Universidad 11, Barcelona; Librería Mundi-Prensa, Castelló 37, Madrid; Librería General, Independencia 8, Saragossa.
Sweden	C. E. Fritze, Fredsgatan 2, Stockholm 16; Gumperts A. B., Göteborg; Henrik Lindstahls Bokhandel, Odengatan 22, Stockholm.
Switzerland	Librairie Payot, S. A., Lausanne and Geneva; Hans Raunhardt, Kirchgasse 17, Zurich 1.
Taiwan	The World Book Company Ltd., 99 Chungking South Road, Section 1, Taipeh.
Thailand	Requests for FAO publications should be addressed to: FAO Regional Office for Asia and the Far East, Maliwan Mansion, Bangkok.
Turkey	Librairie Hachette, 469 Istiklal Caddesi, Beyoglu, Istanbul.
United Arab Republic	Librairie de la Renaissance d'Egipte, 9 Sh. Adly Pasha, Cairo.
United Kingdom and Crown Colonies	H. M. Stationery Office, P. O. Box 569, London S.E.1. *Branches at:* 13a Castle Street, Edinburgh 2; 2 Edmund Street, Birmingham 3; Tower Lane, Bristol 1; 29 King Street, Manchester 2; 109 St. Mary Street, Cardiff; 80 Chichester Street, Belfast.
United States of America	Columbia University Press, International Documents Service, 2960 Broadway, New York 27, New York.
Uruguay	Hector d'Elia, Oficina de Representación de Editoriales, Plaza Cagancha 1342, Montevideo.
Venezuela	Suma, S. A., Calle Real de Sabana Grande, Caracas; Librería Politécnica, Apartado del Este, 4845, Caracas.
Yugoslavia	Drzavno Preduzece, Jugoslovenska Knjiga, Terazije 27/11, Belgrade; Cankarjeva Zalozba, P. O. Box 41, Ljubljana.
Other countries	Requests from countries where sales agents have not yet been appointed may be sent to: Distribution and Sales Section, Food and Agriculture Organization of the United Nations, Viale delle Terme di Caracalla, Rome, Italy.

Price $2.00 - 10s.

FAO publications are priced in U.S. dollars and pounds sterling. Payment to FAO sales agents may be made in local currencies.

8.61/E/1/5500