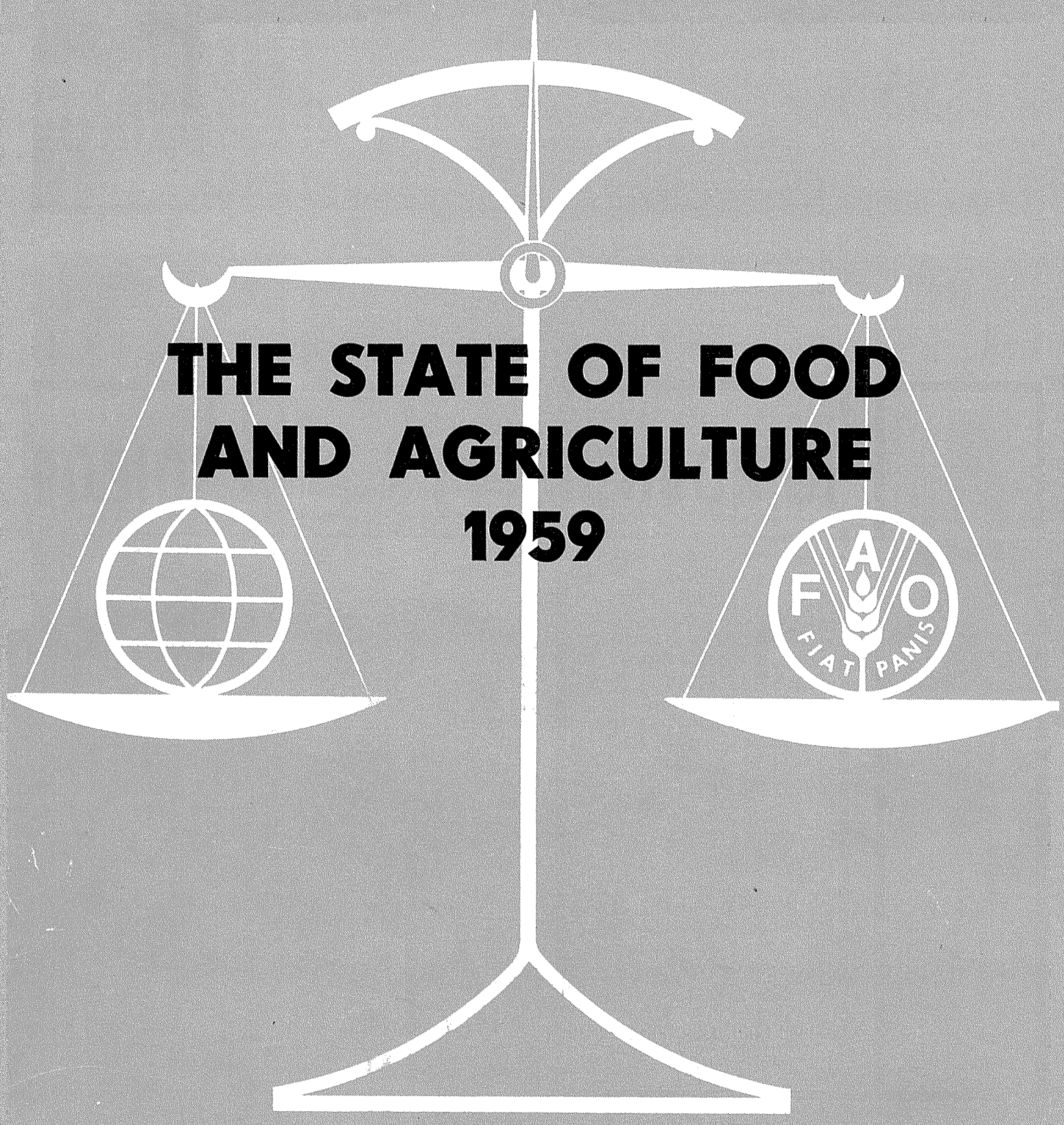
THE STATE OF FOOD AND AGRICULTURE 1959



FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS

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Corrigendum

Page 3, para. 2, line 9, read: *0.9 percent* instead of 9 percent.

Page 23, para. 1, line 4, read: *0.9 percent* instead of 9 percent.

Page 103, Figure III-6, Japan, Urban, « Other food » includes fats and oils which should not be shown separately.

Page 107, Figure III-8, key, read: *Calories derived from other nutrients* instead of Total number of calories consumed per day.

Page 107, Figure III-8, Ivory Coast, Calories derived from fat (about 8 percent) have been omitted.

Page 110, Table III-11, Footnote 3 refers to all data for New Zealand.

Page 123, Table III-16, Average hours of work per 100 kilograms of output, Greece, tobacco, read: *500* instead of 50.

Page 193, Annex Table 14, read: *Japan* instead of Turkey
read: *Jamaica* instead of Japan
read: *Turkey* instead of Jamaica

Page 196, Annex Table 17, India, Rural, Fat, read: *17* instead of 169.

Page 196, Annex Table 17, Ivory Coast, Fat, Village, insert *19*; « Campement », insert *22*.

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FOOD AND AGRICULTURE ORGANIZATION OF THE UNITED NATIONS
ROME 1959

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FOREWORD

The most pressing problems of food and agriculture at the present time are centered in the economically less-developed countries of the world. In the more highly-developed countries a level of productivity has been reached which makes it possible for the relatively small percentage of the population engaged in agriculture to provide a nutritionally adequate diet for the rest of the population, and also to earn incomes which, even though they usually lag behind incomes in other occupations, are far in advance of those of farmers in less-developed countries. In some instances, as is well known, a major problem, and it is not a light one, is how to dispose of the abundant supplies resulting from the great advances in agricultural methods made during the last few decades.

In contrast, in the less-developed countries, although a large part of their populations is engaged in agriculture, production is often too low to satisfy even the simple, and generally nutritionally inadequate, diets imposed by their general poverty, the more so in view of the postwar upsurge in the growth of population. Many less-developed countries have therefore had either to curtail exports, thus reducing badly needed earnings of foreign exchange, or alternatively to rely increasingly on food imports. In either case their capacity to import capital goods for general economic development has been seriously impaired.

In emergencies invaluable help has been received from the surplus supplies accumulated in more developed countries. But welcome though such aid has been, in the long run the twin problems of rural poverty and inadequate food supplies in less-developed countries can be overcome only by building up their own agricultures. It is therefore of the highest importance to determine what social, economic, and technical improvements are needed to bring this about. For until then, the extreme poverty of the cultivators in many less-developed countries (scarcely imaginable by the people of more-developed countries) will continue, food supplies will remain precarious, and economic progress as a whole will be seriously delayed.

These are the central themes of this year's annual report on the state of food and agriculture. After a brief general summary, there is the usual chapter analyzing current developments in the world food and agricultural situation and in agricultural policies. While the check to agricultural expansion in 1957/58 was overcome in 1958/59, the increased output largely represented a recovery in the more-developed countries, and much of this has served only to swell stockpiles of unsaleable commodities. Moreover, the recession in the more-industrialized countries led to a fall both in the volume and prices of agricultural exports, especially of raw materials. This seriously weakened the economic position of agricultural exporting countries, among them most of the less-developed countries.

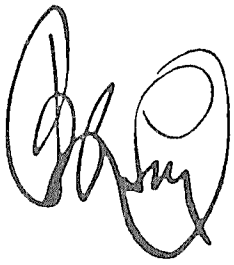
The general survey is followed by two special chapters. The first of these examines the levels of living among farm people in countries at different stages of economic development, and how they compare with those in other occupations. It goes on to consider the underlying factors which account for the disparities in incomes and levels of living between farm and non-farm people, and the still greater disparities between farm people in less- and more-developed countries. Particular attention is given to the bearing of the gradual shift of manpower from agriculture to other sectors of the economy on agricultural productivity and levels of living.

These considerations set the stage for the second of the special chapters, which examines the more practical problems of agricultural development in the less-developed countries. It

is not only concerned with the ways of providing farmers with the technical knowledge and the credit and investment resources without which no substantial improvement is possible; special attention is also given to the measures needed to create an economic and social environment favorable to agricultural expansion.

The more closely the situation is examined, the more one is impressed by the odds against the cultivator in many less-developed countries. Handicapped by ignorance, poverty, and debt, he must face great fluctuations of price, and because of his lack of resources must usually sell immediately after the harvest when prices are lowest. If he improves his methods of farming, much of the benefit of his increased output may go to the merchant or landlord to whom he is indebted. Often he has so little security of tenure that he has no real inducement to improve his holding. When all is considered, the wonder is that agricultural production has increased as much as it has. Until these disabilities are reduced it seems inevitable that much of the teachings of the farm advisory services will fall upon stony ground.

Within the limits of a single chapter it is of course impossible to go into these matters in detail. The aim has been rather to examine the inter-relationships of the various approaches, for example, through improvements in conditions of land tenure, in marketing and price stability, in education, and to examine also the pre-conditions which make agricultural development possible. The whole report underlines once more the need for an integrated approach if agricultural and general economic development is to be fully effective. It brings out that while agricultural development must keep pace with other sectors, progress in these sectors in turn hinges on a parallel development in agriculture. Although in the early stages of economic development agriculture must be the main source of both manpower and investment resources, agriculture is none the less a key sector in its own right. There has been more than one example in postwar history of over-all economic development being hamstrung by inadequate attention to agriculture.



B. R. SEN

Director-General

Chapter I - SUMMARY

Chapter II - World review and outlook

Agricultural production

World agricultural production, excluding Mainland China, is provisionally estimated as more than 4 percent higher in 1958/59 than in each of the two preceding seasons. While production increased in every region of the world, the bulk of the expansion was contributed by North America, Oceania, and the U.S.S.R. Much of the increase, especially in the two former areas and in some Far Eastern countries, amounted to recovery from the low level of production in 1957/58, when total world output had failed to increase. A very large rise in agricultural production is also reported in Mainland China in 1958/59.

Fishery production in 1958 appears to have been at about the same level as in the previous year in most countries, though the catch is reported to have doubled in Mainland China. The output of forest products was affected by the recession in economic activity in North America and Western Europe and total removals of industrial roundwood are provisionally estimated to be approximately 9 percent less in 1958 than in 1957.

In spite of the recovery in agricultural production in 1958/59, the slowing down in the growth of per caput production, already apparent in the more-developed parts of the world, seems to be gradually extending to the less-developed regions, with the exception of Latin America as a whole. The situation varies from country to country, and in several countries of Southeast Asia and in parts of Latin America and Africa, agricultural production is falling behind or barely keeping pace with population growth. For the less-developed regions as a whole, however, the average annual growth of agricultural production remains nearly 1 percent greater than the growth of population.

Per caput agricultural production in both the Far East and Latin America has not yet recovered from the setback caused by the war, while in Africa per caput food production appears recently to have fallen back to approximately the prewar level. In the Far East even an improvement to the prewar level would leave per caput production at less than half the low world average. Per caput production is not, however, a reliable guide to consumption levels. Because of smaller exports or larger imports, per caput supplies of food available for consumption in each of the less-developed regions are somewhat higher than before the war.

In the more-developed countries the slackening in agricultural expansion appears to be mainly due to the slow growth of demand. In the less-developed countries the demand, at least for foodstuffs, continues to expand rapidly, and any slowing down of agricultural development is likely to be due to other factors, e.g., lack of investment capital or instability of export markets.

Also largely as a result of demand factors, the world output of livestock products has been increasing faster than crop production throughout the postwar period. In the more-developed regions the rate of increase of livestock production has slowed down in the last few years, but in the less-developed group it appears to have been maintained, so that it is now approximately the same as for crops. In the latter group of regions, however, the actual output of livestock products is relatively small and represents a much lower proportion of total agricultural production than in the more-developed areas.

According to the limited data available up to the end of June, agricultural production will probably again increase in 1959/60, though it is likely that the expansion will be somewhat smaller than in the season just ended. North American agricultural production may well exceed the record level of 1958/59, given normal weather for the remainder of the season.

Changes in stocks

Much of the increase in agricultural production in 1958/59 did not move into consumption. The large cereal harvests, especially in the United States, have led to a sharp increase in stocks of wheat and coarse grains, and there has also been a marked build-up of stocks of coffee and sugar. A small further reduction in cotton stocks in importing countries during 1958/59 was partly offset by slightly larger stocks in the United States and other net exporting countries. Total world stocks of agricultural products, which appear to have been fairly stable for the last few years, are estimated to have increased by some 10 percent during 1958/59. The value of stocks held by the United States Commodity Credit Corporation, which had declined slightly in the previous two years, rose by more than 20 percent.

Economic activity and the demand for agricultural products

The demand for foodstuffs was generally well maintained during the 1957-58 recession. For raw materials of agricultural origin and also for forest products, however, demand fell sharply. As a result of lower export earnings many of the less-developed countries had to reduce planned expenditures on imports and on development programs.

At mid-1959 recovery from the recession appears to be under way. Although this has not yet been reflected in any marked revival in international trade in agricultural products, the prices of some commodities on world markets have shown signs of recovering. In spite of the relatively swift passing of the recession, however, the short-term outlook is still uncertain. The level of economic activity may remain relatively stable after regaining the pre-recession position. In the industrialized countries the demand for raw materials of agricultural origin would then show only a moderate improvement, while the demand for food, which has remained steady, is unlikely to change much.

International trade in agricultural products

For raw materials of agricultural origin, the commodities that were the most severely affected by the recession, the volume of exports fell by some 8 percent in 1958 and their average price by about 16 percent, so that the total export earnings of this group were 23 percent less than in 1957. The fall in export earnings was particularly marked for wool, cotton, and rubber and also for forest products. Foodstuffs and beverage crops in general fared better than agricultural raw materials, though, here too, some commodities suffered heavy losses.

For agricultural products as a whole, the volume of trade in 1958 was about 3 percent less than in 1957, in contrast to the increases that have occurred in the last few years. Prices in world markets fell by about 7 percent and total earnings from agricultural exports by about 9 percent. As the index of average prices of manufactured goods in world trade showed no change from 1957 to 1958, the "terms of trade" and the total purchasing power of agricultural exports for manufactured goods were also reduced by about 7 percent and 9 percent, respectively.

The "terms of trade" for agricultural products as a whole on world markets have fallen almost continuously since the Korean boom and in 1958 were lower than in any other postwar year. Nevertheless, they remain about one-third better than the depressed level prevailing just before the war, though this improvement applies almost entirely to the exports of the less-developed countries, which, however, were particularly affected by the depression of the 1930's.

Since the war there has been a considerable fall in the volume of net exports of food and feedingstuffs from the less-developed to the more-developed regions. Because food production in the former group of regions has in general not kept pace with needs, some countries have had to curtail exports, while others have become substantial net importers of foodstuffs. Net exports of beverage crops, on the other hand, have expanded fairly steadily, as the domestic market for these products in the less-developed countries is still too small greatly to affect the situation. Net exports of raw materials have fluctuated at roughly the prewar average, in accordance with the level of economic activity in industrialized countries, and export outlets have been limited by synthetic substitutes and by the more economic use of raw materials in industry. Another factor limiting the volume of world trade in agricultural products has been increased domestic production in the more-industrialized countries of all except those commodities that can be produced only in tropical zones.

In 1958 the sharpest fall in earnings from agricultural exports appears to have occurred in Oceania, where a decline of as much as 23 percent reflected the unfavorable situation for wool and dairy products, together with reduced exports of cereals following the small Australian crops of 1957/58. In Latin America, the Far East, and the Near East the fall was of the order of 10 percent.

The value of exports from North America, including shipments under special terms, was also some 10 percent lower than in 1957, though, in contrast to other regions, this reflected a decline in volume more than in prices. The volume of North American cotton exports fell particularly sharply. United States exports of agricultural products under special terms were 18 percent lower (in imputed value) than in 1957, but for the fiscal year 1958/59 they are expected to have been approximately the same as in 1957/58. In the first half of 1958/59 shipments under these special programs represented about one third of total United States agricultural exports.

Western European export earnings fell by only 4 percent in 1958, as lower prices were partly offset by larger volume. For Africa both the volume and value of agricultural exports were maintained at about the 1957 level, the latter chiefly because of considerably increased prices for cocoa.

On the import side, the major change was inevitably in Western Europe, which accounts for more than half of the world's imports of agricultural products.

U.S.S.R. imports of such products as fruit, beverages, tobacco, wool, and rubber have expanded sharply in recent years with the increased emphasis on consumer needs. Increased domestic production has led to larger exports of many products, including cereals, cotton, hemp, and flax, and reductions in net imports, especially of vegetable oils and some animal products, while the country has become a net exporter of butter and cheese to Eastern Europe. U.S.S.R. grain exports fell sharply in 1957/58 as a result of lower harvests, but in 1958/59 they are expected to have risen to 8 million tons. Exports from Mainland China, which is the U.S.S.R's largest supplier of agricultural imports, appear to have increased sharply in 1958, especially those of rice. While the agricultural trade of the U.S.S.R., Eastern Europe, and China with the rest of the world is now much greater, it seems likely that the bulk of their trade will continue to be among them-selves.

Farm prices and incomes

In spite of the fall in prices on world markets, farm prices and incomes appear to have been fairly well maintained in 1958 in those countries (mainly the more-industrialized) where effective price support measures were operated. Some of the gains in gross returns, however, were absorbed by higher costs. In most of the more-developed countries for which data are available, net farm incomes are estimated to have increased in 1958 (or 1958/59) in contrast to the rather widespread declines in the preceding year. This was largely due, especially in North America and Australia, to the substantial rise in output. Few reliable data on farm prices and incomes are available for the less-developed countries.

Consumer prices

Except in a few countries, the increase in food production appears to have done little to stem the rise in the cost of food to consumers, and retail food prices generally continued their slow rise during 1958. The tendency to higher retail prices seems to be greater in the less-developed than in the more-industrialized countries. In a few of the countries where there has been rapid inflation, especially in Latin America, new measures to stabilize prices have had some success in 1958.

In most of the main agricultural exporting countries the retail cost of food has tended to rise more slowly than the general cost of living in the past five years, reflecting the weakness of agricultural prices on world markets. In most of the more-industrialized countries the two indices have kept fairly closely in step. In many less-developed countries, however, where population and the demand for food are rising quickly, food prices have tended to increase faster than the cost of living as a whole.

Agricultural policies and development plans

The contrasting agricultural situations of the more- and less-developed countries are reflected with particular sharpness in their agricultural policies. In the former group, where, although agricultural production can be increased quite readily, the demand for food and agricultural

products is rising only slowly, agricultural policies are increasingly concerned with problems of surplus production of certain commodities. Policy changes in these countries in 1958/59 were mostly rather small adjustments designed to modify the pattern of production and to safeguard farm incomes. In the United States the principal change was the abandonment of the Acreage Reserve Program of the Soil Bank, which had failed to effect the desired temporary check in the momentum of agricultural expansion. In Western Europe there were further modifications to price policies, with the object of guiding production away from commodities tending to be in oversupply, and in some countries price guarantees were reduced.

The emphasis of agricultural policies in the less-developed countries, on the other hand, is on a rapid increase in production to meet the steadily growing demand. In a number of these countries policy changes in 1958/59 were comparatively far-reaching, in line with the urgency of the need to overcome obstacles to agricultural expansion. While the introduction of the rural communes in Mainland China is the extreme example, a tendency toward more radical measures was in evidence in several other countries also. One instance is the new land reform laws in Cuba, Iraq, Pakistan, and the Syrian Province of the United Arab Republic, together with increased activity under earlier laws in a number of other countries. There has also been greater emphasis on co-operative and credit facilities, especially for the beneficiaries of the new land reforms. Particular stress is being laid on co-operatives in India, where substantial changes in rural organization are under discussion. In certain Far Eastern countries, where food price policies previously tended to favor the consumer, there are signs of changes in these policies with the object of increasing incentives to the producer.

Many of the new development plans announced or begun in the less-developed countries during 1958/59 give significantly greater emphasis to agricultural production. Changes in planning machinery were again made in a number of countries, especially in the Far East and Near East, and in the latter region most of the semi-autonomous planning bodies have now been abolished and the implementation of development projects assigned to the different ministries.

The U.S.S.R. and the Eastern European countries are to some extent special cases, not only in that their economies are centrally planned but also because, although some of them are relatively highly industrialized, the demand for agricultural products has long been unsatisfied and, as in the less-developed countries, is rising faster than production. The more recent plans of these countries, including those begun in the U.S.S.R. and elsewhere in 1958/59, strongly emphasize the rapid expansion of agricultural production. Considerable modifications in agricultural organization are still being made, especially in the U.S.S.R.

The continuing tendency toward regional economic co-ordination affects both the more- and the less-developed regions of the world and may eventually have considerable influence on agricultural policies. The European Economic Community started the operation of a common market at the beginning of 1959, and preparatory work toward common market arrangements in Latin America and the Near East has been intensified.

Commodity survey and outlook

The chapter is conluded by the usual short notes on the situation and short-term outlook for each of the major agricultural, fishery, and forest products. These are already highly condensed and do not lend themselves to further summary.

Chapter III - Agricultural incomes and levels of living in countries at different stages of economic development

There is a growing interest in measuring the incomes and levels of living of agricultural populations, partly for social reasons and partly as a guide to policy, e.g., on agricultural support measures or on plans of agricultural development. From comparisons in the first sections of the chapter it appears that in all but a few countries average incomes in agriculture are lower than those

in other occupations. Nevertheless, they bear a relationship to the general level of income of the country and, as would be expected, differences between farm incomes in countries at different stages of economic development are much greater than those between the farm and nonfarm sector in the same country. Information on the social amenities and welfare of farm people is even more scattered and incomplete than on incomes, but comparisons indicate that, here too, rural people are less well served than those in towns. A second section of the chapter discusses recent trends in levels of living in agriculture so far as data are available. The final section deals with some of the factors which determine existing levels of living in agriculture, in particular productivity and the distribution of the population between agriculture and other sectors of the economy.

Agricultural incomes

Average incomes in agriculture in relation to those in other occupations have been estimated in three ways: from national income data, from wage rates in agriculture and in industry, and from surveys of household expenditure and consumption. The disparities between agricultural and urban incomes generally appear to be widest when wage rates are compared, partly because agricultural labor is usually classified as unskilled. Measured by national income data, the disparities are similar, though generally somewhat smaller, and in most countries the "value added" per person in agriculture lies betwen 40 to 60 percent of the average in other occupations. Household surveys in the limited number of countries for which they are available usually show smaller disparities, partly because some portions of the agricultural income tend to be underestimated in national income estimates, and partly because in many countries some income is derived from nonagricultural sources, e.g., part-time employment in other occupations.

Agricultural incomes are higher than or approximately the same as the average in other occupations in only a few countries, usually countries in which a large part of the production is for export or in industrialized countries heavily dependent on agricultural imports. Some factors, notably agricultural support measures, tend to narrow the gap in industrialized and to widen it in less-developed countries. Nevertheless, disparities between farm and nonfarm incomes are not always greatest in less-developed countries, and there are some striking examples to the contrary. Differences in fertility and average size of family, which could have a bearing on disparities between rural and urban levels of living, are shown to be important in some countries and rather negligible in others, including some with very low incomes where birth rates remain high in urban areas.

Consumption levels

Data from consumer surveys indicate that in some less-developed countries the calorie and protein intakes of rural people are smaller than those of urban people. As the calorie requirements of the rural people are usually likely to be higher because of the nature of their work, this indicates rather clearly that in these countries they get less food than they need. When home-grown food is taken into account it appears that the level and pattern of food consumption, and especially of expenditure on food, do not differ greatly between rural and urban people at about the same level of income.

The share of the income spent on food tends to fall with rising incomes, and the natural corollary is a larger proportionate expenditure on other items. Expenditure by rural people on housing is usually smaller than in towns, partly because amenities such as water, electricity, etc. are fewer, and partly because of the higher site value of urban houses, though some of the apparent discrepancy too may be due to different statistical treatment. Expenditure on clothing and household goods tends to be rather more equal between town and country at similar income levels, and in some countries rural expenditure on clothing is rather higher, possibly because of the greater need of farm people for protection against weather. In general, however, differences between the pattern of expenditure of agricultural and nonagricultural populations are mainly accounted for by differences in incomes.

Social services

From the limited data published, other amenities such as education and medical services appear almost everywhere to be less generally available in rural than in urban areas.

The disparities are especially marked in less-developed countries, where the percentage of illiteracy is considerably higher in rural than in urban areas, while doctors and other medical services tend to be heavily concentrated in the larger towns.

Recent trends in levels of living

Direct indications of recent trends in levels of living are available only for a few of the more-developed countries. They show a marked improvement compared with the prewar period, and some considerable improvement during the postwar years, though generally less than in other occupations. For example, agricultural wages in real terms appear to have increased in most countries for which data are available, though usually somewhat less than industrial wages.

The total output of agriculture in these countries, as would be expected, has grown less rapidly than the output of the nonagricultural sectors. Moreover, during the past decade price relationships have in most cases moved against agriculture, despite various measures of support. The effect of these factors is partly offset, however, by a substantial decline in the agricultural population in most industrialized countries. Thus, while the total agricultural income has shown a relatively slow growth, it has had to be shared by fewer persons, so that the trend of per caput income is more favorable than the trend of total income. Data for a few countries suggest that disparities between farm and nonfarm incomes have not varied greatly over long periods, though they tend to be widest when urban industries are expanding more vigorously. It is not entirely clear why the disparities are much wider in some countries than in others with comparable levels of national income. It is likely, however, that a somewhat higher income level in nonfarm occupations is an important factor in economic development, encouraging the movement of manpower from agriculture to other occupations.

Factors influencing levels of living

Levels of living and incomes in agriculture are shown mainly to depend on productivity per man. Differences in output per man and per hour are shown to be extremely wide between more- and less-developed countries, though these differences are greater in some branches of production, e.g., cereals, than in others, e.g., livestock products and horticultural crops.

Differences in the general level of agricultural productivity do not depend only on differences in technical knowledge and equipment, but also upon the distribution of the population between agriculture and other occupations. For example, in highly-developed countries one farm family may feed itself and ten or more other families outside agriculture. But for this average level of productivity to be attainable, there must obviously be ten families outside agriculture to provide the necessary market outlets. In most less-developed countries this condition is not fulfilled since more than half the population is engaged in agriculture.

In a limited number of cases export markets provide the additional outlets which make possible higher levels of productivity, but their scope is limited as the level of world trade in agricultural products is growing slowly and for some commodities tends to decline, e.g., because of increased domestic production in the main importing countries and the growing use of artificial substitutes for natural products.

While the percentage of the nonfarm population in principle places a limit on the extent to which agricultural productivity and levels of living can be raised at any particular time, this does not mean in practice that further progress in less-developed countries must wait upon industrialization.

In many of these countries, for reasons examined in Chapter IV, agricultural production (especially food production) is not at present increasing as quickly as the growth of urban demand. They have experienced sharply rising prices and have to curtail food exports or to rely increasingly on food imports, often at the cost of balance-of-payment difficulties. Provided obstacles to agricultural expansion can be overcome, there is a considerable backlog of demand to catch up.

There are also ways in which farm incomes could be raised which do not depend on the level of market demand for agricultural products. In many less-developed countries time not fully utilized at present in agriculture could be put to profitable use, e.g., in community development projects, to provide wells, drainage, access roads, schools, and other needed amenities, with a minimum of financial investment. It might also be

used in part-time work outside agriculture, e.g., in certain cottage industries. Finally, with strengthened farm advisory services, including services in home economics, subsistence farmers could be shown how to overcome many of the worst deficiencies in the diets of their families, with little or no cash outlay, by increased and more diversified production for their own consumption.

The need for such approaches, especially in countries where the farm population is large in relation to the available land, is underlined by a study of the movement of population from agriculture to other occupations in countries where statistics are available for fairly long periods. While the *percentage* of the population dependent on agriculture tends to fall steadily with industrialization, in *absolute numbers* it tends to rise, at least until the nonfarm population exceeds the farm population. As a rule, it is only after that stage that the actual numbers engaged in agriculture begin to decline. Many less-developed countries must therefore anticipate a further rise in their agricultural populations for some decades to come, and hence an even smaller area of land for each farm family. Unless this can be offset by raising the output per man and per hectare (technically entirely possible), there is a grave danger that levels of living in agriculture will become still lower, and that the problem of feeding the rapidly growing urban population will get still more acute.

Chapter IV - Some general problems of agricultural development in less-developed countries

In this chapter are discussed some of the contributing factors which appear to have caused agricultural production in many less-developed countries to lag behind the growth of demand resulting from rapidly rising populations and higher incomes, together with some of the methods which are being adopted to overcome current difficulties. The less-developed countries vary greatly in their climatic and other natural conditions, in the density of their populations in relation to their agricultural and other resources, in educational levels, in cultural background, in systems of land tenure and other institutions, and so forth. Nevertheless, they have enough common features and problems to make a generalized discussion meaningful, as long as proper allowance is made for national characteristics.

In nearly all less-developed countries productivity and, hence, incomes are low. Agriculture is nearly always the main occupation. Systems of transport, communications, and marketing are inadequate to meet modern needs. The farming methods employed, together with concentration on a few basic commodities, often result in lack of productive employment for fairly long periods and chronic underemployment or (for landless laborers) unemployment. Investment resources are inadequate. Credit at reasonable rates of interest to finance improved methods of agriculture or current expenses, if available at all, usually meets only a fraction of the needs of farmers. The incentive to invest is often diminished by insecurity of land tenure and the great instability of agricultural prices, so that the farmer has little assurance that he will benefit from any increased effort or expense to improve his holding or increase his output. Most farmers know little of the methods which would increase their productivity. Even when known, there is often much reluctance among farmers to try improved methods which, if unsuccessful, would further reduce their incomes or add to their debt load.

The chapter does not lend itself readily to summary as it consists largely of an already condensed review of postwar experience in a wide range of less-developed countries in tackling some of the problems mentioned above. The general conclusions which appear to emerge, however, are that while it is clear that increased agricultural production must come primarily from improved methods of farming and a better use of existing resources, technology of itself is only part of the answer. Farmers are not likely to incur the extra effort and expense of trying new methods unless they expect to benefit thereby. An important step by governments seeking to encourage agricultural expansion thus appears to be the provision of a favorable economic and social environment. Three basic conditions seem especially necessary in many less-developed countries at the present time:

(*a*) reasonably stable prices for agricultural products at a remunerative level;

(*b*) adequate marketing facilities, and

(*c*) a satisfactory system of land tenure.

If in these and in other ways which may be of importance in particular cases, e.g., changes in the incidence of taxation, favorable economic and social conditions are established, private capital is likely to flow increasingly into agricultural production instead of being locked up in unproductive investment as often happens at present. Moreover, the initiative of the farmers themselves would be likely to lead to an increased nonfinancial investment to improve their holdings. Farmers would be more receptive to the teaching of extension services and the adoption of improved methods. They would be more eager to utilize credit for productive purposes. Direct measures by governments to expand production, such as the provision of improved planting material or fertilizers at reasonable prices, as well as schemes of irrigation, land reclamation, or resettlement would be likely to lead to better results. Some of these points are briefly amplified below, though inevitably they lose much by the omission of the examples, supporting evidence, and qualifications included in the chapter itself.

Price stabilization

The wide fluctuations to which agricultural prices are peculiarly liable bear especially heavily on farmers in less-developed countries since, for lack of resources, they must usually sell immediately after the harvest when prices are lowest. Although many governments in these countries have adopted measures of price stabilization, these are hard to implement effectively and have usually had as a primary objective the protection of consumers rather than the encouragement of production. Economic and social conditions in less-developed countries usually rule out high incentive prices, but assurance of a basic minimum return would in itself be a considerable incentive to increased production. Recent experience tends to confirm that price stability in less-developed countries is best achieved by an officially controlled buffer stock, with the limited objective of reducing price fluctuations rather than eliminating them altogether.

Marketing

If a scheme of price stabilization is to be effective in encouraging production, a network of buying points is necessary so that each producer can be assured of a basic minimum price. All this entails an adequate marketing system, including as a rule credit facilities, in view of the lack of resources of most farmers, e. g., of the kind provided by the "warehouse receipt" system now being developed in, e.g., India and the Philippines. Other developments in marketing facilities made necessary by the extremely rapid growth of towns in less-developed countries are also discussed, including improved storage and transport, grading and handling, market intelligence, etc.

Land tenure

The most important way in which land tenure systems influence production is also by their effect as incentives to farmers. Security of occupancy and a more equitable division of farm income between tenant and landlord are powerful stimulants for investment to increase output, especially when combined with other measures, including price stabilization, the provision of farm credit, extension services, and so forth. The extensive experience of land reform since the Second World War in less-developed countries confirms its importance, but underlines also some of the difficulties of effective implementation.

Investment

Agricultural investment nearly always includes a substantial component of nonfinancial investment in the form of unpaid work by farmers or groups of farmers in agriculture or related undertakings. It is important in less-developed countries, where manpower is often abundant and financial resources scarce, to find ways of maximizing such investment. In the early stages of economic development the main source of funds for industrialization must be agriculture; but in many instances, the means by which such transfers are effected, especially in the private sector, are liable to hamper unnecessarily agricultural expansion and to cause unnecessary hardship to agricultural producers. It is up to governments to minimize such harmful effects and to see that sufficient funds are left in

agriculture or channeled back, e.g., through farm credit and public investment, to maintain an expansion of farm production commensurate with the growth of demand. Postwar experience in various forms of financial investment and in encouraging nonfinancial investment, especially through community development projects, is briefly reviewed.

Education, extension, and research

To be effective, agricultural education and extension must take full account of the cultural and social background and of the day-to-day problems of small farmers, even though radical changes in methods of farming may be necessary if agriculture is to play its full part in economic development. Agricultural education and extension will be more effective with the spread of general education, but by suitable methods much can be done in largely illiterate populations. Special importance attaches in primitive and subsistence agriculture to work in home economics. Postwar experience in less-developed countries underlines *inter alia* the importance of the closest possible working relationships between the extension services and agricultural research stations. A large reserve of technical knowledge is today at the disposal of less-developed countries, but the methods worked out in the technically more-advanced countries must be properly adapted to local conditions through adequate research before being passed on to farmers through the extension services.

The role of government

Since the war the governments of most less-developed countries have assumed an important role in economic development, though the ways in which they do so and the extent to which the economy is planned or directed varies widely. One of the most important functions of government, as already emphasized, is the provision of favorable conditions for general economic and agricultural expansion. In some countries where planning has been adopted it is limited to defining general goals and deciding on programs of public investment which often now represents a large share of the total capital formation. In other countries the role of planning extends to an assessment of requirements in capital and other scarce resources, the allocation of priorities and other detailed measures for ensuring the implementation of a "balanced" development program in both the public and private sectors. Experience has emphasized the need for a degree of flexibility in accordance with changing circumstances if planning is to be realistic, and it is coming more and more to be regarded as a continuous process. The organization of planning in less-developed countries varies in accordance with the tasks to be undertaken.

"Balanced development" does not preclude selecting some key sectors, e.g., steel, chemicals, for special attention, in the expectation that if these develop, progress in other sectors will follow. Agriculture itself, however, appears to be a key sector. It is especially important in less-developed countries, where food is the largest item of expenditure in family budgets and the cost of food is a prime factor in the production cost of all industries. If agriculture has not always been accorded such high priority it is perhaps because it has always been there, and tends to be regarded as a reserve of finance and manpower rather than a key sector in its own right.

Chapter II - WORLD REVIEW AND OUTLOOK

There was a large expansion of agricultural production in 1958/59 after the pause in the preceding year. Most of the increased output, especially of cereals, has not moved into consumption and the growth of stocks was accelerated. The continuing fall in the prices of agricultural products on world markets was made sharper by the recession, and total earnings of agricultural exports in 1958 are estimated to have been some 9 percent smaller, in real terms, than the year before. The continued deterioration in the terms of trade of agricultural exporting countries, among which are included most of the less-developed parts of the world, has further limited their capacity to import, including imports of the capital goods essential for economic progress.

At mid-1959 recovery from the recession in economic activity appears to be under way, and though this has not yet been reflected in any marked revival in international trade in agricultural products, prices of some commodities on world markets have shown signs of recovering. While the recession did not greatly diminish the demand for foodstuffs, it had considerable repercussions on world trade in raw materials of agricultural origin, especially wool, cotton, and rubber, and also on forestry production and trade. Prospects for the 1959/60 harvests at present indicate a still higher level of world agricultural production and surplus stocks are likely to continue to accumulate.

These developments sometimes intensified, but did not fundamentally change, the central problems of world agriculture. The needs of the economically less-developed countries for food and agricultural products are immense and continue to increase rapidly. Their domestic agricultural production provides only a small margin over population growth which can go toward improving their low levels of living. This margin has recently tended to become smaller and, in some countries of Latin America and Southeast Asia in particular, production is now barely keeping pace with, or is even falling behind, the growth of population.

Only limited ways have yet been found of using the agricultural potential of the more-developed countries to assist the most needy countries. This situation is reflected in the large unsaleable stocks of grains and other commodities which continue to pile up in North America and are emerging increasingly often in other countries as well, in spite of intensified measures of surplus disposal and larger exports of agricultural products under special terms. Such measures are of great value, even though the final solution of the problems of rural poverty and inadequate food supplies in the less-developed countries must come primarily from improvements in their own agricultural productivity.

Both groups of countries, industrialized and less-developed, are feeling their way toward agricultural policies which will diminish the tensions inherent in this situation. Many of the industrialized countries are seeking methods of maintaining farm incomes at levels which are not too disparate with incomes in other occupations, without at the same time adding to the cost of support measures or further increasing unwanted production. For, in these countries, the demand for most agricultural products is increasing rather slowly, in contrast to the great potentialities for expanding agricultural production. Changes in agricultural policies in this group of countries in 1958/59 were again mostly rather small, though it is noteworthy that several Western European countries announced reductions in their farm price and income supports.

In most of the less-developed countries, the relative growth of production and demand is the reverse of that in the more-developed parts of the world. Thus, policy changes are designed to accelerate agricultural production and in 1958/59 were often more far-reaching than in recent years. There has been, for example, renewed attention to measures of improving conditions of land tenure. Co-operatives and credit facilities appear to be receiving more emphasis, especially in connection with the new land reform measures. Price policies designed primarily for the protection of consumers

are being reconsidered in some countries from the angle of their effect on production. A number of the new economic development plans announced in 1958/59 give more attention to the agricultural sector, in order to minimize any lag in agricultural production likely to slow down general economic development. In Mainland China, the U.S.S.R., and some of the Eastern European countries, the most recent development plans also put more emphasis on agriculture and extensive modifications are being made in agricultural organization.

The main developments in 1958/59, together with some longer-term aspects of the situation, are reviewed more fully in the remainder of this chapter on the usual regional and commodity basis.

Agricultural production

After a pause in 1957/58, the volume of world agricultural production again increased substantially in 1958/59. Preliminary estimates for the world, excluding Mainland China, set production at more than 4 percent higher than in each of the two preceding seasons. The increase in total world production must have been even greater in view of the large gains in agricultural production reported from China.

In 1958/59, in contrast to the previous season, production increased in every region of the world (Table II-1). The increase in Western Europe is provisionally estimated at only about 1 percent, and in Latin America, the Far East, the Near East, and Africa at some 2 to 3 percent. The bulk of the expansion in 1958/59 was contributed by North America, Oceania, and the region comprising Eastern Europe and the U.S.S.R.; in these three regions increases ranging from 6 to 10 percent are estimated. In Oceania and especially in North America, however, a large part of the rise in production amounted to recovery from a poor season in 1957/58. In Eastern Europe and the U.S.S.R. agricultural production appears to have increased rather slowly until 1954/55, but more recently has shown a sharp upward movement.

The data in Table II-1, which in view of revisions in the index series are shown for a fairly long period of years, bring into clearer relief than usual the sometimes rather erratic course of production from year to year in some regions, caused by the interplay of the weather and the longer-term influences of technology and agricultural policies. Fluctuations have been particularly sharp in the last two production seasons, when alternately good and bad weather in certain areas has substantially affected harvests.

These year-to-year variations, as well as the long-term rising trend in the volume of agricultural production, must be viewed in relation to the continual growth of world population, which

TABLE II-1. - INDICES OF AGRICULTURAL PRODUCTION

	Prewar average	Average 1948/49-1952/53	1952/53	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Indices, 1952/53-1956/57 average= 100								
Western Europe	83	87	93	101	101	102	102	107	108
Eastern Europe and U.S.S.R.	(85)	(87)	91	94	95	104	116	119	130
North America	68	92	97	99	97	101	106	101	107
Latin America	73	89	95	96	100	103	106	111	114
Oceania	78	90	96	98	98	104	104	100	110
Far East (excluding China)	86	87	93	98	100	103	106	105	108
Near East	72	84	93	100	97	101	109	110	112
Africa	70	87	94	98	101	101	106	103	106
ALL ABOVE REGIONS	(77)	(88)	94	98	98	103	107	107	112

NOTE: These revised indices have been calculated by applying regional weights, based on 1952-56 farm price relationships, to the production figures, instead of the former prewar world weights. There have also been extensive revisions in the basic production data. Allowances for feed and seed are made as before. The index for Eastern Europe and the U.S.S.R. is shown separately for the first time, as the production statistics published for this region are now much more complete; the prewar and 1948-52 averages for this region are not fully comparable and therefore shown in parentheses. For Mainland China no estimates are included, pending a detailed review of the available data.

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

	Prewar average	Average 1948/49-1952/53	1952/53	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Indices, 1952/53-1956/57 average = 100								
ALL AGRICULTURAL PRODUCTS									
Western Europe	93	89	95	102	101	102	101	104	105
Eastern Europe and U.S.S.R.	(86)	(92)	93	96	95	103	112	114	122
North America	87	99	101	101	97	99	102	96	99
Latin America	109	98	100	98	100	100	101	103	103
Oceania	104	99	102	100	98	102	100	94	101
Far East (excluding China)	111	92	95	99	100	102	103	100	101
Near East	94	90	95	100	97	99	105	104	104
Africa	92	94	98	100	101	99	102	98	99
ALL ABOVE REGIONS	(95)	(94)	97	99	98	101	104	102	105
FOOD PRODUCTS ONLY									
Western Europe	93	89	95	102	101	101	101	104	105
Eastern Europe and U.S.S.R.	(87)	(92)	93	96	94	103	113	114	123
North America	85	98	100	100	97	99	103	99	102
Latin America	104	97	99	98	100	99	103	103	102
Oceania	110	102	103	103	99	102	103	90	102
Far East (excluding China)	108	92	95	100	100	102	103	100	101
Near East	94	89	94	102	97	99	105	104	102
Africa	95	96	99	101	101	99	101	96	97
ALL ABOVE REGIONS	(95)	(94)	97	100	98	101	104	103	106

NOTE: For a description of the changes in the calculation of these indices, see explanatory note to Table II-1. The index for food products excludes coffee, tea, tobacco, inedible oilseeds, fibers, and rubber.

averages about 1.6 percent per year, without any occasional breaks such as occur in the expansion of production. It is evident from the indices of per caput production shown in Table II-2 that even the large production increases that occurred in 1958/59 take on a quite different aspect on a per caput basis. Furthermore, the small improvements in per caput production that have been achieved in recent years in the less-developed regions are temporarily more or less wiped out in a bad season, as for example in Africa and the Far East in 1957/58. In a single country the position may be far worse, as, in a bad season, production may fall much more drastically than in a whole region, while population growth may be well above the world average.

The indices of per caput food production in Table II-2 concern only domestic production and therefore give no indication of trends in the level of a region's total food supplies, which have been greatly influenced since the war by large changes in imports and exports. Such indices, however, and more especially the indices of per caput production of all agricultural commodities, are a rough indicator of the degree to which increases in agricultural production are meeting the needs of the growing population and providing, either directly through greater per caput domestic consumption or indirectly through a larger volume of exports, a margin for improved levels of living. This margin has become appreciably smaller in the less-developed regions in the last few years, and in both the Far East and Latin America per caput production has still failed, in the 13 production seasons that have now elapsed since the war, to regain the prewar level. In Africa, as a result of the marked slackening in the rate of agricultural expansion, per caput food production now appears to be back almost to the prewar average, though the statistics both of population and food production for that region are still particularly unreliable.

As a measure of the ground that has to be made up, it appears that in the Far East, where the wartime setback to production was especially severe, total agricultural production would have to rise by as much as 11 percent for per caput production to catch up in 1959/60 with the prewar level. In Latin America, with a particularly rapid rate of population growth, an increase of 7 percent would be needed. Increases in regional production of this order are exceptional, and even if achieved in one good season would be difficult to maintain in subsequent years.

While world and regional indices of agricultural production give a useful over-all view, they

inevitably cover up differences between individual countries. It has not yet been possible to recalculate the FAO country indices of agricultural production on the revised basis used in the present report, but Figure II-1 shows the growth of production relative to population in certain countries from 1948-52 to 1955-56, according to earlier FAO estimates.[1]

Production is seen to be falling behind or barely keeping pace with population growth in several of the rice-producing countries of Southeast Asia and in some parts of Latin America. This situation reflects the rapid growth of population as much as the trend of production. Among the countries showing the most rapid relative gains in agricultural production are Mexico, Japan, the U.S.S.R., and a number of Western European countries, including Austria, Belgium, Greece, Ireland, and Italy. In France, Western Germany, and Yugoslavia too, the annual increase in agricultural production has exceeded the rather slow growth of population by more than 2 percent in recent years. The somewhat wide differences in the relative growth of production and population in Western European countries, which in some measure reflect differences in the timing of postwar agricultural recovery, seem likely to have an important bearing on the future import markets in this region.

In considering the relative development of agricultural production and population it is necessary also to take account of the actual level of per caput production, which remains much lower in the economically less-developed regions than in the more-industrialized parts of the world. Thus, the four regions of Latin America, the Far East, the Near East, and Africa, with about two thirds of the population, accounted in 1954-58 for only about one third of the agricultural production of the world (excluding Mainland China). Figure II-2 indicates that even an improvement to the prewar average per caput agricultural production in the Far East would still leave this region's per caput production at less than half of the world average.

In recent years there have been some significant differences in the trend of production as between the more-and the less-developed regions. Although these differences were examined in some detail in the 1958 issue of this report, it may be useful to refer to them again. While there has been a substantial decline in the annual average rate of increase of agricultural production in both groups of regions in the last few years, the rate of increase remains a good deal faster in the less-developed group (Table II-3). Thus, the main changes in agricultural production in 1958/59, when the largest expansion was in the more industrialized regions of North America and Oceania, were contrary to the trend of recent years. If this latest season is excluded, the fall in the rate of increase in the more-developed regions is much greater.

The sharpest decline in this rate is in Western Europe, where, however, the rapid expansion in the period 1948-52 to 1953-55 still reflected the final stages of postwar recovery. In North America, where the biggest production gains occurred during the war years, there has been no change in the average increase since 1948-52, though here again the very favorable 1958/59 season has raised the more recent average rate. The slower expansion until that year was in fact largely the result of policies designed to check the accumulation of surpluses.

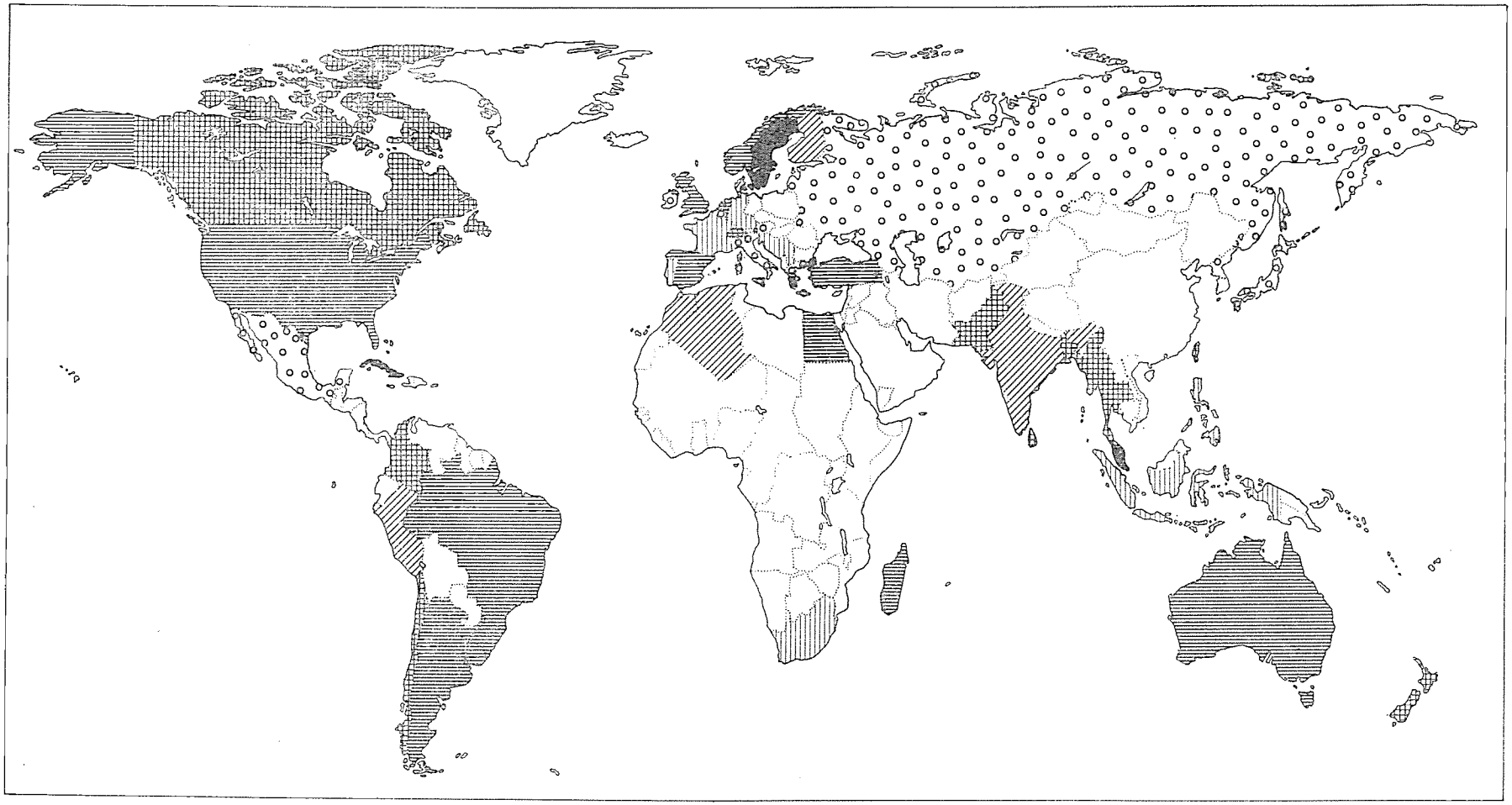
Among the less-developed regions the greatest slowing down has occurred in Africa and the Far East; in the former region the annual rate of increase is now estimated to have fallen behind population growth. In Latin America, on the other hand, the rate of increase was slower in the period 1948-52 to 1953-55 and in the more recent period has been raised to that achieved earlier in the other less-developed regions. In this region and also in

TABLE II-3. – AVERAGE ANNUAL GROWTH OF AGRICULTURAL PRODUCTION AND OF POPULATION

	Average annual increase in agricultural production		Average annual increase in population	
	1948-52 to 1953-55	1953-55 to 1956-58	1948-52 to 1953-55	1953-55 to 1956-58
	Percentage			
Western Europe	3.9	1.4	0.7	0.8
North America	1.9	1.9	1.8	1.9
Oceania	2.6	1.7	2.4	2.2
Three above regions	2.7	1.7	1.2	1.2
Latin America	2.9	3 6	2.4	2.4
Far East (excluding China)	3.7	2.0	1.5	1.5
Near East	4.2	3.6	1.6	1.9
Africa	3.5	1.6	1.7	1.8
Four above regions	3 5	2.5	1.7	1.7
ALL ABOVE REGIONS	3.0	2.0	1.6	1.6

[1] *Monthly Bulletin of Agricultural Economics and Statistics*, FAO, Rome, April 1958, p. 31.

FIGURE II-1. - AVERAGE ANNUAL GAIN OR LOSS IN AGRICULTURAL PRODUCTION IN RELATION TO POPULATION, SELECTED COUNTRIES, AVERAGE 1948-52 TO AVERAGE 1955-56

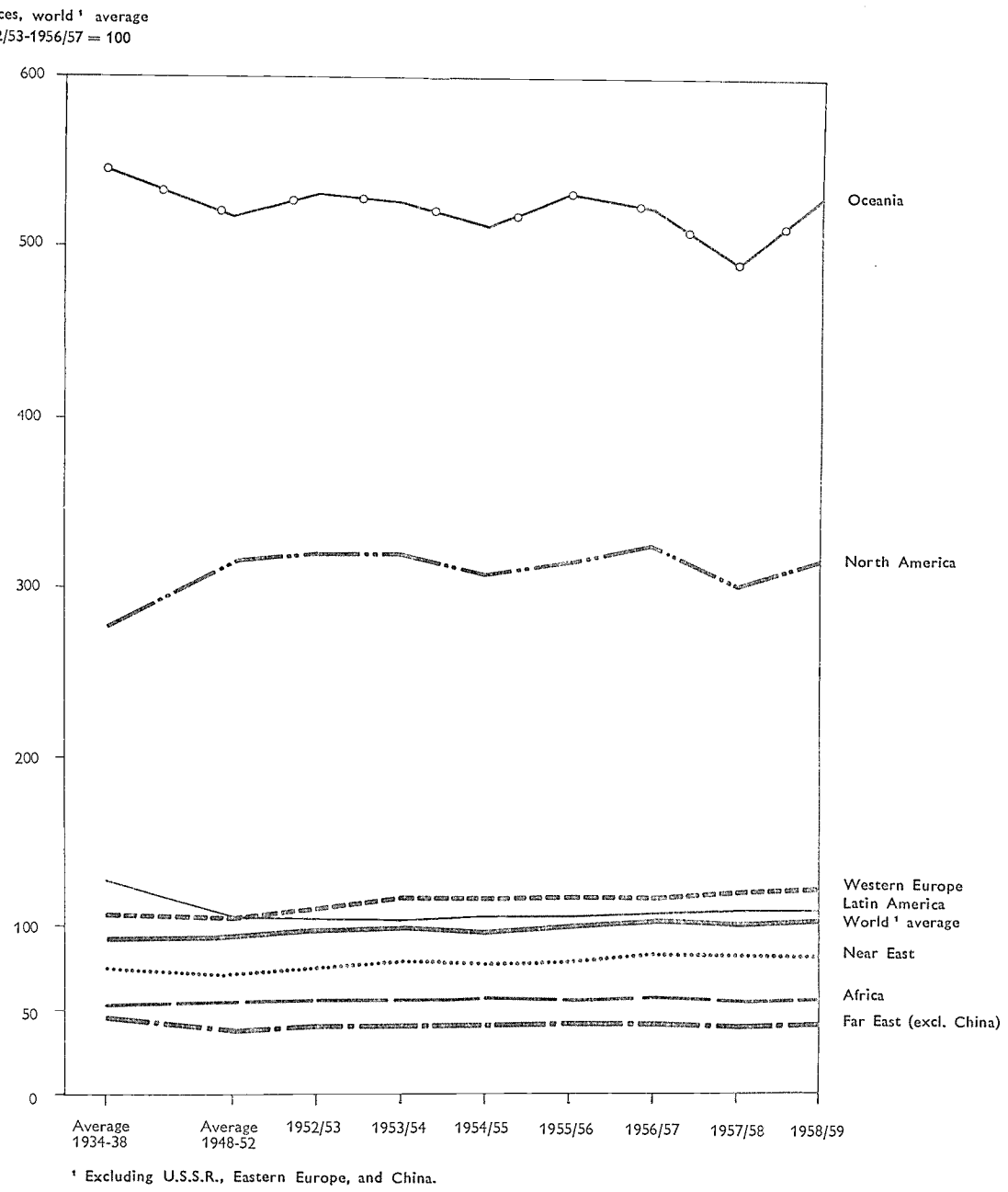


Percentage change,[1] average 1948-52 to average 1955-56

- More than —1.0 percent
- —0.9 to 0 percent
- +0.1 to +1.0 percent
- +1.1 to +2.0 percent
- +2.1 to +3.0 percent
- More than +3.0 percent

[1] Ratio of the change in production to the change in population, expressed as an annual average.

FIGURE II-2. - ESTIMATED LEVEL OF PER CAPUT AGRICULTURAL PRODUCTION, BY REGION, IN RELATION TO THE WORLD AVERAGE



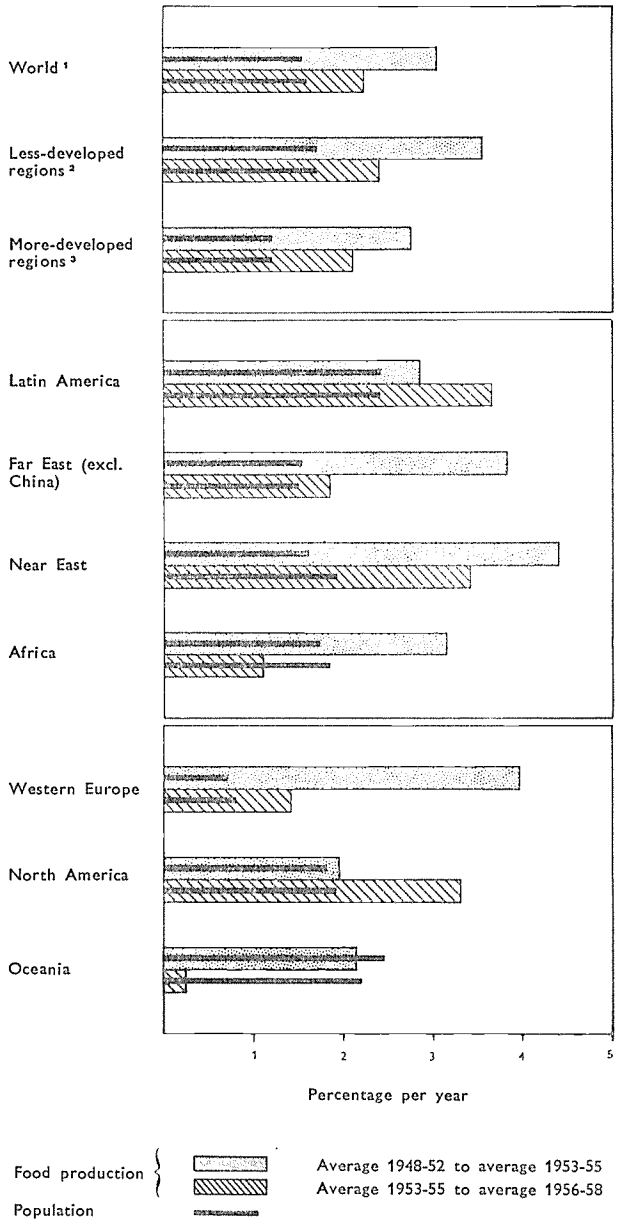
¹ Excluding U.S.S.R., Eastern Europe, and China.

the Near East, in contrast to the other two less-developed regions, the margin of the rate of growth of production over population remains considerable.

Data for Eastern Europe and the U.S.S.R. are not shown in Table II-3, as relatively complete production statistics are available only for the more recent period. It appears that from 1953-55 to 1956-58 the average rate of increase was as high as 7 percent, though this figure is sharply influenced by the bumper harvests reported in both 1956/57 and 1958/59 and by the large expansion of area in the U.S.S.R. since 1953. Such data as are available for the earlier postwar years indicate a rather small rate of increase. The effect of war damage on agricultural production was very severe in this region and it seems that in Czechoslovakia, Eastern Germany, and Romania the prewar level of production has only just been regained.

Figure II-3 makes the same comparison for food production as that shown for total agricultural production in Table II-3. Again, Latin America is the only less-developed region where production

FIGURE II-3. - AVERAGE ANNUAL GROWTH OF FOOD PRODUCTION AND OF POPULATION



[1] Excluding U.S.S.R., Eastern Europe, and China. - [2] Latin America, Far East (excluding China), Near East, Africa. - [3] Western Europe, North America, Oceania.

has increased more rapidly in the later of the two periods. While, for the world as a whole and for the two groups of regions, trends in food production and in total agricultural production have been broadly similar, in some regions there have been rather sharp differences. In North America, the rate of increase of food production has expanded in recent years, though this partly reflects the large crops of 1958/59, but this more rapid increase has been offset by an absolute decline in the output of nonfood products, notably cotton. Nonfood or raw material production has also fallen in Western Europe, though in this region it is a much smaller component of the total and has therefore hardly affected the rate of increase of agricultural production as compared with food production. In the remaining regions, except for Latin America, the output of raw materials has tended to expand more quickly than food products. This tendency is particularly marked in Oceania, where the contrast between Table II-3 and Figure II-3 underlines the continuing increase in the relative importance of wool in the region's agriculture. In this region the notable excess of population growth over the expansion of food production affects the exportable surplus rather than domestic consumption.

The different rates of growth in the two periods and in the two groups of regions discussed above partly reflect the more rapid increase in population and the greater income elasticity of demand for food and agricultural products in the less-developed regions than in most of the more-developed countries. In the less-developed group any slowing down in agricultural development is probably due to such factors as lack of investment capital or the instability of export markets. In Eastern Europe and the U.S.S.R., recent trends reflect the long period during which the demand for consumer goods, including all but the more basic foodstuffs, had been left unsatisfied.

Demand factors also largely explain the different pattern of expansion in crop and livestock production brought out in Table II-4. Throughout the postwar period the world output of livestock products, primarily located in the more-developed regions, has been increasing faster than crop production. In the more-developed regions the demand for many crop products has been satiated and for some has tended to decline, but that for livestock products goes on increasing with rising incomes, though even for the latter group of products the pace at which production has been expanding has slowed down appreciably in the last few years. In these regions the increase of crop production shown in Table II-4 includes a considerable element of production for livestock feeding, as well as production that has accumulated in surplus stocks.

In the less-developed regions the rate of growth of crop production has fallen, but the rate of expansion of livestock products has been maintained and is now approximately the same as for crops.

TABLE II-4. – AVERAGE ANNUAL GROWTH OF CROP AND LIVESTOCK PRODUCTION [1]

	Average annual increase in crop production		Average annual increase in livestock production	
	1948-52 to 1953-55	1953-55 to 1956-58	1948-52 to 1953-55	1953-55 to 1956-58
	Percentage			
Western Europe	3.1	0.9	4.9	2.5
North America	0.4	1.8	2.8	2.3
Oceania	2.6	– 0.9	2.6	2.4
Three above regions	1.5	1.4	3.6	2.4
Latin America	3.6	3.3	2.1	3.8
Far East (excluding China)	3.9	2.0	2.9	1.6
Near East	5.5	4.0	2.0	3.0
Africa	4.0	1.7	2.5	1.2
Four above regions	4.0	2.5	2.4	2.5
ALL ABOVE REGIONS	2.7	1.9	3.3	2.4

[1] Gross production, including feed and seed.

Statistics of livestock production in these regions are generally less reliable than those for crops, but it appears that there has been a slowing down in the growth of livestock production in the Far East and Africa and an increased rate both in Latin America, where there is a considerable export demand as well as a large domestic consumption, and in the Near East. In all the less-developed regions the actual output of livestock products is relatively small and represents a much lower proportion of total agricultural production than in the more-developed areas.

REGIONAL AGRICULTURAL PRODUCTION IN 1958/59

Returning to the more recent situation, agricultural production developments in 1958/59 are summarized below, region by region. For fuller details of the regional production of the main commodities, reference should be made to Annex Tables 2-9.

Western Europe

Agricultural production in Western Europe, which had been more or less stable from 1953/54 to 1956/57, expanded by 4 percent in 1957/58 and there was a further small increase in 1958/59.

Grain production in 1958/59 was 3 percent below the high output of 1957/58, though still well above the level of preceding years. Bad weather in Northwestern Europe near harvest time reduced the quantity and quality of the grain crops, especially wheat in France. In Italy, however, the production of wheat and other grains increased. Potato production was also affected by the weather and declined by 7 percent. The production of sugar rose by more than a million tons (15 percent) to reach a level just over double the prewar average. In sharp contrast to the disastrous harvest of 1957, the apple crop was very abundant in almost all countries. Wine was another crop to make a substantial recovery, but production remained less than in earlier years. Citrus production increased sharply, the Spanish orange production exceeding the level that had prevailed before the frost of 1956.

The increase in the output of livestock products appears to have been much smaller in 1958/59 than in most recent years. Milk production is estimated to have increased slightly. In Denmark, Sweden, and the United Kingdom there are signs that policies to encourage some changeover from milk to beef are taking effect and that the growth of milk production has slowed down. The region's production of beef and pig meat is likely to have shown a small rise, but pig numbers leveled off in several countries at the end of 1958. Egg production rose again, encouraged by the favorable relationship between egg and feed prices in the first half of the crop year. Poultry meat has continued to increase and "broiler" production has been started in a number of countries.

Eastern Europe and U.S.S.R.

The FAO index of the volume of agricultural production for Eastern Europe and the U.S.S.R., shown separately for the first time in this report, indicates an increase of as much as 9 percent in this region in 1958/59. All of this large expansion must be attributed to the U.S.S.R., as it appears that in the Eastern European countries production failed to reach the high level achieved in 1957/58, owing to crop failure in the Danubian countries.

The U.S.S.R. had an exceptionally good grain harvest in 1958/59, reported at 139.4 million tons, compared with the estimated 1953-57 average of 102 million tons. Weather conditions were favorable both in the Ukraine and in the grain producing areas further east. Sugar-beet produc-

tion was even more striking, with a rise of 36 percent on an area only 20 percent larger. The sunflowerseed harvest was also large, but the production of cotton and flax was only slightly higher than in 1957/58, and the production of potatoes and vegetables declined. The increase in cattle and sheep numbers was slower in 1958 and below the planned level. Milk production rose but, with no improvement in yields, remained far below the 70 million tons called for "to exceed the per caput production of the United States." The production of meat increased by 7 percent instead of the planned 14 percent and egg production by 5 percent as against a planned increase of 13 percent. Wool production, however, was slightly ahead of the target.

Among the Eastern European countries, harvests differed markedly in 1958/59. Grain production rose in Eastern Germany, was unchanged in Poland, and fell slightly in Czechoslovakia. In the Danubian countries, however, there was a sharp reduction in grain production, in Bulgaria and Romania mainly for maize and in Hungary for both bread grains and coarse grains. Sugarbeet harvests were generally large. Potato crops fell sharply, especially in Czechoslovakia (18 percent less) and Eastern Germany (14 percent), and although production increased in Poland it was below the good harvest of 1956/57. The 1958 production of milk and pig meat was larger in all the Eastern European countries. Cattle numbers rose in Czechoslovakia, Eastern Germany, and Hungary and sheep and pigs in Bulgaria and Hungary, but pig numbers were reduced in Poland, the major Eastern European producer of pig meat.

North America

After declining sharply in 1957/58, agricultural production in North America rose by no less than 6 percent in 1958/59 and slightly exceeded the record level of 1956/57. The entire increase was in crop production, the region's livestock production for the 1958 calendar year showing a slight decline.

United States crop production, which in a full decade up to 1957 had advanced only 6 percent over the 1947-49 average, climbed by 11 percent in 1958. With exceptionally good weather throughout the year there was a sharp rise in yields. Among the crops for which production had been low in 1957/58, wheat and linseed increased by more than 50 percent and groundnuts by 30 percent. Maize increased by a further 11 percent and the steady expansion of soybean production continued with a rise of nearly 20 percent. Although the cotton crop rose by 6 percent, it was still some 20 percent below the 1947-49 average on account of acreage restrictions. There was a very sharp increase in maize utilization for animal feeding, but this has been reflected so far in the building up of livestock numbers, rather than in an increase in marketings of livestock products.

Canadian agriculture in general fared much better in 1958 and calendar year production increased by about 10 percent over the year before. While the weather was adverse in the Prairie Provinces for the second successive year, the harvest was larger as a result of moisture-conservation measures and late summer rainfall. Wheat production was unchanged from the low 1957/58 output, but there was some recovery in coarse grains. The principal improvement was in livestock production.

Latin America

In Latin America, where revised data reveal an increase of 4 percent in agricultural production in 1957/58, preliminary estimates indicate a further expansion of about 3 percent in 1958/59.

Grain production is estimated to have increased slightly. In Argentina a very large maize crop was expected, but as a result of high winds and torrential rains in the La Plata region at the beginning of 1959 the harvest is likely to have been rather less than in 1957/58. Argentine wheat production rose by about 12 percent, however. In Mexico, where the weather was very favorable after the poor conditions of the previous year, maize production increased by 10 percent.

The region's principal production gains in 1958/59 were in coffee (12 percent) and sugar (10 percent). In Brazil, coffee production rose by nearly 20 percent and exceeded the prewar average for the first time, but shortage of rain reduced Colombia's crop by 18 percent. Cuban sugar production increased from 5.6 to 5.8 million tons and there were substantial increases in several smaller producing countries. The output of copra, produced mainly in the Caribbean area, fell by more than one third and tobacco and linseed production was also lower.

The total output of livestock products appears to have been more or less unchanged in 1958, though beef and veal production is estimated to have fallen slightly, with declines in both Argentina and Uruguay.

Oceania

In 1957/58 drought in Australia had caused a decline of 4 percent in Oceania's agricultural production, but preliminary figures indicate that in 1958/59 the region's production increased by the unusually large amount of about 10 percent, exceeding the previous record level of 1956/57 by some 6 percent. A particularly favorable season in Australia was the chief factor, early official estimates indicating a 14 percent increase in that country in 1958/59. In New Zealand, where an average season in 1958/59 followed a good one in 1957/58, there was probably a further small increase in 1958/59.

The region's grain production rose to 90 percent above the abnormally low 1957/58 level. Australian grain production was more than doubled, with especially large increases in wheat and oats. There was a further increase in sugar production, but the production of copra in the Pacific islands fell slightly. Total output of livestock products is estimated to have increased by about 3 percent in 1958 and to have slightly exceeded the record level of 1956. Beef cattle and sheep continued to increase at a rate well above the long-term average and beef slaughterings were stimulated by a strong demand in the United States. Wool production increased slightly in both Australia and New Zealand, but the regional total remained somewhat below the 1956 record.

Far East

In the Far East (excluding China), where agricultural production had declined slightly in 1957/58, the increase in 1958/59 was disappointing, in spite of generally favorable weather, and on present estimates amounted to barely 2 percent.

With an increase of about 10 percent in rice production in 1958/59, the total output of grains recovered from the low level of 1957/58, though it was not significantly higher than in 1956/57. In India food grain production increased by 17 percent, but Pakistan's rice crop declined by 12 percent. Copra production fell sharply in this region also, owing to internal difficulties in Indonesia and drought in the Philippines. There was a considerable expansion in the production of jute and rubber. Livestock output is estimated as only slightly higher. Livestock numbers increased substantially in some countries, however, including Japan, the Philippines, and South Korea, and in Japan milk production outstripped consumption.

In Mainland China a phenomenal expansion is said to have almost doubled agricultural production in 1958. In this single year, characterized by Chinese officials as the year of the "great leap forward," total "grain" production (which in Chinese statistics includes potatoes, soybeans, and other basic foods) is reported to have risen from 185 to 375 million tons. Rice production reportedly increased from 87 to 170 million tons, wheat from 24 to 40 million, soybeans from 10 to 12.5 million, groundnuts from 2.6 to 6.3 million, and cotton from 1.6 to 3.4 million tons. Crop areas were raised only slightly and these increases are credited almost entirely to higher yields, caused not only by good weather but also by such improved methods as deep plowing, composting, closer planting, elimination of weeds, and the division of fields into blocks for more efficient cultivation. Irrigation is said to have been extended from 35 to 65 million hectares, with 100 million peasants employed on irrigation works at the beginning of 1958, though it is reported that many of the irrigation channels could not yet be supplied with water. Considerably more intensive use of manpower appears to have been made possible by the organization of the rural communes, described later in this chapter.

While it is too early for a final assessment, it seems likely that the new collective organization in China may have greatly reduced the quantity of production escaping statistical enumeration. It also appears significant that the increase in state procurements of grain is reported as only 24 percent. On the other hand, it has long been thought that agricultural production in China could be considerably increased by improved methods. Recent visitors to China are of the opinion that the increase in the biological harvest has indeed been considerable, but that only a limited part is likely to be mobilized for nonfarm consumption. There are also indications that great difficulties have been encountered in distribution.

Livestock numbers are also reported to have

climbed sharply in Mainland China in 1958: pigs from 219 to 250 million, sheep and goats from 100 to 129 million, and cattle from 84 to 91 million. While these reported increases are impressive, the actual numbers are of course small in relation to a population of 600 million.

Near East

Agricultural production in the Near East is estimated to have increased by only 1 to 2 percent in both 1957/58 and 1958/59. This is in strong contrast to the large increases of most other recent years, including an expansion of 8 percent in 1956/57.

Total grain production fell by about 8 percent in 1958/59 from the peak 1957/58 level. Because of drought and locust infestation the combined production of wheat and barley declined by nearly 75 percent in Jordan and more than 60 percent in the Syrian Province of the United Arab Republic, and the same factors caused smaller reductions in Afghanistan, Iraq, and Israel. In Turkey grain harvests slightly exceeded the high 1957/58 level and there was only a small reduction in Iran, but in the Egyptian Province of the United Arab Republic the rice acreage was 30 percent lower because of water shortage and rice production fell by 40 percent.

Sugar production again increased by about 8 percent, with sharp expansions in Iran and Turkey. The principal increase was in cotton, however, the region's production rising by almost 20 percent to a new record. There were large increases in the Egyptian Province of the United Arab Republic and in Turkey. Sudan's production was nearly three times the disastrously low 1957/58 harvest, though in the Syrian Province of the United Arab Republic the rapid increase of recent years was temporarily checked. It is also estimated that there was a substantial increase in the region's livestock output, which helped to offset the decline in grain production.

Africa

Agricultural production in Africa, which fell by nearly 3 percent in 1957/58, is estimated to have recovered to approximately the 1956/57 level.

Grain production, in which there appears to have been no very marked rising trend for some years, made some recovery from the low 1957/58 level. The combined production of wheat and barley in Morocco rose by some 70 percent over the drought-affected harvest of 1957/58, but was still a good deal less than in 1956/57. These two crops increased by one third in Tunisia, though in Algeria the increase was small. In the Union of South Africa 1958/59 was a bad season for wheat and the crop fell by 17 percent. South African maize production, however, was about 10 percent larger than the reduced 1957/58 harvest. Rice production again slightly exceeded 1.1 million tons in Madagascar.

Sugar production increased by about 7 percent in the Union of South Africa. North African olive oil output was the highest ever and about twice the 1957/58 "off season" level. The region's groundnut harvest was well below the previous season's record, the Nigerian crop falling by about 20 percent. Cocoa production rose by 17 percent from the unusually low 1957/58 level but was still 50,000 tons less than in 1956/57. Coffee production registered the largest increase since 1955/56. There was little change in citrus production, which has been rather stable for the past three seasons. The limited available data indicate that there was a small increase in the output of livestock products.

FISHERY PRODUCTION

Preliminary estimates indicate that the 1958 world catch of fish was considerably greater than in 1957 (Table II-5). Most of the increase was in Mainland China, where production is reported to have doubled. Of the remainder of the six largest fish producing countries that account for over one half of total world production, only the U.S.S.R. and Japan caught substantially more fish than in 1957. The United States catch was about the same as in 1957. The catch was somewhat smaller in the United Kingdom, and in Norway production was considerably below customary levels because of the lower output of the winter herring fishery.

Several of the medium-sized producers recorded significant increases in 1958, especially Denmark, Iceland, and Peru. The latter country reported an increase in landings of as much as 50 percent. Data for individual countries are shown in Annex Table 10.

TABLE II-5. – ESTIMATED WORLD CATCH OF FISH, CRUSTACEANS, AND MOLLUSKS

	1938	Average 1948-52	1953	1954	1955	1956	1957	1958 (prelim.)
	Million metric tons, live weight							
Western Europe	5.44	6.19	6.73	7.20	7.30	7.73	7.26	7.1
Eastern Europe and U.S.S.R.	1.70	1.99	2.27	2.57	2.82	2.97	2.92	2.9
North America	3.15	3.60	3.54	3.91	3.89	4.26	3.94	3.9
Latin America	0.24	0.50	0.56	0.63	0.77	0.82	0.97	1.4
Oceania	0.09	0.09	0.11	0.11	0.11	0.12	0.13	0.1
Far East	9.10	7.42	9.77	10.45	11.27	11.61	12.58	15.9
Near East	0.33	0.38	0.43	0.43	0.41	0.44	0.42	0.4
Africa	0.45	1.03	1.50	1.50	1.55	1.65	1.74	1.7
WORLD TOTAL	20.50	21.20	24.91	26.80	28.12	29.60	29.96	33.4

FORESTRY PRODUCTION

During most of 1958 there was a further slowing down in the growth of demand for forest products, and total removals of industrial roundwood are estimated as 9 percent less than in 1957 (Table II-6). North America and Europe accounted for the greater part of the decline in fellings, but renewed demand in these regions toward the end of 1958 has led to an upturn in output, first evident in sawnwood production in North America, which has continued into 1959. North American production of sawn softwood, plywood, and fiberboard was slightly higher in 1958, but sawn hardwood, wood pulp, and newsprint decreased by 1 to 4 percent. In Europe sawnwood production has not yet responded to the revival in demand, mainly because of the accumulation of exporters' stocks resulting from overproduction in 1958. European production of other forest products showed only minor changes.

In the U.S.S.R. the output of most forest products increased. In other regions sawnwood production was generally affected by the lower demand in North America and Europe, but the production of wood pulp and pulp products was somewhat higher (Annex Tables 1-9).

THE AGRICULTURAL PRODUCTION OUTLOOK FOR 1959/60

According to the limited data available up to the end of June, world agricultural production will probably again increase in 1959/60. It is likely, however, that the expansion will be rather less than in the season just ended.

In Western Europe the total grain harvest is likely to be larger than in 1958/59 and barley production may reach a record. Wheat production is expected to increase in France, Italy, and Spain in spite of reduced area in the former two countries. The drought in the northwestern countries may have reduced the yield of summer grains, however, especially in Belgium, Denmark, and Western Germany. The first hay cut has also

TABLE II-6. – ESTIMATED REMOVALS OF INDUSTRIAL ROUNDWOOD

	Average 1948-52	1953	1954	1955	1956	1957	1958 (prelim.)
	Million cubic meters						
Europe	172.6	176.0	188.4	197.7	192.8	193.6	184.0
U.S.S.R.	162.8	179.9	205.8	212.1	222.0	238.0	252.0
North America	302.1	306.2	329.3	352.2	359.3	326.3	314.0
Latin America	23.2	25.9	26.4	29.1	27.5	26.3	26.5
Africa	7.4	9.3	10.4	11.1	9.4	9.9	10.0
Asia	50.6	62.1	63.6	70.6	82.0	85.2	84.5
Oceania	10.5	12.6	13.2	14.1	14.4	14.4	14.4
WORLD TOTAL	729.2	772.0	837.1	886.9	907.4	893.7	885.4

been relatively small because of the dry weather and the increase in milk production may be rather slight. Beef production should continue its slow growth, but pig meat production will show varying trends in different countries according to the point that has been reached in the pig cycle. The low price for eggs in early 1959 is likely to reduce output in exporting countries.

North American agricultural production may well exceed the record level of 1958/59, given normal weather conditions for the remainder of the season. In the United States it is estimated that wheat production will be about 20 percent below the 1958/59 peak, but the coarse grain acreage has expanded by 5 percent and, with the termination of the Acreage Reserve, the cotton crop might rise by as much as 16 percent. The rise in livestock numbers that began in 1958 should be reflected in larger marketings in 1959. Canadian farmers are estimated to have increased wheat sowings by 6 to 7 percent, though the barley acreage is down by 6 percent. More normal yields should mean a significant increase in grain production in Canada.

For other regions the available information is even more scanty. The sown area, especially for maize and sugar beet, is reported to have increased in the U.S.S.R. in 1959, and data for the first quarter of 1959 also indicate an expansion in deliveries of livestock products. In the Far East, India has had a record wheat harvest. Mainland China's production objectives were raised following the bumper crops reported in 1958/59, but in June 1959 there were severe floods in some areas. In the Near East early prospects for 1959/60 grain harvests were unfavorable because of drought in several countries. Late rains partially eased the situation, but more recently heavy locust infestation has brought further difficulties. There were severe floods in Madagascar at the beginning of 1959, which are likely to cause substantial reductions in the 1959/60 production of rice, coffee, and other crops. In Latin America agricultural production should generally increase, though in Argentina and Uruguay, where the weather was unfavorable at the beginning of 1959, some decline in cereal production and a further fall in livestock output is expected. A further increase of about 10 percent is forecast for the Brazilian coffee crop. Cotton plantings have been reduced by 25 to 30 percent in Mexico.

Changes in stocks

The large cereal harvests of 1958/59, especially in the United States, have led to a sharp increase in stocks of wheat and coarse grains. There has also been a marked build-up of stocks of coffee and sugar during the year (Table II-7).

The wheat stocks of the four principal exporting countries fell by 10 percent in 1957/58, but by the end of the 1958/59 season they are expected to show a renewed increase of about 20 percent, bringing them to a record level of more than 50 million tons. In the United States some 11 million of the 14 million-ton increase in wheat production in 1958/59 is likely to go into stocks. Canadian stocks, though still high at nearly 14 million tons, have declined further from the peak of 1957, but in Australia they are again rising after the sharp reduction brought about by the low 1957/58 crop.

Stocks of coarse grains in North America have risen continuously since 1952, and a further increase of about 15 percent is expected by the end of the 1958/59 season in the stocks of the two major exporters. Here, too, Canadian stocks are likely to have fallen slightly and the entire rise is in the United States, where almost 10 million tons of the 13 million-ton increase in coarse grain production in 1958/59 will be added to stocks.

Grain stocks have long been very much larger than the surpluses that arose in the 1930's, even allowing for the increase in population since that time. Sugar stocks, which are expected to increase by 20 percent to about 12 million tons by the end of the 1958/59 season, also appear to be greater than at any time before. For coffee the postwar accumulation of stocks in producing countries began as recently as 1955/56, and the level of stocks remains somewhat lower than that reached in the 1930's, when large quantities were destroyed. End-of-season stocks of coffee in Brazil are estimated to have increased by more than 50 percent to 1.31 million tons in 1958/59. Stocks held by

TABLE II-7. – ESTIMATED STOCKS OF MAJOR AGRICULTURAL AND FOREST PRODUCTS

	Month	Stocks							
		1952	1953	1954	1955	1956	1957	1958	1959 (forecast)
		Million metric tons							
WHEAT									
United States	1 July	7.0	16.5	25.4	28.2	28.1	24.7	24.0	34.9
Canada	1 Aug.	5.9	10.4	16.8	14.6	15.8	19.9	16.8	13.8
Argentina	1 Dec.	0.1	2.0	1.6	2.4	1.2	1.5	1.3	1.2
Australia	1 Dec.	0.5	1.0	2.6	2.6	2.4	1.2	0.3	0.9
Total four major exporters ,,		13.5	29.9	46.4	47.8	47.5	47.3	42.4	50.8
France	1 Aug.	1.2	0.8	1.0	1.4	0.9	0.8	0.7	...
Italy	1 Aug.	...	...	2.1	1.4	2.0	2.1	1.6	...
RICE (milled equivalent)									
Asian exporters [1]	31 Dec.	0.7	1.4	1.3	0.5	0.5	0.4	0.3	...
United States	31 July	0.1	—	0.4	1.4	1.0	0.6	0.5	0.4
Total of above		0.8	1.4	1.7	1.9	1.5	1.0	0.8	...
COARSE GRAINS [2]									
United States	1 July [3]	18.5	24.7	29.4	37.3	39.2	44.4	53.6	63.0
Canada	1 Aug.	3.6	5.1	5.6	3.7	4.2	6.6	5.0	4.2
Total two major exporters ..		22.1	29.8	35.0	41.0	43.4	51.0	58.6	67.2
BUTTER									
United States		0.03	0.13	0.17	0.07	0.01	0.04	0.03	...
Canada		0.02	0.03	0.04	0.05	0.04	0.03	0.04	...
European countries [4]		0.04	0.06	0.05	0.04	0.09	0.09	0.06	...
Australia and New Zealand ...		0.05	0.05	0.06	0.06	0.05	0.06	0.06	...
Total of above	31 Dec.	0.14	0.27	0.32	0.22	0.19	0.22	0.19	...
CHEESE									
United States	31 Dec.	0.11	0.20	0.25	0.24	0.20	0.19	0.13	...
CONDENSED AND EVAPORATED MILK									
United States	31 Dec.	0.18	0.12	0.10	0.10	0.11	0.10	0.09	...
DRIED SKIM MILK									
United States	31 Dec.	0.06	0.03	0.02	0.04	0.03	0.04	0.04	...
LINSEED AND OIL (oil equivalent)									
United States	1 July	0.41	0.37	0.28	0.16	0.10	0.22	0.12	...
Argentina	1 Dec.	0.30	0.23	0.08	0.03	—	...	...	...
Total of above		0.71	0.60	0.36	0.19	0.10	...	...	...
LIQUID EDIBLE VEGETABLE OILS AND OILSEEDS (oil equivalent)									
United States [5]	1 Oct.	0.24	0.58	0.56	0.33	0.28	0.28	0.18	0.20
SUGAR (raw value)									
United States	31 Aug.	0.2	0.3	0.4	0.3	0.3	0.2	0.3	...
Cuba	31 Dec.	2.2	1.5	1.9	1.6	0.6	0.7	0.7	...
World total ,,	31 Aug.	10.9	10.3	11.8	11.4	10.4	10.3	10.1	12.2
COFFEE									
Brazil		0.18	0.20	0.20	0.20	0.63	0.44	0.84	1.31
of which government-held		(—)	(—)	(—)	(—)	(0.22)	(0.22)	(0.52)	(0.84)
United States		0.22	0.21	0.21	0.08	0.17	0.16	0.15	...
Total of above	30 June	0.40	0.41	0.41	0.28	0.80	0.60	0.99	...
TOBACCO (farm weight)									
United States	1 Oct. [6]	1.56	1.66	1.69	1.83	1.89	2.00	1.89	1.81

(continued on next page)

TABLE II-7. - ESTIMATED STOCKS OF MAJOR AGRICULTURAL AND FOREST PRODUCTS (CONCLUDED)

	Month	Stocks							
		1952	1953	1954	1955	1956	1957	1958	1959 (forecast)
		Million metric tons							
COTTON (lint)									
United States		0.60	1.22	2.11	2.43	3.14	2.47	1.89	1.97
Other net exporters		1.00	1.08	0.78	0.80	0.56	0.65	0.80	0.87
Importers		1.34	1.21	1.26	1.26	1.08	1.30	1.30	1.08
World total [7]	31 July	2.94	3.51	4.15	4.49	4.78	4.42	3.99	3.92
NATURAL RUBBER									
World total [8]	31 Dec.	0.73	0.72	0.73	0.76	0.74	0.76	0.75	...
NEWSPRINT									
North America [9]	31 Dec.	0.89	0.80	0.77	0.69	0.92	0.92	1.01	...
		Million cubic meters							
SAWN SOFTWOOD									
European importers [10]	31 Dec.	5.74	6.19	5.56	6.12	5.27	5.65	5.39	...
European exporters [11]	31 Dec.	4.31	3.63	4.05	4.50	4.06	3.79	5.49	...
North America	31 Dec.	14.25	16.05	14.60	14.84	16.96	16.70	15.35	...
SAWN HARDWOOD									
European importers [12]	31 Dec.	1.29	1.15	1.06	1.22	1.21	1.20	1.20	...
European exporters [13]	31 Dec.	0.31	0.28	0.27	0.32	0.47	0.45	0.41	...
North America	31 Dec.	7.90	7.90	9.54	7.86	8.74	8.66	8 35	...

NOTE: Quantities shown include normal carry-over stocks.

[1] Excluding Mainland China. – [2] Rye, barley, oats, maize, sorghum. – [3] Maize and sorghum, 1 October. – [4] Austria, Belgium, Finland, Western Germany, Ireland, Netherlands, Norway, Sweden, Switzerland, United Kingdom. – [5] Cottonseed, 1 August. – [6] Flue-cured types, 1 July. – [7] Excluding U.S.S.R., Eastern Europe, and China and including estimates of cotton afloat. – [8] Including estimates of rubber afloat, but excluding strategic stockpiles (probably about 1.5 million tons). – [9] United States and Canadian mills and United States consumers. – [10] Belgium-Luxembourg, Denmark, Western Germany, Netherlands, Switzerland, United Kingdom. – [11] Austria, Norway, Sweden, Yugoslavia. – [12] Belgium-Luxembourg, Western Germany, United Kingdom. – [13] Austria and Yugoslavia.

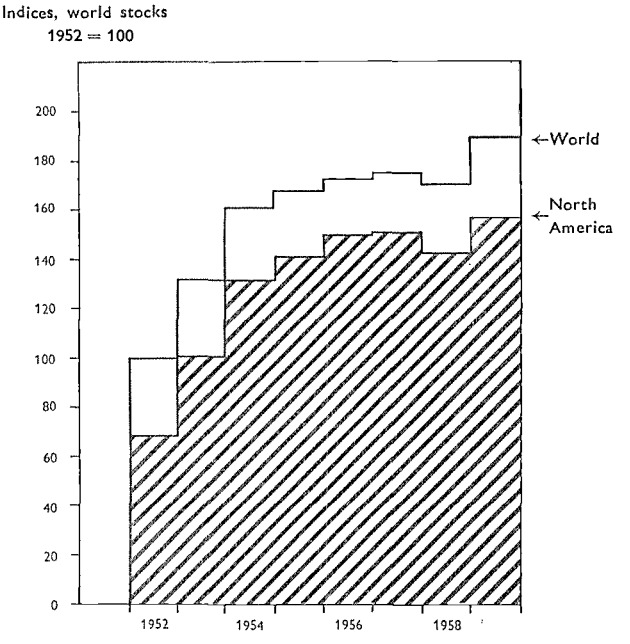
the Brazilian Government increased from 520,000 to 840,000 tons as a result of the Latin American export retention scheme.

Since 1955/56 there has been some decline in world stocks of cotton (excluding the U.S.S.R., Eastern Europe, and China), but in 1958/59 the small further reduction was limited to the importing countries and was partly offset by slightly larger stocks in the United States and other net exporting countries. For the other agricultural products for which data are available, there was no marked change in stock levels during 1958/59.

While stocks of some forest products, especially in the United States, declined slightly in 1958, there were a number of sharp increases, reflecting the reduced demand for forest products resulting from the recession. Stocks of newsprint rose in Canada and sawn hardwood stocks were doubled in that country. Stocks of sawn softwood increased substantially in Sweden and other European exporting countries.

Figure II-4 presents the usual price-weighted index of the stocks (except for forest products)

FIGURE II-4. - INDICES OF THE MAIN STOCKS OF AGRICULTURAL PRODUCTS IN THE WORLD AND IN NORTH AMERICA



NOTE: Index based on stocks shown in Table II-7 only and excluding forest products.

included in Table II-7. While total stocks had previously been comparatively stable for some years, the index shows a renewed increase of about 10 percent in 1958/59, which should be compared with the rise of 4 percent in total world production. More significant, however, is that in 1957/58, when world agricultural production failed to increase, stocks fell by only about 3 percent. It appears that stocks are now so large that only a succession of poor harvests would reduce them materially. The stocks included in the table and figure currently amount to well over 10 percent of annual world production, excluding the U.S.S.R., Eastern Europe, and China.

North American stocks increased by about the same proportion in 1958/59 as the world total, of which they now represent some 80 percent. After declining slightly in the last two years, the total value of stocks held by the United States Commodity Credit Corporation rose by more than 20 percent between April 1958 and April 1959 (Annex Table 11).

Economic activity and the demand for agricultural products

The United States economy recovered faster from the 1957-58 recession than was anticipated last year. By the spring of 1959 almost all of the lost ground had been regained, except that unemployment was still relatively high in spite of some improvement in early 1959. The upswing in economic activity which started in the second quarter of 1958 was due in large part to governmental spending, which resulted in 1958/59 in the biggest deficit in the federal budget since the war. Government intervention, reinforced by built-in stabilizers, such as unemployment insurance and farm price supports, helped to increase disposable personal incomes, even during the recession. Thus, consumer demand generally remained high and for food it even increased. A boom in construction and a change-over to a mild stock accumulation in early 1959 have accelerated the upswing. Prices continued their slow increase both during and after the recession, but farm prices started to decline again in mid-1958. In Canada the recession was less severe than in the United States but recovery has been slower. As in the United States, employment is lagging behind the growth in industrial production. Personal incomes have continued to increase, however, and the demand for agricultural products has therefore been maintained at a relatively high level.

In Western Europe economic expansion slowed down or ceased without, however, leading to an actual recession. Coal and textiles have been particularly affected, but automobile production has remained high so far and the construction boom has continued. Unemployment has increased but has not reached serious proportions, except in countries with structural unemployment, and in some countries it is already on the decline. Prices and wages have changed little and consumer purchasing power has hardly been curtailed. The demand for foodstuffs has therefore been maintained, although greater domestic availabilities have reduced import requirements for some products. In mid-1959 there are signs of a moderate revival of economic activity. In Japan, too, the recession was relatively short-lived and industrial production started to rise slowly again early in 1959.

Recovery has generally been initiated by the buoyancy of consumer expenditures and by government intervention. The latter, however, has been greatest in North America, being limited mainly to monetary measures in Western Europe and Japan. In the first half of 1959 there were still few signs of increased investment by private business in plant and equipment, though inventory liquidation has stopped and stocks are being slowly replenished. In spite of rising industrial output there is much unused capacity, both in machinery and manpower, which provides substantial leeway for further expansion of production without additional investment. Private dwelling construction, encouraged by easier credit, has helped to maintain the level of economic activity.

The 1957-58 recession had very few unfavorable repercussions on the foreign exchange position and the international balance of payments of the more-industrialized countries. Their terms of trade improved as prices of imported agricultural products (especially raw materials) generally continued to decline, while the prices of their exports of manufactured goods were maintained.

Thus, the Western European countries and Japan have been able to strengthen their gold and foreign exchange reserves and many countries have found it possible to establish limited currency convertibility. France, the United Kingdom, and Western Germany have also relaxed some of their restrictions on dollar imports.

In the first few months of 1959, however, the volume and value of international trade had not yet followed the partial economic recovery of the industrialized countries, whose imports of raw materials and foodstuffs have not greatly increased. Thus, the foreign exchange position of many of the less-developed countries, and also of those of the more-developed countries which rely on agricultural exports, remains difficult. In the early months of 1959, however, there has been some recovery in export prices for certain products, including butter, cheese, wool, and rubber.

Inflation has continued in many Latin American countries, where lower prices for agricultural exports, particularly coffee and cotton, together with the need to finance retained quotas of coffee, have caused further difficulties. Some countries in the Far East, as for example India, Indonesia, Pakistan, and the Philippines, have had to cut planned expenditures on imports and on development programs. Australia's surplus balance of trade turned into a deficit in the first nine months of 1958/59. This was mainly due to smaller revenue from wool exports, but wool prices began to recover in 1959. Lower returns from agricultural exports are also responsible for difficulties in the balance of payments of New Zealand, though some relaxation of import restrictions has been possible in 1959.

Loans and grants from international institutions or from the United States and other countries have helped to augment the resources of countries with large development programs and considerable requirements of capital imports. They have not been large enough, however, to offset the fall in earnings from agricultural and other raw material exports. In spite of these difficulties and the rather widespread slowing down in the speed of economic development, rapidly growing populations have continued to increase the demand for agricultural products in the less-developed countries. The disposal of agricultural surpluses has helped to limit the pressure on the balance of payments of food importing countries.

In the centrally-planned economies of the U.S.S.R. and Eastern Europe, industrial and agricultural development has continued rapidly. In these countries the demand for agricultural products is less influenced by variations in the general economic situation. Recent policy has been to give greater satisfaction to consumer needs, but it is not certain to what extent this will affect future agricultural imports and exports. In Mainland China, where the volume of agricultural and industrial output is said to have doubled in 1958, acute difficulties were reported in distribution, as the transport system could not keep pace with expanding production. Consequently, in spite of the larger agricultural output, there has been stricter food rationing in some cities, while some export commitments have not been met. Should China's apparent potential ability to increase its exports to countries outside the Communist bloc materialize, however, it might considerably affect international trade in such agricultural products as rice and tea, as well as in manufactured products such as textiles. On the other hand, the U.S.S.R., Eastern Europe, and China have recently sharply increased their imports of rubber and some other agricultural products from the rest of the world.

Short-term outlook

Although the situation in most of the more-developed countries is not unfavorable, after the relatively swift passing of the recession, the short-term outlook is still uncertain. Consumer demand is not yet expanding very vigorously, while, in the face of budgetary deficits and the danger of inflation, public expenditures are not likely to be increased further. The existence of substantial unused capacity, which could be put into operation with relatively little additional investment and employment, means that further recovery in production may not necessarily be accompanied by the normal secondary and tertiary effects.

Thus, it is not clear from where the impetus for a further substantial expansion could come, unless the trend in private investment is reversed or consumer buying stepped up considerably. Without such a change in the attitude of business or in the cautious behavior of governments and consumers, the probability is that the level of economic activity may remain relatively stable after

regaining the pre-recession position. In the industrialized countries the demand for raw materials of agricultural origin would then expand very little, while the demand for food, which has remained steady, is unlikely to show much change. The excess of supplies, with its price depressing effects in world markets, would thus tend to continue.

Many of the less-developed countries continue to encourage a rapid expansion of agricultural production in order to replace imports or increase exports. Nevertheless, their growing needs of foodstuffs and agricultural raw materials for their rapidly expanding populations are still being met only in part from increasing domestic production. Larger commercial imports will in many instances be impossible, however, as long as the tight foreign exchange position and the unfavorable price situation for exports from these regions continues. The expanding needs of the less-developed regions will begin to effect the international demand for agricultural products only if a substantial expansion of economic activity in the more-industrialized countries induces increased imports of agricultural products at higher prices, thus increasing the export revenues and purchasing power of the former group of countries.

International trade in agricultural products [2]

The impact of the 1957-58 recession fell unevenly upon international trade in agricultural products. Raw materials of agricultural origin were much the most severely affected. The volume of world exports of these products in 1958 fell by some 8 percent and the average price (unit value) by some 16 percent below the level of the previous year, so that total export earnings were reduced by no less than 23 percent. The fall in export earnings was particularly marked for wool, but cotton, rubber, and also forest products were badly affected.

Foodstuffs and beverage crops in general fared better than agricultural raw materials in 1958, though, here too, some commodities suffered heavy losses. The volume of world trade in food and feedingstuffs as a whole showed little change in 1958 from the year before, while the fall in prices which had continued more or less unbroken since 1952 was slightly accelerated and the total value of exports fell by about 5 percent. Average prices and export earnings of dairy products, however, fell by more than 10 percent and smaller declines occurred for cereals, edible oils, and oilseeds. The situation within the beverages and tobacco group was also variable. For the group as a whole, the volume of exports in 1958 fell slightly, mainly because of the small cocoa crops. Average prices and total export earnings of cocoa rose by

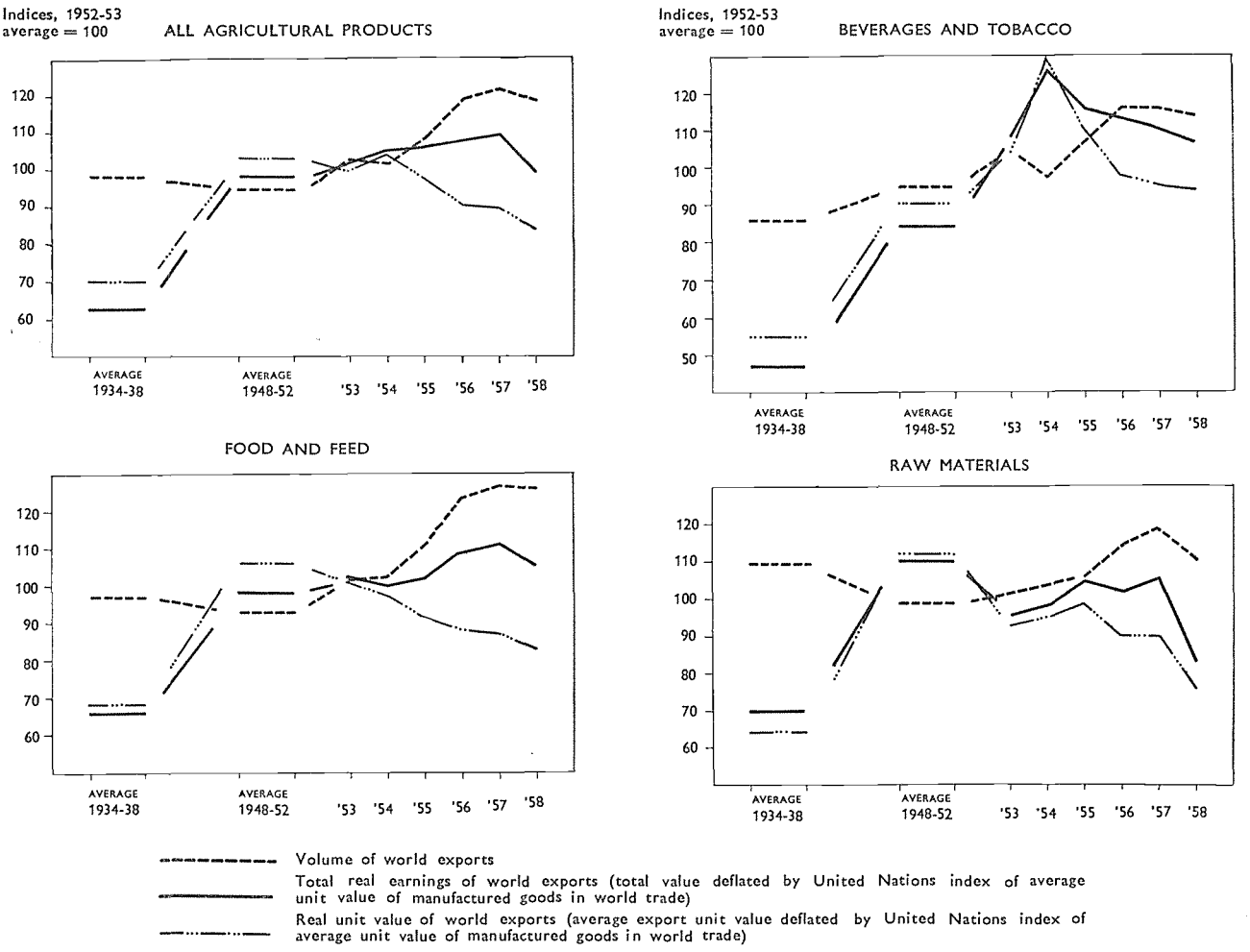
[2] Including imports from and exports to the U.S.S.R., Eastern Europe, and Mainland China reported in the statistics of trading partners in the rest of the world, but excluding (except for forest products) trade within this group of countries.

TABLE II-8. – INDICES OF THE VOLUME, AVERAGE UNIT VALUE (AVERAGE PRICE) AND TOTAL VALUE OF WORLD [1] EXPORTS OF AGRICULTURAL PRODUCTS

	Average 1934-38	Average 1948-52	1953	1954	1955	1956	1957	1958 (prelim.)
	Indices, 1952-53 average = 100							
Volume	98	95	102	102	109	119	122	119
Average unit value								
at current prices	32	100	97	100	95	92	94	87
in real terms [2]	64	103	99	104	98	91	90	83
Total value								
at current prices	32	95	100	101	103	109	114	104
in real terms [2]	63	98	102	105	106	108	109	99

[1] Exluding the U.S.S.R., Eastern Europe, and Mainland China – [2] Deflated by the United Nations index of average unit values of manufactured goods in world trade.

FIGURE II-5. - INDICES OF THE VOLUME, REAL UNIT VALUE, AND TOTAL REAL EARNINGS OF AGRICULTURAL EXPORTS



some 54 percent and 25 percent respectively in comparison with 1957. On the other hand, average prices for coffee were again lower, in spite of the Latin American export retention scheme, and export earnings for coffee were some 15 percent less in 1958 than the year before. The total value of exports for the beverages and tobacco group as a whole declined only 3 percent. More detailed figures for commodity groups and individual commodities are given in the fuller analysis which follows later in this section.

For agricultural products as a whole, the volume of exports in 1958 was about 3 percent less than in 1957; prices in world markets fell by about 7 percent and total earnings from agricultural exports by about 9 percent. As the index of average prices of manufactured goods in world trade showed no change from 1957 to 1958, the import capacity from current earnings of agricultural exporting countries for manufactures was reduced to roughly the same extent. Recent trends in the volume, prices, and total value of world trade in agricultural products as a whole are set out in Table II-8, while similar data for the three main groups of agricultural commodities are shown in Figure II-5.

The effect of the developments summarized above on countries exporting agricultural products naturally varied widely according to the commodity composition of their exports. This aspect, too, is analyzed more fully below on a regional basis. Briefly, however, it may be said that the sharpest fall in earnings from agricultural exports in 1958 appears to have occurred in Oceania, where a decline of 23 percent reflected the unfavorable situation for wool and dairy products, together with sharply reduced exports of cereals following the small Australian crops of 1957/58. In Latin America, the Far East, and the Near East the fall was of the order of 10 percent. The value of exports from North America was also some 10

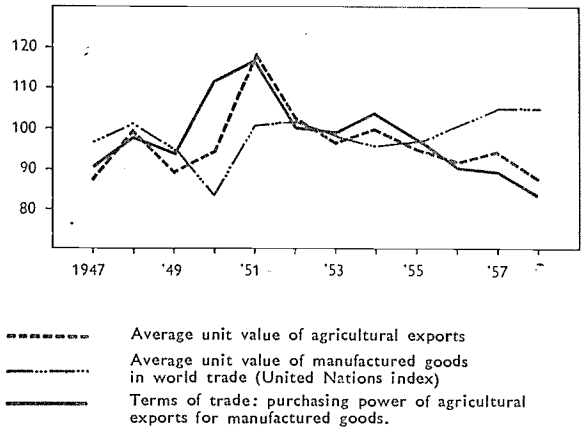
percent lower than in 1957, though this figure includes both commercial exports and the imputed value of shipments under special terms, and reflects a decline in the volume of exports rather than in prices. Western European export earnings fell by only 4 percent, as lower prices were partly offset by a larger volume of trade, mainly intra-regional. For Africa both the volume and value of agricultural exports were maintained approximately at the 1957 level, the latter chiefly because of the considerably increased returns for cocoa.

The almost continuous fall, since the Korean boom, in the "terms of trade" for agricultural products as a whole on world markets is evident from Table II-8. The separate movements of agricultural and manufacturing prices which combine to give this result are shown in Figure II-6. A brief recovery in the purchasing power of agricultural products after the 1953-54 recession resulted from a temporary rise in agricultural prices (reflecting mainly the boom in coffee and cocoa) which coincided with a transient fall in prices of manufactured goods. The fall in the terms of trade slowed down in 1957, but in 1958 the decline became much steeper.[3]

The effects on international trade of the 1957-58 recession, and indeed general experience during the past decade, underline how greatly the position of countries heavily dependent on primary exports, including most less-developed countries, is influenced by the economic situation in the more-industrialized countries. Both the prices of the

FIGURE II-6. - TERMS OF TRADE FOR AGRICULTURAL EXPORTS

Indices, 1952-53 average = 100



manufactured goods which the less-developed countries import, and the prices of the agricultural and other primary products on which they depend for essential earnings of foreign exchange are determined primarily by demand/supply relationships in the more-industrialized countries. Moreover, the demand for agricultural imports in the latter countries is greatly influenced by their food and agricultural policies and by technological developments. For example, technical developments and policy measures tending to increase domestic agricultural production in the industrialized countries correspondingly reduce their demand for imports of temperate zone agricultural products (e.g., cereals, meat, dairy products) and also of some commodities, such as fruit, sugar, and oilseeds, grown in both temperate and tropical zones. Similarly, the traditional revenue taxes in many industrialized countries on, e.g., coffee, tea, and tobacco, as well as the development of man-made fibers, synthetic rubber, and other substitutes for

[3] Long-term trends in price relationships for agricultural products on world markets were considered in a special chapter in the 1956 issue of this report. There appears to have been a slow decline in the purchasing power of agricultural products from the 1870's, when an increasing flow of supplies from North America and Oceania came onto world markets, until the First World War. After a temporary rise and fall during the wartime boom and postwar depression, agricultural prices were stabilized in the late 1920's at around 90 percent of their prewar purchasing power, but during the depression that followed they fell to some 60 percent of that level, the lowest prices (in real terms) recorded in economic history. The Second World War brought about a recovery, and during the subsequent Korean boom agricultural prices as a whole reached a level which had not been matched since the 1870's. By 1956-57, however, they had fallen to rather less than they were (again in real terms) before the First World War, while the index provisionally estimated for 1958 corresponds roughly to the price level during the late 1920's. The purchasing power of agricultural products still appears to be about one-third better than the depressed level immediately prior to the Second World War. But, as is shown later, the improvement in the terms of trade for agricultural products at the present time in relation to 1934-38 applies almost entirely to the exports of the less-developed countries, which were particularly badly affected by the depression of the 1930's. The terms of trade of the temperate zone agricultural products exported by the more-developed countries were only slightly higher in 1958 than before the war.

Such estimates of long-term price trends can of course be no more than rough approximations. In particular, while the nature of primary products remains fairly stable, the quality and composition of exports of manufactured goods are subject to continuous change. Nevertheless, the data in Table II-8 and Figure II-6, covering only the period from 1934-38, are in broad agreement with independent estimates and seem to reflect the general picture without serious distortion.

natural raw materials, limit the need for agricultural imports from semitropical and tropical areas. So long as the primary exporting countries need imports of manufactured goods and can pay for them only by primary exports, this dependence seems likely to continue, though more might be done, e.g., by commodity agreements, to limit the wide fluctuations in their earnings of foreign exchange which so badly disorganize their economies.

The situation in the primary exporting countries does, however, react back on the export markets of the industrialized countries for their manufactured goods. In 1958, for the first time since the Second World War, there was a decline in both the volume and total value of exports of manufactured goods. There can be little doubt that the reduced export earnings of primary producers contributed to this result.

Developments in world trade in agricultural products in 1958, which are examined below in greater detail, must be seen against this general background.

The volume of trade

Until 1954 the total volume of world trade in agricultural products (average of exports and imports) had remained fairly stable for some years at or slightly below the prewar level. In 1955 there was a rise of some 7 percent in which nearly all regions of the world participated. In the following year the volume of agricultural trade increased by a further 8 percent and in 1957 by some 4 percent, but these latter increases were of a somewhat different character, reflecting to a considerable extent intensified surplus disposal operations in the United States.

The reduction of 3 percent in the volume of agricultural trade from 1957 to 1958 was largely accounted for by a decline in United States exports, especially of cotton; this decline was largely in the commercial sector. There were also some other factors, including lower cereal harvests in 1957/58 in Far Eastern rice exporting countries and in Australia, and a reduced output of cocoa and copra.

For most of the main commodity groups the volume of trade in 1958 showed little change from the previous year (Table II-9 and Annex Table 1B). The sharpest movement, a fall of some 8 percent in shipments of agricultural raw materials to a level somewhat below the prewar average, reflected chiefly a reduction of 14 percent in cotton exports. The recession also led to a decline of 4 percent in world trade in forest products. In the beverages and tobacco group there was a 19 percent reduction in shipments of cocoa, following the small crop of 1957/58. In the food and feedingstuffs group, trade in maize registered

Table II-9. – Indices of the Volume of World Trade [1] in Agricultural Products, by Main Commodity Groups

	Average 1934-38	Average 1948-52	1953	1954	1955	1956	1957	1958 (prelim.)
	Indices, average 1952-53 = 100							
Total trade (agricultural and non-agricultural) [2]	66	87	103	108	118	128	135	133
All agricultural products	99	94	102	101	108	117	121	118
Forest products [3]	92	91	102	117	131	128	128	123
Food and feedingstuffs	98	93	102	101	109	122	126	127
Cereals	100	93	97	92	97	119	117	117
Sugar	79	89	108	101	108	110	119	118
Oilseeds and vegetable oils (edible)	120	96	102	115	127	140	145	142
Fruit, fresh and dried	89	83	106	108	115	107	122	120
Livestock and livestock products (edible)	97	94	104	107	116	125	133	135
Beverages and tobacco	86	95	104	99	108	115	116	113
Agricultural raw materials	110	97	102	103	105	112	117	106

[1] Average of indices of world imports and world exports (including imports from and exports to the U.S.S.R., Eastern Europe, and China reported in the statistics of trading partners in the rest of the world, but excluding, except for forest products, trade within this group of countries). – [2] United Nations index of world exports adjusted to 1952-53 base; comparable League of Nations estimates included for 1934-38. – [3] Not included in index of agricultural products

an exceptional increase of 16 percent, but there were declines for most other cereals and also for edible oils and oilseeds. With the sharp fall in apple production in Western Europe, international trade in fruit in 1958 failed to maintain the large increase of 1957. Trade in livestock and livestock products increased, but this mainly reflected imports from neighboring countries and from Oceania to make good the temporary meat shortage in the United States.

Among the main regions of the world, Western Europe and Africa slightly increased their gross exports of agricultural products in 1958 (Table II-10 and Annex Tables 2-9). In Latin America there was a fairly substantial recovery from the low level of 1957, when exports of cereals, cotton, and coffee had fallen sharply. The volume of exports from North America fell by 10 percent and was somewhat less than in 1956. There were declines of some 6 to 9 percent in Oceania and the Far East (excluding China) and a small reduction in the Near East. Gross agricultural imports increased in North America, Latin America, and Oceania in 1958. The major decline was inevitably in

TABLE II-10. – 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 (prelim).
	Indices, average 1952-53 = 100							
GROSS EXPORTS (all agricultural products)								
Western Europe	106	81	103	114	125	124	136	139
North America	61	101	92	89	91	126	137	123
Oceania	79	97	103	94	105	111	113	104
Latin America	105	100	109	103	109	117	111	115
Far East (excl. China)	160	96	100	102	111	112	112	106
Near East	83	87	114	108	104	103	112	110
Africa	76	90	103	113	122	128	131	132
GROSS IMPORTS (all agricultural products)								
Western Europe	113	95	104	106	112	122	126	123
North America	80	100	99	86	94	96	96	99
Oceania	66	99	104	122	127	123	131	134
Latin America	58	91	102	106	106	103	118	119
Far East (excl. China)	106	80	99	98	99	119	127	121
Near East	50	91	99	96	114	133	145	139
Africa	66	86	103	108	118	128	135	133
NET EXPORTS (all agricultural products)								
North America [1]	([2])	([2])	([2])	([2])	([2])	100	140	77
Oceania	80	97	103	91	103	109	111	101
Latin America	115	102	111	102	109	120	109	114
Far East (excl. China)	496	193	107	124	187	70	14	15
Near East	118	82	130	120	94	71	78	79
Africa	79	91	103	115	124	129	130	132
NET IMPORTS (all agricultural products)								
Western Europe	115	99	105	104	108	121	123	118
North America [3]	208	32	100	6	67	([4])	([4])	([4])
NET EXPORTS (food and feedingstuffs)								
North America	([2])	94	88	65	86	143	126	116
Oceania	87	96	107	94	106	115	106	97
Latin America	177	121	119	126	129	146	151	160
Africa	94	95	106	137	125	129	118	140
NET IMPORTS (food and feedingstuffs)								
Western Europe	125	106	102	94	103	129	120	124
Far East (excl. China)	([4])	60	99	82	63	100	121	146
Near East	([4])	110	56	67	149	207	251	215

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

Western Europe, which accounts for more than half the world's imports of agricultural products.

Regional changes in the volume of trade in 1958 were larger than usual and are discussed separately later in this section. They do not, however, modify substantially the postwar trend, emphasized in several recent issues of this report, toward a considerable fall in net exports of food and feedingstuffs from the less-developed regions to the more-developed regions of the world. Because food production in the less-developed regions has in general not kept pace with needs, some countries have had to curtail food exports, while others have become substantial importers of foodstuffs. As a result, net exports of food and feedingstuffs from the less-developed countries as a whole are running currently at about one third of the 1934-38 level (Table II-11).

These considerations do not apply to exports of beverages and raw materials, since the domestic market for these products is still too small greatly to affect the situation. Net exports of beverage crops have expanded fairly steadily since the prewar period. Net exports of agricultural raw materials, on the other hand, have fluctuated at roughly the prewar level, in accordance with the level of economic activity in industrialized countries. Export outlets for many of these products have been limited by the more economic use of raw materials in industry, and especially by the emergence of synthetic substitutes.

These trends are mirrored in the net imports of the more-industrialized regions, where there has been a similar fall in net imports of food and feedingstuffs, caused not only by the reduced export supply from the less-developed regions but also by increased domestic production.

Prices, terms of trade, and total earnings of agricultural exports

It is evident from Table II-12 that, as with the volume of trade, the main decline in average export unit values during 1958 was in the agricultural raw materials group, the products most directly affected by the lower level of economic activity. Average unit values for this group of products had been falling since the beginning of 1957, but the decline was accelerated during the first nine months of 1958 and the average for the year was 16 percent less than in 1957. Figure II-7, and also the data on average unit values assembled in Annex Table 12, indicate that prices decreased for all the main commodities in this group, except sisal, linseed and linseed oil. For the first few months of 1959, however, price series show some recovery for both wool and rubber. The year 1958 also saw the end of the long period of stability for international prices of roundwood and timber, as is discussed later in a separate section on the trade in forest products.

Average unit values for the food and feedingstuffs group fell by 4 percent in 1958, after rising slowly over the previous two years. Prices for cereals were again more or less unchanged, as

Table II-11. – Indices of the Volume of Net Trade between Less-Developed Regions as a Whole and More-Industrialized Regions as a Whole

	Average 1934-38	Average 1948-52	1953	1954	1955	1956	1957	1958 (prelim.)
	Indices, average 1952-53 = 100							
Net exports of less-developed regions [1]								
All agricultural products	132	104	110	109	118	116	106	110
Food and feedingstuffs	491	169	138	203	193	175	148	154
Beverages and tobacco	87	95	104	95	105	115	114	109
Raw materials	99	99	110	102	116	101	85	98
Net imports of more-developed regions [2]								
All agricultural products	137	100	109	105	111	105	101	105
Food and feedingstuffs	451	143	127	157	134	118	125	172
Beverages and tobacco	88	95	102	99	106	111	115	109
Raw materials	99	91	113	96	110	90	72	76

[1] Latin America, Far East (excluding China), Near East, Africa. – [2] Western Europe, North America, Oceania.

TABLE II-12. – INDICES OF AVERAGE EXPORT UNIT VALUES (AVERAGE PRICES) OF AGRICULTURAL PRODUCTS IN WORLD TRADE [1]

	Food and feedingstuffs					Beverages and tobacco	Agricultural raw materials	Forest [3] products	All agricultural products	Manufactured goods [4]	Terms of trade
	Cereals	Edible oils and oilseeds	Meat	Dairy products [2]	Total						
	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)	(9)	(10)	(9)÷(10)
	Indices, average 1952-53 = 100										
YEARLY INDICES											
1947	108	102	69	99	106	72	71	83	88	97	90
1948	125	128	81	118	117	76	88	93	99	101	98
1949	101	107	86	110	102	72	83	81	89	95	94
1950	85	95	82	83	91	88	102	72	94	84	112
1951	92	122	93	95	103	99	158	114	119	101	117
1952	100	98	100	101	101	99	108	107	103	102	101
1953	100	102	100	99	99	101	92	93	97	98	99
1954	85	97	103	95	93	125	91	93	100	96	104
1955	79	87	102	95	89	107	96	94	95	97	98
1956	76	94	101	97	90	99	91	95	92	101	91
1957	75	91	100	91	91	100	94	94	94	105	90
1958 (preliminary)	75	90	104	78	87	99	79	90	87	105	83
QUARTERLY INDICES											
1955 I	82	89	104	95	91	118	97	...	99	96	103
II	81	86	100	91	89	108	95	...	95	97	98
III	78	87	99	93	88	98	95	...	93	98	94
IV	75	87	104	95	88	105	95	...	94	99	95
1956 I	75	89	102	101	88	97	94	...	92	100	92
II	76	92	102	93	91	101	91	...	93	101	92
III	76	93	98	95	88	98	88	...	90	101	89
IV	78	90	100	96	90	99	92	...	93	102	91
1957 I	77	93	103	90	92	102	97	...	96	104	92
II	76	93	98	88	92	99	96	...	95	104	91
III	75	90	97	93	92	98	94	...	94	105	90
IV	74	89	101	92	90	100	90	...	92	105	88
1958 I (preliminary)	75	90	99	81	88	99	85	...	89	106	84
II (preliminary)	75	91	103	74	88	100	81	...	89	105	84
III (preliminary)	76	88	105	74	87	103	75	...	87	104	84
IV (preliminary)	75	90	109	81	88	96	76	...	86	104	83

[1] Excluding the U.S.S.R., Eastern Europe, and China (except for forest products). – [2] Including eggs. – [3] Not included in the general index for all agricultural products. – [4] United Nations index of average export unit values adjusted to 1952-53 base.

lower maize prices were counterbalanced by increased prices for rice, following the poor 1957/58 harvests in most Far Eastern countries. Sugar prices,[4] which had climbed in 1957, fell substantially. Trends for the different edible oils and oilseeds varied considerably, but for the group as a whole there was a further slight decline in prices. While prices rose for all types of meat except mutton and lamb, heavy supplies on the main Western European markets for butter and cheese brought about a rapid fall of 14 percent in prices of dairy products. The decline in food and feedingstuff prices appears to be continuing, for during the early months of 1959 only price series for some oilseeds, butter, and cheese have shown much recovery.

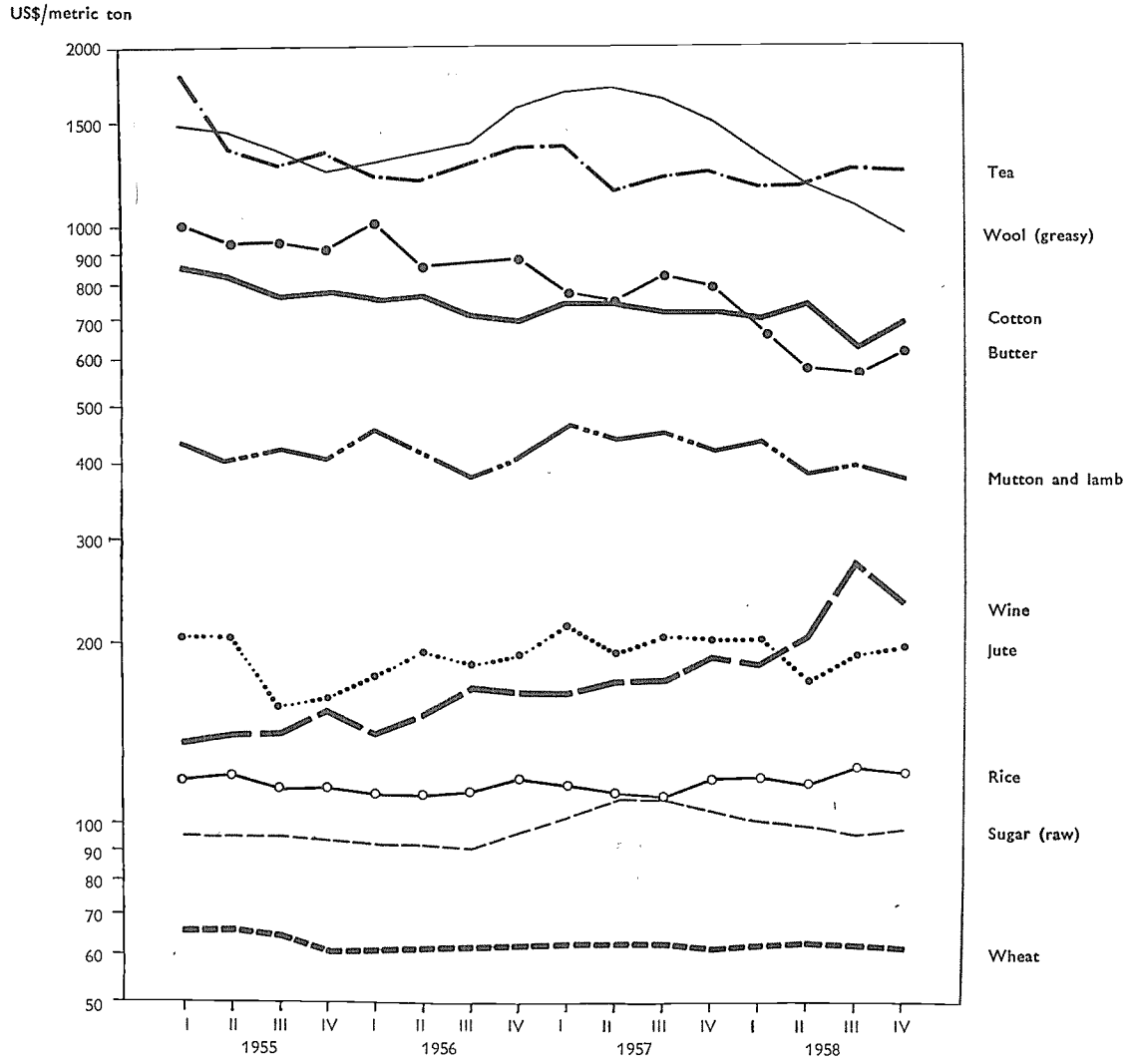
[4] The data for sugar include both sales on the free market and under the various bilateral and multilateral agreements.

In spite of a rise of more than 50 percent in prices for the small cocoa crop, average unit values for the beverages and tobacco group fell slightly in 1958. Coffee prices fell 16 percent and there were small declines for tea and tobacco. From the beginning of 1959 prices of cocoa have also joined in the general downward movement.

The reduction of 7 percent in 1958 in average export unit values for agricultural products as a whole took them to their lowest level since the war. The "terms of trade" for agricultural products, that is to say their purchasing power for the manufactured goods which are the main imports of agricultural exporting countries, were also lower than in any postwar year, though, as already noted, they were still some 30 percent higher than in the 1934-38 period. In making these comparisons, however, there is no means of judging what would be "normal" price rela-

FIGURE II-7. - AVERAGE EXPORT UNIT VALUES (AVERAGE PRICES) OF SELECTED AGRICULTURAL PRODUCTS IN WORLD TRADE, QUARTERLY DATA, 1955-58

(Semi-logarithmic scale)



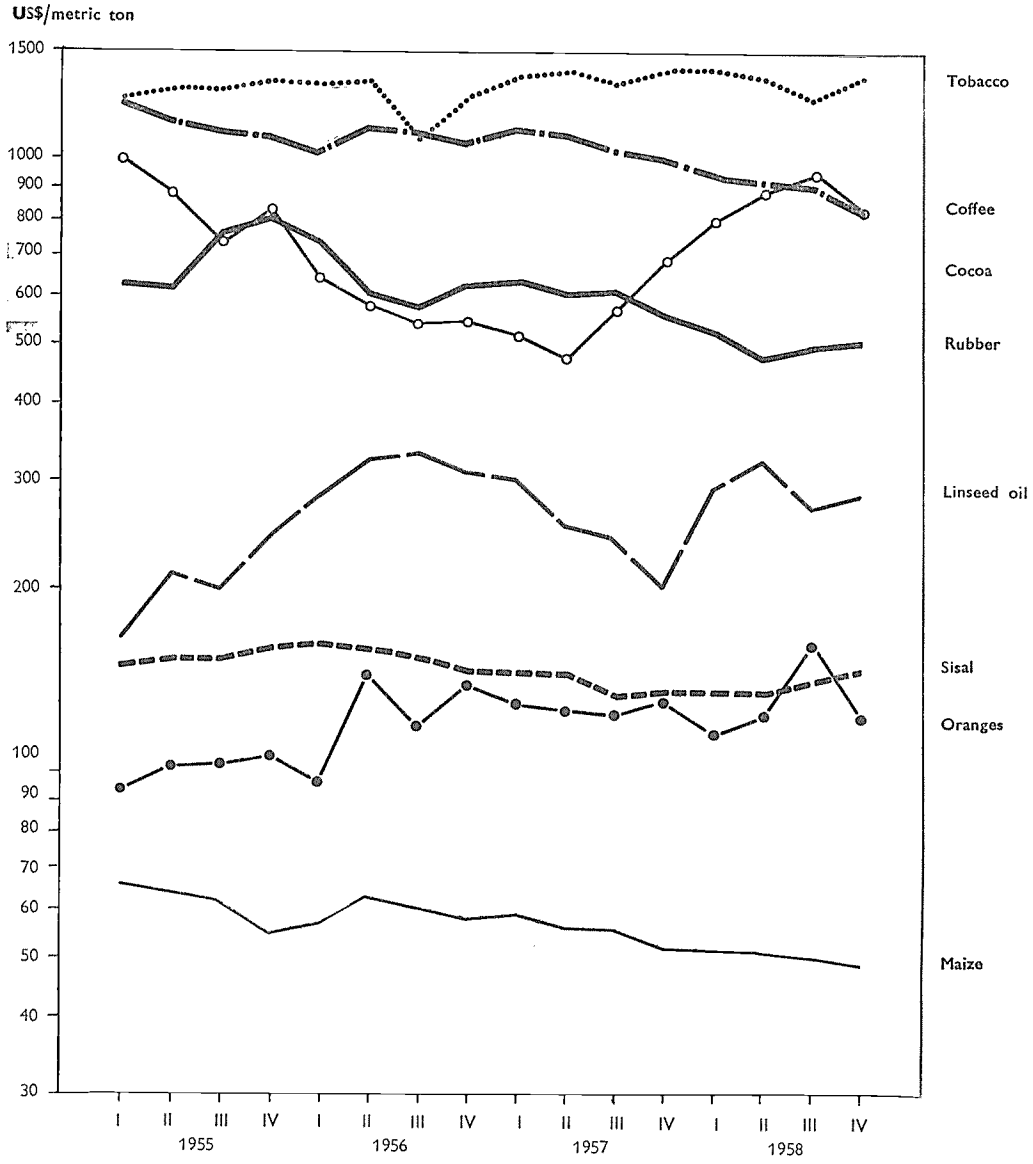
tionships for agricultural products, though in comparison with the situation over the last few decades those in 1934-38 were unusually low and those in 1952-53 (the base period for Table II-12) rather high.

The main significance of changes in the terms of trade for agricultural products lies in their influence on the earnings of foreign exchange of agricultural exporting countries. The latter in turn will obviously depend on the particular products exported. Export earnings of many of the less-developed countries are very narrowly based and depend heavily on one or two agricultural products, as, for example, cocoa in Ghana or coffee in Colombia.

Export earnings, however, are influenced not only by "real" prices, but also by the volume of exports, and in spite of the declining prices of agricultural products in world trade the total value of agricultural exports has been slightly increased in the past few years, as a result of the expansion in their volume. In 1958, however when both prices and the volume of trade declined, there was a fall of about 9 percent in the total real value of earnings from world agricultural exports to approximately the level of 1952-53 (Table II-13). The volume of exports in 1958 was some 19 percent larger than in 1952-53 and 25 percent larger than in 1948-52, but these increases in volume have brought virtually no improvement in total real

FIGURE II-7. - AVERAGE EXPORT UNIT VALUES (AVERAGE PRICES) OF SELECTED AGRICULTURAL PRODUCTS IN WORLD TRADE, QUARTERLY DATA, 1955-58 (CONCLUDED)

(Semi-logarithmic scale)



earnings from agricultural exports. Indeed, since the figures for 1958 include a considerable proportion sold under special terms in the course of various schemes of surplus disposal, earnings from commercial exports in that year must have been substantially less than in 1952-53. In comparison with the prewar period, however, whereas the 1958 volume of exports was only about 20 percent greater, the real value still showed an increase of nearly 60 percent.

Table II-13 shows the broad position for agricultural products as a whole and for the main groups of commodities. Of even greater interest in some respects are the data in Figure II-8, which show for certain representative commodities or groups of commodities both average real prices on world markets and total real earnings during the past decade, together with comparable data for 1934-38. It is remarkable for how many commodities the curves for average prices and total earnings follow each other closely, indicating that the price rather than the volume of exports has been the main factor in determining export earnings. Rubber (since 1949), coffee, and cocoa are particularly striking examples. In other instances e.g., meat, edible oils and oilseeds, and recently dairy products, the separation of the two curves in recent years shows that the volume of exports

TABLE II-13. – INDICES OF THE VOLUME AND REAL VALUE [1] OF AGRICULTURAL EXPORTS, [2] BY MAIN COMMODITY GROUPS

	Average 1934-38	Average 1948-52	1953	1954	1955	1956	1957	1958 (prelim.)
	Indices, average 1952-53 = 100							
ALL AGRICULTURAL PRODUCTS								
Volume	98	95	102	102	109	119	122	119
Real value	63	98	102	105	106	108	109	99
FOOD AND FEEDINGSTUFFS								
Volume	97	93	102	103	111	124	127	126
Real value	66	98	102	100	102	109	111	105
BEVERAGES AND TOBACCO								
Volume	86	95	104	97	107	116	116	113
Real value	47	84	108	126	116	113	110	106
RAW MATERIALS								
Volume	109	99	102	104	106	114	119	110
Real value	70	110	96	98	105	102	106	83

[1] Total export earnings (f.o.b.) of all agricultural exporters, deflated by United Nations index of average export unit values of manufactured goods. – [2] Excluding the U.S.S.R., Eastern Europe, and China.

has also significantly affected the total revenue from exports.

Finally, Table II-14 summarizes the position for each of the main regions; the same data are reproduced graphically in Figure II-9. The situation is seen to have varied considerably from region to region, and data for single countries would certainly show still greater variation. Thus, in Oceania the volume of exports in 1958 was about 8 percent less than the year before, and the corresponding export earnings in real terms some 23 percent less, indicating a fall of around 17 percent in the terms of trade. In Latin America an increase of 4 percent in the volume of exports was accompanied by a decline of 7 percent in export earnings, so that the terms of trade fell by some 12 percent.

In the Far East earnings from agricultural exports fell by 11 percent in 1958, but about half of this movement reflected a decline in the volume of shipments. The Near East and Africa both maintained about the same volume of agricultural exports in 1958 as the year before, but while export earnings in the latter region were at about the 1957 level those in the Near East fell by some 10 percent.

In Western Europe lower prices were partially offset by an increase in the volume of trade in 1958, so that export earnings fell by only 4 percent. The situation in North America is complicated by the surplus disposal programs. However, if both commercial exports and the imputed value of exports under special terms are taken together, there appears to have been no significant change in the terms of trade. A decline of some 10 percent in the volume of exports led to a roughly comparable fall in the total value of exports, including noncommercial shipments.

Over the longer term, in the more-developed regions as a whole the volume of exports was just under 60 percent greater in 1958 than in 1934-38, and their value somewhat over 60 percent larger. Compared with 1948-52, however, the 30 percent increase in volume had brought only a 4 percent increase in real value. For these countries, therefore, the terms of trade for agricultural exports in 1958 were about 20 percent worse than in 1948-52 and only about 5 percent better than in 1934-38. In North America, where the increase in the volume of gross exports since the prewar period has been much greater than in Oceania or Western Europe, both the volume and real value of farm exports roughly doubled between 1934-38 and 1958. Their real values were lower, however, in 1958 than in 1948-52, when the volume of exports was nearly 20 percent smaller.

In the less-developed countries, on the other hand, the volume of agricultural exports in 1958 was only slightly above the prewar level, while their real value was about 50 percent higher. This indicates a similar improvement in their terms of trade. It should be added, however, that prices of some tropical exports were even more depressed in 1934-38 than prices of agricultural exports from the more-developed regions. In comparison

FIGURE II-8. – REAL AVERAGE UNIT VALUES AND TOTAL REAL EARNINGS OF EXPORTS OF SELECTED AGRICULTURAL PRODUCTS [1]

Indices: average 1952-53 = 100

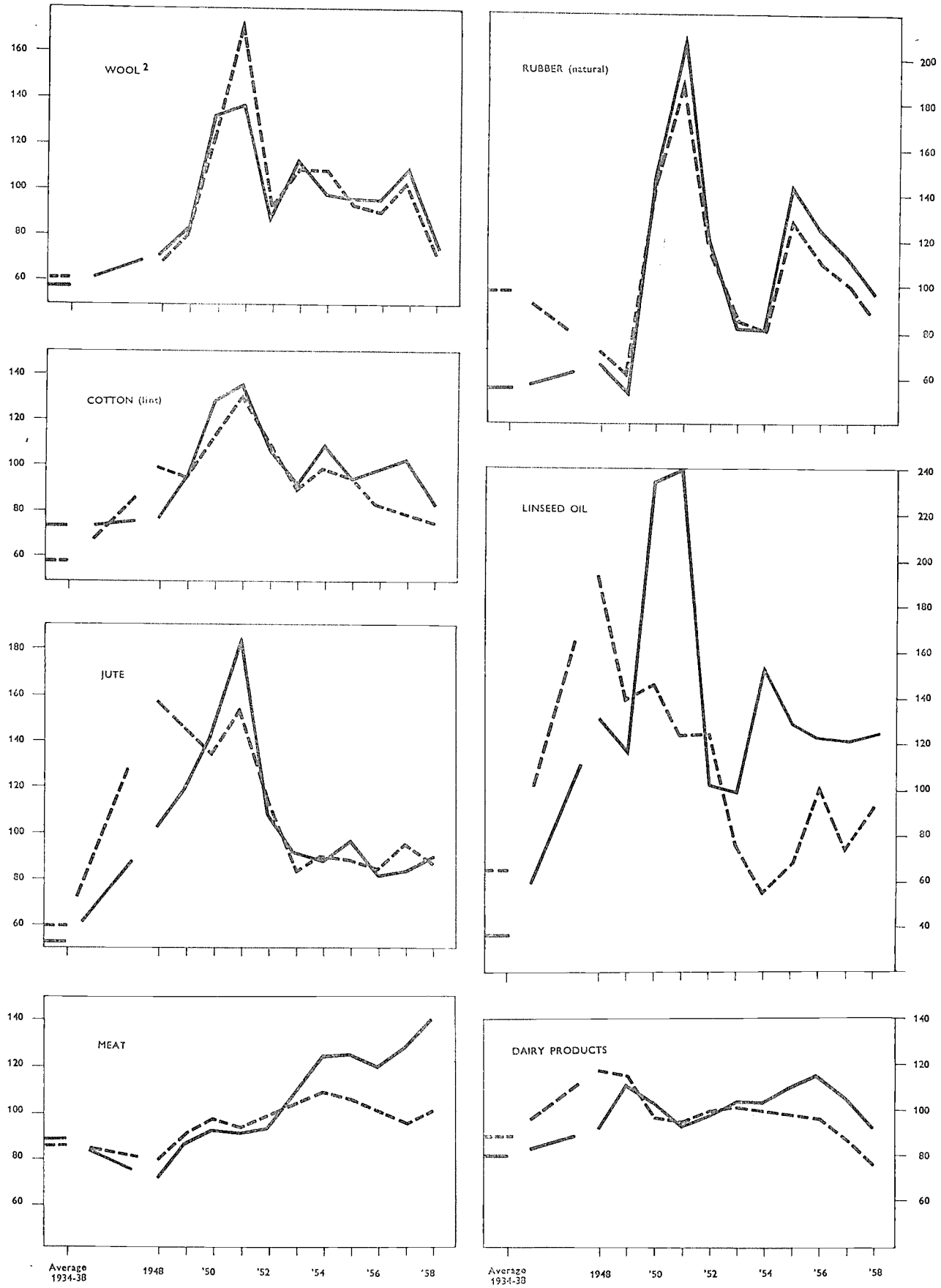


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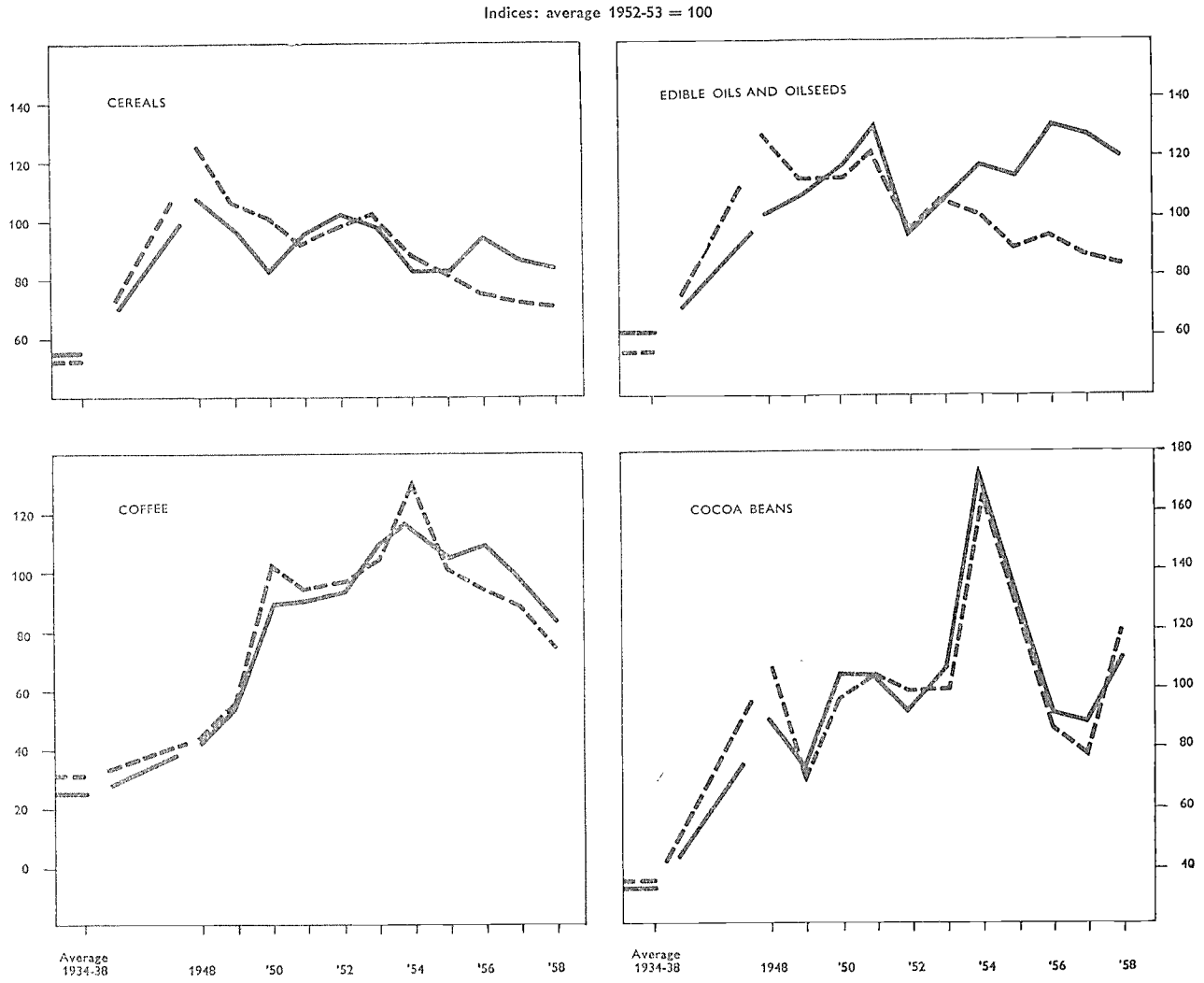
FIGURE II-8. - REAL AVERAGE UNIT VALUES AND TOTAL REAL EARNINGS OF EXPORTS OF SELECTED AGRICULTURAL PRODUCTS [1] (CONCLUDED)



[1] Deflated by United Nations index of average unit value of manufactured goods in world trade. - [2] Average unit values refer to greasy wool only.

Average unit values in real terms

Total export earnings in real terms

with 1948-52, the fall in the terms of trade of agricultural exports of the less-developed countries has been nearly as great as for the more-industrialized group.

In the Far East the volume of agricultural exports has fallen sharply since the prewar period, but the decline in real value was comparatively small; in fact, up to 1958 real export earnings were somewhat larger than before the war. The other three underdeveloped regions have increased their total volume of agricultural exports since 1934-38, and in each case the increase in real export earnings has been substantially greater than in volume. The difference is particularly striking in Latin America, where the volume of agricultural exports has increased by only 10 percent since 1934-38, while real export earnings in 1958 had gone up by no less than 80 percent.

To summarize, therefore, while the terms of trade for agricultural exports as a whole have declined almost continuously since the Korean war period, with an accelerated fall in 1958 as a result of the recession, they are more favorable by about one third than in the immediate prewar period, and roughly comparable to those ruling during the late 1920's. The improvement in comparison with 1934-38, however, is due primarily to more favorable price relationships for the agricultural

TABLE II-14. – INDICES OF THE VOLUME AND REAL VALUE [1] OF AGRICULTURAL EXPORTS, BY REGIONS AND GROUPS OF REGIONS

	Average 1934-38	Average 1948-52	1953	1954	1955	1956	1957	1958 (prelim.)
	Indices, average 1952-53 = 100							
WESTERN EUROPE								
Volume	106	81	103	114	125	124	136	139
Real value	87	87	102	111	118	117	125	120
NORTH AMERICA								
Volume	61	101	92	89	91	126	137	123
Real value	47	105	92	88	85	109	112	100
OCEANIA								
Volume	79	97	103	94	105	111	113	104
Real value	59	99	110	97	101	101	108	83
THREE ABOVE REGIONS								
Volume	79	94	98	97	104	122	131	123
Real value	62	98	99	97	99	109	115	102
LATIN AMERICA								
Volume	105	100	109	103	109	117	111	115
Real value	51	96	110	115	105	105	100	92
FAR EAST (excl. China)								
Volume	160	96	100	102	111	112	112	106
Real value	99	107	96	100	115	105	101	90
NEAR EAST								
Volume	83	87	114	108	104	103	112	110
Real value	60	100	104	108	102	103	110	99
AFRICA								
Volume	76	90	103	113	122	128	131	132
Real value	45	89	102	122	116	113	113	114
FOUR ABOVE REGIONS								
Volume	113	96	106	105	112	117	115	115
Real value	65	98	104	111	110	106	104	97
ALL ABOVE REGIONS								
Volume	98	95	102	102	109	119	122	119
Real value	63	98	102	105	106	108	109	99

[1] Total export earnings, deflated by United Nations index of average export unit values of manufactured goods.

exports of the less-developed regions, which were particularly depressed immediately before the war. Price relationships for the exports of the more-developed regions were only slightly more favorable in 1958 than in 1934-38.

To complete the section on international trade, brief notes are appended on regional shifts in the volume of trade in 1958, on trade in forest products, on surplus disposal operations, and on the agricultural trade of the Communist group of countries.

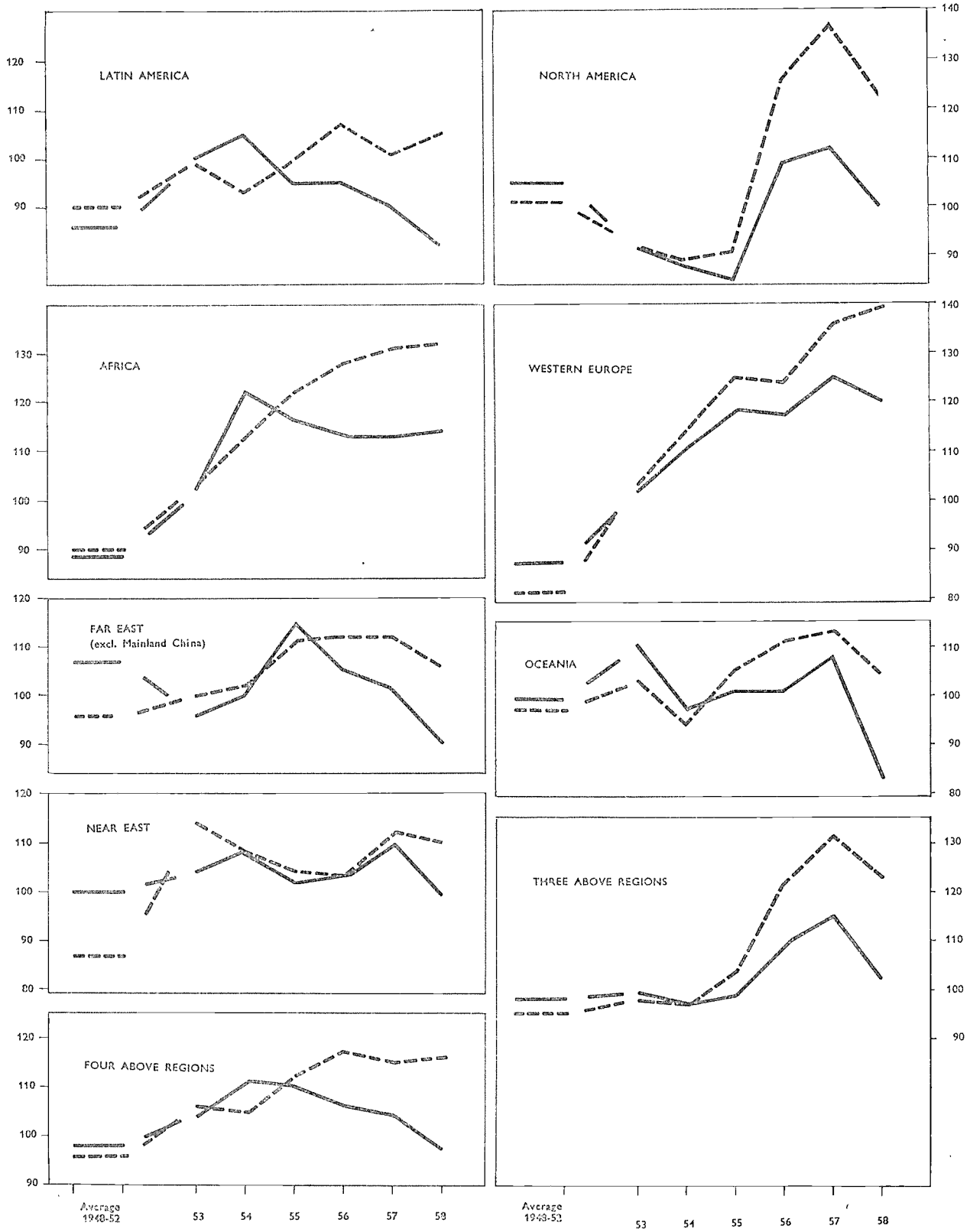
REGIONAL SHIFTS IN THE VOLUME OF TRADE IN 1958

The fall in the volume of world agricultural exports in 1958 was reflected mainly in smaller imports into Western Europe, as this is by far the largest deficit area of the world and (as in the two previous years) the only net importing region for agricultural products as a whole. Gross imports into the region fell by 3 percent in 1958, the largest single item being a fall of 285,000 tons (17 percent) in imports of cotton. Net agricultural imports fell by about 5 percent because of the simultaneous fall in agricultural exports. The main decline in imports, however, was in raw materials, and net imports of food and feedingstuffs were some 3 percent higher than in 1957.

Gross imports of cereals, especially maize, increased, but wheat and flour imports were lower in spite of the poor wheat crop in France. With the steady increase in sugar-beet production, the

FIGURE II-9. - VOLUME AND REAL[1] VALUE OF AGRICULTURAL EXPORTS, BY REGIONS AND GROUPS OF REGIONS

Indices, average 1952-53 = 100



[1] Deflated by United Nations index of average unit value of manufactured goods in world trade.

Volume

Real value (earnings)

net import of sugar fell slightly and West German sugar factories announced that they could no longer take sugar beet from neighboring countries. Apple exports were almost halved as a result of the very small 1957/58 crop. Although total imports of butter were comparatively stable, this concealed a very complicated situation, United Kingdom imports rising by 16 percent and imports into Western Germany, the other main importer, falling very sharply.

With a sharp decline in gross exports and little change in gross imports. North America's net exports of agricultural products fell by more than 40 percent in 1958, though for food and feedingstuffs the decline was only about 8 percent. The sharpest decline was in United States exports of cotton, which fell by 36 percent from the high 1957 level and were about the same as the 1948-52 average. The fall in total agricultural exports took place entirely in the United States, and Canadian exports rose in 1958, mainly because of an increase of 36 percent in meat exports to the United States. On the import side, changes were less marked, lower North American imports of cocoa, wool, and rubber being offset by increases in sugar, meat, and sisal.

Oceania's exports of agricultural products fell by nearly 10 percent. Following the poor grain harvest in Australia, wheat and flour exports declined by more than 40 percent and barley exports were halved in 1958. The volume of wool exports fell by 8 percent, exports of mutton and lamb rose by 14 percent, and in spite of difficulties on traditional European markets butter exports were increased by nearly 12 percent.

After a sharp decline in 1957, Latin America's net exports increased by 4 percent, though they remained lower than in 1956. The major change was a doubling of maize exports, while exports of wheat and flour were 15 percent smaller. Sugar exports expanded a further 4 percent and, in contrast to other regions, cotton exports recovered considerably.

In the Far East (excluding China) both gross exports and gross imports of agricultural products as a whole declined by about 5 percent, leaving the net position unchanged. However, as a result of a drop of 16 percent in rice exports, following the poor harvests in Thailand and other exporting countries, net imports of foodstuffs rose by about 20 percent, even though several countries reduced cereal imports in order to save foreign exchange. Mainland China became the principal supplier of rice to Ceylon and Indonesia. Gross exports of vegetable oils and oilseeds (in oil equivalent) fell by as much as 13 percent because of poor harvests, especially of coconuts. Imports of cotton were reduced by 15 percent.

With the better harvests of 1957/58 in the Near East, imports of wheat and flour fell by 14 percent and the net imports of food and feedingstuffs were also some 14 percent below the high level of 1957. The total cotton exports of the region were comparatively stable, though there were considerable changes in the exports of individual countries.

In Africa there was a small rise in net exports of all agricultural products and an increase of 18 percent in net exports of food and feedingstuffs. Cereal exports from North Africa, especially barley, recovered substantially and there was a corresponding reduction in imports. African exports of groundnuts and oil, coffee, cotton, and sisal reached record levels, but cocoa exports were the smallest for some years and less than the prewar average.

International trade in forest products

The decline in the volume of world trade in forest products in 1958 was shared by all roundwood categories with the exception of broadleaved logs from tropical regions. The demand for tropical logs was sustained in Europe and revived in North America, so that exports from West Africa showed a further increase. Trade in pitprops fell sharply, however. The sawnwood trade was generally lower, but the latter part of the year saw a marked revival in United States imports. Exports from the U.S.S.R., both of roundwood and sawnwood, were maintained or increased. Trade in wood pulp, newsprint and other papers was lower in most regions.

By the beginning of 1959, the volume of trade was reflecting the general upturn in demand for most forest products. In Europe and North America, 1959 imports of sawnwood and roundwood will probably surpass 1958 levels, the revival in demand being assisted by the modest level of importers' stocks of many commodities, though the upturn has not yet extended to small-sized roundwood. Owing to favorable shipping conditions and some increase in demand, exports of wood

pulp were higher in the spring of 1959 than a year earlier. North American exports of newsprint have yet to reflect any strengthening in demand, however, though they will probably increase later in the year.

The year 1958 saw the end of the long period of stability for international roundwood and timber prices. Prices of sawn softwood in Europe were about 15 percent lower at the beginning of 1959 than a year earlier, though they appear now to be more stable. Declines in the prices of coniferous sawlogs ranged from 10 to 20 percent. The prices of sawlogs of certain hardwoods, notably beech, have also weakened in those parts of Western Europe where there had been a strong demand for tropical timbers, the prices of which were in general maintained during 1958. In North America, where prices had already declined in 1957, they had begun to recover for most commodities, including sawnwood and plywood, by the middle of 1958. By the beginning of 1959 North American prices for sawn softwood had regained or slightly exceeded the level of a year earlier and they have subsequently continued to rise.

Prices of pulp and pulp products decreased in Europe during the second half of 1958. This decline continued into the early months of 1959, with falls ranging from 4 percent for newsprint to around 7 percent for certain grades of chemical pulp, but prices now appear to be fairly steady. North American prices for pulp and pulp products changed little during 1958 and have generally increased slightly so far in 1959.

Special measures to expand agricultural exports

The 1958 issue of this report included an account of the various special arrangements under which a large part of world trade in agricultural products now moves. The development of United States surplus disposal measures was reviewed from their inception and some data were also presented on direct and indirect subsidies to expand exports from other countries, especially of butter, meat, grains, and fruit from certain Western European countries.

During the calendar year 1958 United States exports under special programs (excluding credit sales and donations), at 1,277 million dollars, were 18 percent lower than in the calendar year 1957. For the fiscal year 1958/59, however, exports under Public Laws 480 and 665 are expected to be approximately the same as in the fiscal year 1957/58. New agreements signed under Title I of Public Law 480 included one with India for the supply of 3 million tons of grains, worth about 200 million dollars at export market prices. Congress has been asked to extend Public Law 480, which expires in December 1959, for a further year, with the additional authorization of 1,500 million dollars for sales under Title I and of 300 million dollars for Title II grants for famine relief and other assistance. In the first six months of 1958/59, exports under special programs amounted to 33 percent of the total value of United States exports, though for dairy products the proportion was as high as 72 percent and for wheat and flour 67 percent. For cotton the proportion moving under special terms rose from 48 percent in 1957/58 to 65 percent in the first half of 1958/59, largely because of the decline in commercial exports.

Special measures to encourage exports of surplus commodities are increasingly in evidence in other countries, including concessional prices, low interest credits and grants, foreign exchange rate adjustments, export bonuses or barter arrangements.

Agricultural trade of the U.S.S.R., Eastern Europe, and China

The data on the volume of world trade given in this chapter include imports from and exports to the U.S.S.R., Eastern Europe, and China reported in the statistics of trading partners in the rest of the world. Except for forest products, however, they exclude trade within this group of countries, for which only limited information is available, though rather more is now published than in the past. In view of the growing importance of these countries in world trade in agricultural products, and because the available data are often somewhat inaccessible, a separate note on what is known of their total agricultural trade is presented here, as in the past few years. Annex Table 3B assembles the available statistics for 1955-57 of the agricultural imr ports and exports of the U.S.S.R. and of the fou-principal trading countries in Eastern Europe.

In recent years agricultural products have represented about 40 percent of the total value of both exports and imports in the U.S.S.R. With the increased emphasis on consumer needs, imports of such products as fruit, beverages, tobacco, wool, and rubber have expanded sharply. Increased domestic production has caused larger exports of many products, including cereals, cotton, hemp, and flax, and reductions in net imports, especially of vegetable oils and some animal products. In fact, the U.S.S.R. has become a net exporter of butter and cheese, for which it was previously a net importer. Mainland China is the major source of U.S.S.R. imports of agricultural products, which in 1955-57 were approximately half of the total value of Chinese exports to the U.S.S.R. The U.S.S.R's agricultural exports are particularly directed to the industrialized countries of northeastern Europe, namely Czechoslovakia, Eastern Germany, and Poland, but trade links with the rest of the world, especially with some Near East countries, have been growing rapidly. For example, exports of rice and cotton to the U.S.S.R. and Eastern Europe increased from 28 percent of the total value of exports of the Egyptian Province of the United Arab Republic in 1956 to 38 percent in 1957.

Czechoslovakia and Eastern Germany are the main Eastern European importers of agricultural products, which represent some 30 to 40 percent of the total value of their imports. Like the U.S.S.R., these two countries, as well as Poland, import considerable quantities of rice, oilseeds, tea, etc. from China, various specialized products from southeastern Europe, and tropical products from the rest of the world. These imports supplement the grains, cotton, etc. received from the U.S.S.R. On the export side, both Hungary and Poland are important exporters of livestock products, particularly to Western Europe. The large prewar grain exports of the countries of southeastern Europe have disappeared and their principal exports are now tobacco, fruit and vegetables, mainly to the U.S.S.R. and other Eastern European countries.

With the lower harvests of 1957/58, U.S.S.R. grain exports fell from 6.8 million tons in 1956/57 to 4.7 million tons in 1957/58, but in 1958/59 they are expected to rise to around 8 million tons. The main decline in 1957/58 was in barley exports, which fell by 90 percent, but wheat exports were better maintained by drawing on stocks. Cereal exports to the Eastern European countries fell by only 800,000 tons, however, and the reduction in these exports was entirely in barley. Cereal shipments to Western Europe were halved in 1957/58, falling to 800,000 tons. While there was a reduction in the net import of total cereals of the Eastern European countries, net imports of bread grains increased by 18 percent. U.S.S.R. rice imports fell from 637,600 tons in 1956 to 370,500 tons in 1957, of which about half came from China.

Apart from imports from Czechoslovakia and Poland, for which data are not available, U.S.S.R. sugar imports were halved in 1958 as a result of the large domestic harvests; 201,500 tons were imported, almost entirely from Cuba, and 216,200 tons exported, mainly to Afghanistan, China, and Iran. Total exports of sugar from Czechoslovakia rose from 100,100 tons in 1957 to 276,900 tons in 1958 and there was a similar increase in Polish exports.

Data for livestock products are available only up to 1957, when there was a further sharp fall in the U.S.S.R's net imports of livestock and meat. Mainland China and Mongolia provided 54 percent of the U.S.S.R's meat imports and 92 percent of cattle imports in that year. Among the Eastern European exporting countries, the main event in 1957 was a decline of more than 50 percent in pig exports from Hungary. With exports to Eastern Europe of 49,100 tons and imports of only 8,300 tons in 1957, the U.S.S.R. was one of the world's major net exporters of butter. Trade agreements for the import of some 19,000 tons from Denmark and Finland may, however, have modified this position in 1958.

In the last few years U.S.S.R. imports of fresh and preserved fruit and vegetables have grown considerably, their value having almost doubled between 1955 and 1957. In the latter year the major items were 86,000 tons of apples, almost entirely from China and North Korea, 19,000 tons of grapes from Bulgaria and Romania, 45,000 tons of oranges, mainly from Morocco and Italy, 20,100 tons of lemons, mostly from Italy, and 42,900 tons of tangerines from China. Citrus imports from Western Europe were 30 percent lower, however, in the first 10 months of 1958 than in the corresponding period of 1957.

Even more striking is the increase in imports of beverages. For the U.S.S.R., Czechoslovakia, Eastern Germany, Hungary, and Poland together,

imports of coffee rose by 17 percent in 1957, of tea by 36 percent, and of cocoa beans by 76 percent, and there appear to have been further increases in 1958. Eastern Germany is the main importer of coffee and the U.S.S.R. of tea and cocoa beans. China provided more than half of the U.S.S.R. tea imports in 1957, while a large part of the purchases of coffee and cocoa came through the United Kingdom and other Western European countries.

U.S.S.R. exports of cotton were at about the same level in 1956 and 1957, though, owing to growing imports from the Near East, net exports have fallen. Three quarters of the cotton imports of the Eastern European countries came from the U.S.S.R. in 1957. U.S.S.R. exports of flax provided about one third of Western European imports in 1957, the United Kingdom being the major customer, though exports appear to have fallen in 1958. The U.S.S.R. is now one of the world's major importers of natural rubber and imports appear to have risen heavily in 1958 with the fall in world prices.

Data on the total agricultural exports and imports of Mainland China are still lacking. An approximate idea of the total can be obtained, however, by adding the volume of trade with the non-Communist countries, which is reported in their statistics, to that with the U.S.S.R. and those Eastern European countries for which data are available. In 1957 China exported to these countries about 460,000 tons of rice (milled), 185,000 tons of groundnuts, 913,000 tons of soybeans, 83,000 head of cattle, 600 million eggs, 68,000 tons of apples, 87,000 tons of pulses, 42,000 tons of tea, 48,000 tons of tobacco, and 3,000 tons of silk. In 1958 exports of rice in particular appear to have expanded very substantially. Principal Chinese imports from the same sources in 1957 were 65,000 tons of sugar, 83,000 tons of cotton, and 150,000 tons of natural rubber.

The agricultural trade of the U.S.S.R., Eastern Europe, and China with other countries has increased sharply for certain products and certain trading partners, and long-term agreements have been concluded with a number of countries in Western Europe, the Near East, Latin America and elsewhere. But this external trade is still relatively small, and there seems little doubt, especially in view of the decisions of the Ninth Session of the Council of Mutual Economic Aid on economic co-operation among the Communist countries, that the great bulk of their trade will continue to be among themselves.

Farm prices and incomes

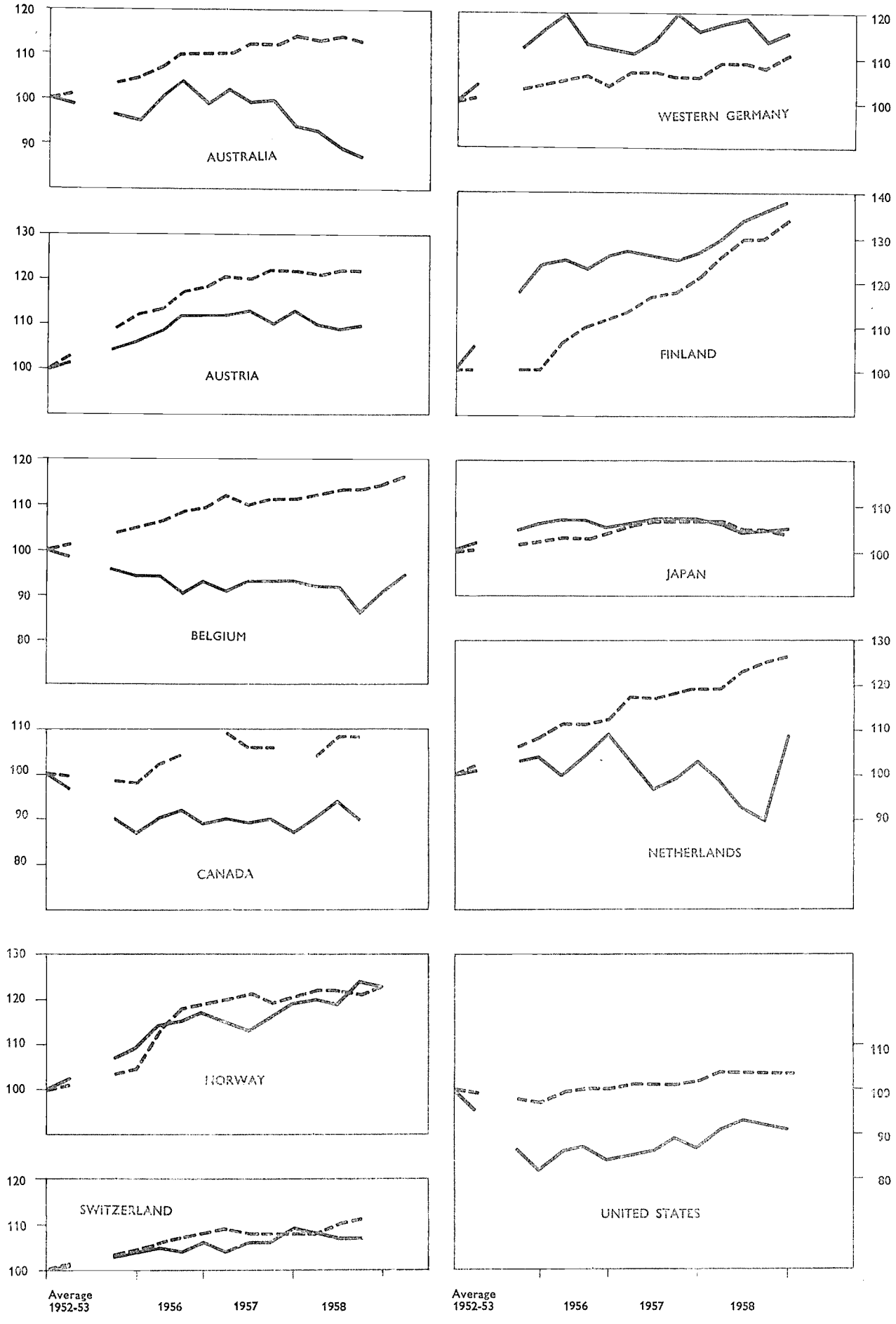
As with export prices, the movement of prices received by farmers tells very little unless it can be related to movements in the general price level and in particular to the prices of things farmers buy. Rather few countries, however, publish regularly indices of prices received and paid by farmers. The data available are shown in Figure II-10. In spite of the fairly general use of price supports, the price relationship moved against farmers in most countries during the period covered by the figure (i.e., since 1952-53). Western Germany and Finland are the only countries where the prices farmers received rose more than the prices they paid during this period, and even in these countries the gap narrowed during 1958.

Of the countries included in Figure II-10, the sharpest movement of prices against farmers in 1958 took place in Australia, where the slow and fluctuating downward trend in 1956 and 1957 of prices received by farmers gave way to a rapid decline as a result of less favorable world market trends for wool and dairy products. Prices paid by farmers showed little change and the ratio between the two indices declined by more than 10 percent. With the progressive recovery of world markets for both dairy products and wool in 1959, however, the index of prices received by farmers has probably since moved upward again.

Changes in the relationship between the two price indices in countries less dependent on export markets than Australia are usually smaller, as farm support measures and general policies for economic stabilization tend to prevent drastic movements. Small changes in the ratio in favor of farmers took place during 1958 in Canada, the United States, Norway, and Japan. In Norway, where the ratio improved by 4 percent, this represented a reversal of a downward movement during the two preced-

FIGURE II-10. - INDICES OF PRICES RECEIVED AND PRICES PAID BY FARMERS

Indices, average 1952-53 = 100



ing years. In the United States farm prices rose appreciably in the first and second quarters of 1958 and fell only slightly in the second half of the year, while prices paid remained fairly stable. There were similar but rather sharper price movements in Canada. In the Netherlands there was a marked decline in prices received and an increase in prices paid until the third quarter of 1958, but thereafter prices received rose steeply and the average ratio for the year was only about 3 percent lower than in 1957.

For Japan, Figure II-10 suggests only a very slight improvement in the ratio during 1958, but according to the official index for the average of the whole year the ratio was 3 percent higher than in 1957. In this country the annual index of prices received by farmers is obtained by weighting the monthly figures in accordance with the quantities marketed, with further adjustments for subsequent government payments, such as back payments and bonuses to offset low crop yields. In most countries no such adjustments are made, and the indices may sometimes distort the situation, especially when marketings are highly seasonal or when various subsidies or other payments are made to farmers at some date after their produce has been sold.

Farm incomes

Farm incomes and levels of living are discussed in some detail in Chapter III of this report, and no more will be attempted here than a brief summary of recent developments in the few countries for which up-to-date information is available. Such information is limited to the more-developed countries, and in most of these countries farm incomes appear to have increased in 1958, in contrast to the rather widespread declines in the preceding year. This was largely due to the substantial rise in output, especially in North America and Australia.

In the United States there was only a small increase in prices received by farmers, but increased production, together with larger government payments, led to a rise of over 11 percent in cash receipts and of some 20 percent in farm operators' realized net income in 1958. The per caput income of the total farm population is estimated at 1,068 dollars, or 10 percent more than in 1957, while the per caput income of the nonfarm population is estimated to have fallen by 2 percent to 2,034 dollars in 1958. Some decline in United States farm incomes is expected, however, in 1959. Support prices are lower, especially for feed grains, while pig prices will come down as supplies increase. To any fall in cash receipts must be added smaller government payments, e.g., from the elimination of Acreage Reserve payments, and these, together with some further increase in production expenses, are likely to reduce farm operators' realized net incomes by about 8 percent in 1959 and probably by still more in the 1959/60 season.

Increased marketings and higher prices for livestock brought farm cash receipts in Canada to 2,847 million dollars in 1958, 8 percent more than in the previous year. Farmers in western Canada also received a substantial supplement to their incomes from payments under the Prairie Farm Assistance Act and through acreage payments to western grain producers. Operating expenses appear to have risen less than cash incomes. Cash receipts are expected to be unchanged in 1959, but higher operating expenses may slightly reduce net incomes.

In Australia the large harvests of 1958/59 more than offset the fall in wool prices and preliminary estimates indicate an increase of 11 percent in farm income over the low 1957/58 level, though it remained about 25 percent less than in 1956/57. In New Zealand, where farm incomes were relatively high in 1957/58, a fall of some 15 percent has been estimated for 1958/59, largely because of a reduction of 10-11 percent in the guaranteed price of butterfat. The lower levels of farm incomes in recent years do not yet appear to have had any significant effect on agricultural investment in either Australia or New Zealand.

In 1958 and 1958/59 farm incomes increased in several countries of Western Europe, though, except in Denmark, the upward movement depended largely on the degree of government support. With production moving ahead of demand for a number of commodities, further increases in production have sometimes reduced prices so much that the larger output has brought smaller returns, e.g., for pigs in Western Germany in 1957/58. In other cases increased returns have not covered additional production expenses, e.g., for feed or labor.

In Denmark the fall in farm incomes in recent years owing to lower prices in export markets may be reversed in 1958/59. Farm prices, which fell by 13 percent in 1957/58, again rose in the first half of 1958/59, while wage costs were reduced by 4 percent because of the outflow of hired labor.

In Norway farm incomes in 1958 were some 6 percent higher than the year before, mainly because of higher livestock prices, and a further increase of 2 percent is expected in 1959. Price changes under the new regulations in Finland should result in some increase in the gross value of agricultural production in 1958/59, though much less than under the previous law. Although, as noted earlier, price relationships moved unfavorably for farmers during 1958 in the Netherlands, livestock production was higher than the year before and net incomes probably fell little, if at all.

First estimates of farm incomes in France during 1958 indicate an increase in total receipts of about 12 percent over the previous year. Expenditure on goods and services rose by 15 percent, but expenditure on wages, rents, taxes, etc. increased less sharply, and net incomes improved by about 14 percent. In Western Germany both gross and net cash receipts in 1958/59 are estimated to have increased by about 4 percent, and the share of agriculture in the total national income, after falling for some years, rose from 7.7 percent in 1956 to 7.9 percent in 1957 and 1958. The decline in the farm labor force has continued and it is estimated that in 1957/58 the number of "labor units" (full-time workers) decreased by 0.9 per 100 hectares.

There was a good harvest in Italy in 1958 and total production is estimated to have increased by 11 percent. Gross receipts, however, rose by only 6 percent, as producer prices were stable or fell; prices paid by farmers increased so that the rise in net receipts was probably smaller. In Greece, 1958 agricultural incomes are estimated to have fallen by 5 percent at constant (1954) prices and by about 10 percent at current prices, while the share of agriculture in the total national income was reduced from 35 percent in 1957 to 32 percent in 1958.

Consumer prices

Except in a few countries, the increase in food production appears to have done little to stem the rise in the cost of food to consumers. Of the 89 countries for which retail food price indices are available, 70 showed an increase during 1958 (compared with 69 in the preceding year), and of these 56 had also shown a rise in retail food prices during 1957. In general the rate of increase was only a little slower in 1958 than the year before. In both years the tendency to higher retail prices appeared to be greater in the less-developed than in the more-industrialized countries.

It is difficult to disentangle the trend of retail food prices from general inflationary or deflationary price movements. If, however, changes in the cost of food and the cost of living generally are compared over the five years since 1953 a fairly consistent trend emerges, though in some individual countries it may be obscured by seasonal factors. In most agricultural exporting countries the cost of food has tended to rise more slowly than the cost of living, reflecting the weakness of agricultural prices on world markets. In the United Kingdom, where price supports do not directly influence consumer prices as they are implemented by deficiency payments, data (from 1956) also indicate a similar tendency. In most of the more-industrialized countries of Western Europe, however, and in North America, the cost-of-food and cost-of-living indices kept fairly closely in step. On the other hand, in a considerable number of the less-developed countries in Latin America, in North, West and Central Africa, and in Southeast Asia, where population and the demand for food are rising quickly, food prices tended to rise faster than the cost of living as a whole. As the cost of food is the largest component of the cost-of-living index in less-developed countries, the rise in food prices must have been substantially greater than the rise in other components of the index for a noticeable difference to be apparent.

In France and Norway, where "true price" policies, involving the elimination of a number of subsidies, had been introduced in late 1957, food prices rose substantially in 1958. In Norway, the cost-of-living index approached the level at which adjustments in wages and farm prices would become necessary, and in order to avoid such adjustments various measures were adopted early in 1959, including tax remissions and the reintroduction of a subsidy on milk and cheese. In France, food prices rose sharply in the last three months of 1957 and

the first three months of 1958. The rising trend was then slowed down by such measures as the liberalization of meat, vegetable, and fruit markets, a smaller increase in the guaranteed price for wheat, and the reintroduction of a bread subsidy. In general, the " true price " policy is being continued and, following the devaluation of the franc, some further subsidies, including those for bread and meat, were abolished. The resulting increase in the cost of food was less than expected. In Sweden the government reduced substantially claims for higher wages and farm prices, though provision was made for greater protection through tariffs. The above are some examples of the different ways in which governments shift the burden of price stabilization measures between consumers, taxpayers, and producers. Nevertheless, the more or less pronounced inflationary trend continues in most Western European countries. In most of the more-developed countries outside Western Europe, retail food prices also tended to rise in 1958.

In the Far East the poor 1957/58 crops accentuated inflationary trends in many countries in 1958. The index of retail food prices rose by as much as 46 percent in Indonesia, where food imports had to be reduced because of the shortage of foreign exchange, and the rice ration was reduced. In Thailand rice exports had to be suspended in some months, and the comparative shortage of supplies and rising export prices were reflected in a continuing rise of prices on domestic markets. In India, however, efforts to stabilize food prices succeeded in holding the increase to the same rate (6 percent) as in 1957, in spite of the very low harvests of 1957/58. In Pakistan the stabilization policy of the new government considerably reduced the rate of inflation by curbing smuggling and enforcing price ceilings.

Three Latin American countries have recently replaced their multiple exchange rate systems by a single exchange rate, as a step to general economic stabilization. In Chile and Bolivia the rise in prices was slowed down considerably, but in Argentina the index of food prices rose by about 30 percent in 1958, the same rate as in the previous year. In Brazil and Colombia the difficulties of economic stabilization are increased by the problem of financing the coffee retention quotas, and in Brazil a new anti-inflationary austerity program was announced in October 1958, involving a rise in prices of essential foods such as bread, milk, and sugar. A striking development is the sharp move from stability or even declining food prices in a number of Central American countries (Costa Rica, El Salvador, Guatemala, Honduras, Nicaragua) to rising prices in 1958.

Marketing margins

While farm prices have fallen in many countries and world prices for many foodstuffs have also declined, retail food prices have generally continued to rise in 1958. Retail food prices often show a greater resistance to decline and a stronger tendency to rise than farm prices. These differences are usually due, apart from the influence of consumer price policies, to the comparative rigidity of marketing margins.

Information on this important aspect of agricultural prices is still as scarce as before and current data are, as usual, available only for the United States. After rising sharply in late 1957 and the first quarter of 1958, the farm value of the " market basket " of farm foods declined steadily in the United States until December, and has been fairly stable since. The annual average farm value for 1958 was some 6 percent above 1957, while the marketing margin increased by 5 percent and the retail cost by 6 percent. The " farmer's share " of the retail cost was stable at 40 percent. During the first quarter of 1959, both farm value and marketing margin have declined slightly.

Agricultural policies and development plans

The 1958 issue of this report drew attention to the growing divergence in the food and agricultural situation of the economically more-and less-developed parts of the world and analyzed in some detail the contrasting background of agricultural policies in the two groups of countries.

It was pointed out that, in the more-industrialized countries, technical progress and adequate capital enabled a rapid increase in agricultural production to be achieved fairly readily. At the

relatively high levels of income already current in these countries and with their generally low rates of population growth, however, the demand for agricultural products rose only slowly. In the economically less-developed countries, in contrast, considerable obstacles had to be overcome to expand production, but demand rose very rapidly with population growth and with even the slightest improvement in income.

Thus, in the more-developed countries agricultural policies were increasingly concerned with problems of surplus production of certain commodities, while most of the countries in the other group continued to grapple with the problem of shortages of basic foodstuffs. It was also suggested, however, that agricultural price policies had often tended to exacerbate this situation. In the first group of countries farm prices were usually kept fairly high, in the interest of producers, and so tended to stimulate production. In the less-developed countries, on the other hand, they were generally held rather low, in the interest of consumers, and the incentives to expand output were therefore smaller.

Changes in agricultural policies in 1958/59 continued to reflect these divergent situations. In the more-developed countries most of such changes as occurred were again rather delicate adjustments designed to modify the pattern of production and to safeguard farm incomes. Thus, in the United States, although radical solutions to the problems of overproduction are being sought and discussed, changes during the year under review were relatively minor, except for the final abandonment of the Acreage Reserve Program, which had failed to effect the desired temporary check in the momentum of agricultural expansion. Also in Western Europe there were further small modifications to price policies, with the object of guiding production away from commodities tending to be in oversupply. Some countries in this region laid increasing stress on measures to promote more efficient production and there was some tendency to reduce farm price guarantees. In Australia and New Zealand a main feature of agricultural policy has continued to be these countries' efforts to preserve traditional markets in Western Europe and to develop new outlets in other regions.

In the less-developed countries, many of the policy changes in 1958/59 were much more far-reaching, in line with the urgency of the need to overcome obstacles to agricultural progress and to increase production as fast as possible. While the introduction of the system of rural communes in Mainland China is the extreme example, a tendency to attempt more radical measures was in evidence in several other countries also. One instance is the renewal of interest in land reform measures in a number of countries in the Far East, the Near East, and Latin America. A major feature of most of the new land reform measures is the strong emphasis they place on the development of co-operatives and credit facilities for those who receive land. Particular stress is being laid on co-operatives in India, where the substantial changes envisaged include greater state intervention and control over the wholesale trade in food grains and the gradual organization of rural life on a co-operative basis.

There are also signs of a change in the food price policies of certain Far Eastern countries, with the object of increasing incentives to production. As mentioned above, these policies had previously tended to favor the consumer. In Latin America, where this same change in agricultural price policies was made somewhat earlier in various countries, important price policy developments in 1958/59 mainly concerned export products and included the introduction of a free and fluctuating exchange rate in Argentina, with the aim of facilitating exports and allowing domestic prices to adjust in line with world market prices. In an effort to stem the fall of international coffee prices, 15 Latin American coffee-producing countries agreed to withhold part of their export supplies.

Economic development plans have continued to be pressed forward as rapidly as possible, though reduced export earnings, caused by falling world prices for a number of the principal agricultural and mineral exports of the underdeveloped countries, hampered the execution of some programs. Many of the new plans announced or begun in 1958/59 gave significantly greater emphasis to agricultural production. Changes in planning organization were again made in a number of countries, especially in the Far East and Near East. In the latter region most of the semi-autonomous planning bodies that had been established earlier were abolished during the year under review, and development projects were assigned to the different ministries for implementation.

The U.S.S.R. and the Eastern European countries are to some extent special cases, outside the two

broad groups discussed above, not only in that their economies are centrally planned but also because, although some of them are relatively highly industrialized, the demand for agricultural products has been unsatisfied and has risen faster than production in the past. In recent years new development plans have followed or replaced other plans with rather bewildering speed in these countries and sharp changes in production targets have frequently been announced. All their more recent plans, however, have been characterized by a strong emphasis on the rapid expansion of agricultural production, which had earlier been somewhat starved of resources in comparison with the industrial sector. Again in 1958/59 there were a number of new plans. That of the U.S.S.R. contains slightly less ambitious agricultural production targets than heretofore – but this may indicate greater realism rather than any slackening in the pace of expansion. There were also considerable modifications in agricultural organization, especially in the U.S.S.R., where further major changes in the collective farms are now at an experimental stage and may be generally introduced in the near future.

A development which embraces both the more- and less-developed countries is the continuing tendency toward regional economic co-ordination. The European Economic Community began the operation of a common market at the beginning of the year and negotiations have continued on free trade arrangements for the remaining countries of Western Europe. Preparatory work toward the establishment of a Latin American common market has been intensified and further studies have also been made of the proposed common market for the Arab countries.

The developments summarized here are reviewed in more detail below, region by region, and brief accounts also follow of the principal changes in fisheries and forestry policies in 1958/59.

North America

United States

From about 1956 efforts to bring United States production more in line with domestic consumption and normal export requirements have centered mainly on the Soil Bank and on a system of flexible price supports, combined with earlier measures of acreage restriction. Subsequent proposals have mostly proved highly controversial, principally because of the need to reconcile the desire of the farmer to see no further reductions in his income with that of the nonfarm public for a less expensive agricultural program. Recently, only relatively minor modifications have been passed into law.

The Agricultural Act of 1958 implemented only part of the Administration's original proposals.[5] The Acreage Reserve Program, the more extensive part of the Soil Bank legislation, was terminated with the 1958/59 crop. This costly program had been rendered virtually ineffective by more intensive cultivation of the remaining crop area. Otherwise, the act chiefly affected cotton, maize, and rice.

For cotton a minimum national acreage allotment of 16 million acres was set for 1959 and subsequent years. For 1959 and 1960 each cotton farmer was given the choice, either to adhere to his acreage allotment with price support at not less than 80 percent of parity in 1959, or to plant up to 40 percent more but at a support level at least 15 parity points below the first alternative. In the event, an unexpectedly large number of farmers chose to plant only their acreage allotments. From the 1961 crop, farmers will receive only their regular acreage allotment, and price support, based on the average quality of the crop, will be at 70-90 percent of parity for 1961 and 65-90 percent thereafter.

Under the referendum provided for in the act, maize producers decided for the abolition of acreage allotments. Thus, the price support for maize will be at either 90 percent of the average market price for the preceding three years or 65 percent of parity, whichever is the higher. Price supports for other feed grains will from 1959 be set by the Secretary of Agriculture at a level "reasonable in relation to the price support for maize."

The Administration had proposed the general abolition of the "escalator clause," by which supports are automatically increased as soon as surpluses are reduced. The 1958 Act repealed this clause only for rice,[6] replacing it by a flexible price support at the discretion of the Secretary within a range of 75-90 percent of parity for 1959 and 1960, 70-90 percent in 1961, and 65-90 percent thereafter. The 1958 national acreage allotment for

[5] These were outlined in *The State of Food and Agriculture 1958*, pp. 54-55.

[6] In addition it is to be abolished for cotton from 1961.

rice was made permanent, instead of being reduced as had been envisaged under previous legislation.

Public Law 480, which since its inception in 1954 has become the chief instrument for the disposal of United States stocks under special terms, was again extended; 2,250 million dollars worth of sales against local currencies were authorized for the period July 1958 to December 1959.

It was the intention of the United States Government during 1959 to revise the legislation for the commodities subject to mandatory supports which had not been covered by the 1958 Act, i.e., mainly wheat, groundnuts, and tobacco. In the President's Farm Message to Congress in January 1959 it was proposed that the prices of these commodities should either be supported at the discretion of the Secretary at 75-90 percent of the average market price of the immediately preceding years or, if Congress preferred the existing concept of parity, the Secretary should have the same discretionary powers as he now has for nonmandatory commodities to support their prices at any level below 90 percent of parity. A memorandum of the Secretary of Agriculture accompanying this message contained some additional proposals, including further extensions of Public Law 480 and of the Conservation Reserve Program, the longer-term part of the Soil Bank provisions.

There seems to be little chance that either of the President's alternative recommendations will be accepted. It is equally uncertain, however, whether Congress will be able to produce alternative legislation that would be acceptable to the Administration. Special efforts have been made to arrive at some solution of the wheat problem that would reduce output without too great a decline in farm income, but no agreed measure has been found. The only new measure to be passed recently is one to limit Commodity Credit Corporation loans to an individual farmer or farm corporation to 50,000 dollars.

While it therefore seems unlikely that any major changes will be enacted in United States farm legislation in the near future, the mounting cost of the present programs and the continuing accumulation of surpluses make some solution of the problem more and more imperative.

Canada

There were no significant modifications in Canadian agricultural policy during the period under review. The Agricultural Stabilization Act of March 1958 had introduced a permanent system of mandatory price supports for nine principal commodities. In 1958/59 the prices of eleven nonmandatory commodities were also supported and the prices of a number of commodities in this category will again be supported in 1959/60.

Australia and New Zealand

To some extent both Australia and New Zealand adopted a "wait-and-see" attitude toward the fall in their farm prices and export earnings in 1958/59 and made no radical changes in their domestic farm policies. This was partly because some recovery in export prices was expected before very long, a view which has been justified by events in the first half of 1959. In their trade policies the two countries have again intensified their efforts to protect existing export outlets and to develop new ones in the face of increasing difficulties in their traditional markets in the United Kingdom and elsewhere in Western Europe.

Australia

Some groups of Australian wool growers pressed unsuccessfully for the establishment of a stabilization scheme for wool. For butter, the other product chiefly affected by falling prices, the guaranteed return was raised. Farmers were also given a larger initial payment for wheat. The stabilization schemes for dairy products and wheat were renewed for a further five years, largely along the general lines of their predecessors.

Australian banking legislation, passed in early 1959, included provision for the establishment of a Commonwealth Development Bank, which will be largely concerned with financing primary production.

New Zealand

The New Zealand Wool Commission maintained the previous season's floor price in 1958/59 and bought wool at a number of sales. The dairy stabilization scheme, whereby dairy farmers' incomes were augmented by about 36 million pounds (U.S.$100 million) in the two seasons 1956/57 and 1957/58, had completely exhausted its reserves by the end of the latter season. Pro-

vision was therefore made for a 5 million pound ($14 million) government loan to help finance the expected 1958/59 losses. For 1958/59, however, the legislation limiting to 5 percent in one year the maximum fall in the guaranteed producer price for butterfat was suspended and the price reduced by 10 percent. It was also decided to undertake an economic investigation of the dairy industry. In order to encourage production and so reduce the need for imports, the 1958/59 producer price for wheat was raised by 17 percent.

New Zealand signed a trade agreement with the United Kingdom in November 1958 whereby, following the general lines of the Australia-United Kingdom agreement of the previous year, reduced preferences could be offered for bargaining with third countries. Under an agreement made with Western Germany in April 1959 quotas were established for some commodities, the right to compete for a share of permitted imports of some others (mainly dairy products) conceded, and provision made for negotiation if New Zealand should suffer damage in the German market as a result of Common Market policies. The latter is apparently the first such undertaking made by a Common Market country.

Western Europe

During 1958/59 several countries in Western Europe have made changes in their farm income policies, as a result of the growing cost of support schemes, the difficulty of marketing the surpluses that have arisen in certain sectors, and the inflationary impetus of the linking of farm incomes to indicators extraneous to agricultural productivity. In the latest farm price and income support negotiations, farmers had in some cases to accept cuts in their claims for direct price and income support, and there is a growing tendency to make them share in the costs and market risks involved in their production policies. In some countries there has been a pronounced shift in government allocations from direct subsidies to measures to improve farm structure and the marketing system. There have also been further small modifications in price policies, designed to bring the pattern of production more in line with demand. In the less-developed parts of southern Europe agricultural policies have continued to stress the need for investment in land improvement projects. The European Economic Community has taken the initial measures to implement a common market among the six countries.

Domestic agricultural policies

In Finland a new law provides that, from the 1958/59 crop year, farm incomes will be linked to costs instead of industrial wages. In connection with the monetary reform in France in December 1958, the automatic link between agricultural prices and the prices of certain cost-of-living items and of means of production was formally abolished. Prices for the 1959/60 harvest have, however, been fixed no lower than they would have been under the former policy and, in compensation for rising costs resulting from devaluation, the *prix de direction* (target prices) for 1961/62 have been raised by about 6 percent. Under the new six-year agreement commencing in September 1959, although farm incomes in Sweden continue to follow industrial wages, the income target will be based on much larger farms than before and support to smaller farms will be to a much greater extent through direct cost contributions. Intensified efforts are also being made in Sweden to rationalize the agricultural structure by the consolidation of small farms and by the reafforestation of poor cultivated land.

Both the United Kingdom and Western Germany have put more emphasis on measures to improve farm holdings rather than subsidies for particular commodities or for production as a whole. In the United Kingdom, where the 1958 Price Review had made cuts in guaranteed prices for wheat, milk, and pig meat which particularly affected small farmers, grants will be paid to farmers with 20 to 100 acres who carry out an approved improvement plan. There were no major changes in the 1959 Price Review, though calf and hill cattle subsidies were increased as an additional encouragement to the rearing of beef cattle. It was stated that any further expansion of production must be achieved by reducing unit costs. In Western Germany the 1959 Green Plan reduced subsidies on fertilizers and milk but increased grants for land consolidation and the enlargement of farms.

Among countries in which further adjustments to the pattern of production are being made, Belgium, which has already encouraged an expansion of feed grain production as against wheat, intends to reduce its support of the wheat price.

In both Belgium and the Netherlands budgetary outlays for the support or guarantee of milk prices are to be reduced; although the guaranteed price in the Netherlands is unchanged in 1959, it applies to only about 90 percent of production. Up to 1958 Denmark was one of the very few Western European countries that had not supported agricultural prices, but as a result of considerable pressure on prices in export markets, measures have been introduced to protect producer prices for grain and to prevent a further shift to pig production by farmers who normally sell their grain. In Finland, Norway, and Sweden changes in price policies are under discussion which would orient production toward commodities not yet in over-supply.

In southern Europe, price supports for soft wheat have been reduced in Greece and Italy as production began to reach or exceed domestic needs for the local varieties. Greek farmers will be compensated by grants for irrigation and for the development of the livestock industry. Italy has reviewed and enlarged its agricultural development programs and has increased assistance for buildings, mechanization, and stock breeding. Under Portugal's second development plan (1959-64) there is a substantial increase in investment in agriculture. The Central Bank of Spain has drafted a 20-year development plan and in this also particular attention is paid to the agricultural sector. In Yugoslavia co-operative farming remains the long-term goal and the bulk of fertilizer supplies and also most of the investment in irrigation works have recently been directed to the co-operative farms.

European Economic Community

From the beginning of 1959 import tariffs among the six countries have been reduced by an initial 10 percent. Import quotas have been increased by 20 percent, except for those representing less than 3 percent of domestic production, which have been raised to that level. Countries outside the Community benefited from the reduction of such import tariffs as were above the future common tariff of the Community.

During the transitional period member countries of the Community are permitted to conclude long-term contracts as a step toward an organized market for agricultural products. The price under these contracts is to approach that current in the importing country until a Common Market price has been agreed. The first such contract was negotiated in February 1959, Western Germany agreeing to buy 650-775,000 tons of cereals annually from France during the next four years. The price will be the world market price plus a proportion of the tax raised by the German Import and Storage Agency, starting at 2/12 and rising by 1/12 every year.

The fixing of a common price for grains is one of the major problems which the six countries intend to solve in the near future as a step toward a common agricultural policy. A price much below the present level of the German producer price would have an adverse effect on agricultural incomes in Western Germany, while low feed grain prices might lead to the overproduction of livestock products. On the other hand, it is feared that a high grain price would cause an undesirable expansion of wheat production in France and Italy.

While an increase in the Community's agricultural production seems inevitable, mainly because of technical advances, at the same time manufacturing industries are pressing for the maintenance of present levels of imports so as to assure an export market for their own products. Western Germany, the largest agricultural importer of the Six, has already signed an agreement with Denmark guarenteeing import permits for a three-year period for almost the present level of German imports of Danish agricultural products, except butter, which is to be the subject of separate negotiations.

No agreement was reached in the negotiations which continued during 1958 for the establishment of a wider free trade area linked to the Common Market and embracing all of the OEEC member countries. Various alternative solutions are at present under discussion.

Eastern Europe and U.S.S.R.

Development plans

In the U.S.S.R. a new seven-year plan for 1959-65 has been begun in place of the sixth five-year plan (1956-60). Industrial production is to be raised by 80 percent over the 1958 level and agricultural production by 70 percent. Although the agricultural objective is still very high, the

increases planned for the different products appear to be somewhat more realistic than in the previous plan (Table II-15).

For grains, not only is the new planned rate of increase very much slower, but the planned level of production per caput in 1965 is less than that formerly set for 1960. Furthermore, the increase is to be mainly in feed grains, though it is also planned to expand the production of durum wheat, which was formerly exported in large quantities. An increased target has been fixed for potatoes, partly because of the important role intended for this crop in livestock feeding. The targets are also large for sugar beet and oilseeds. For fiber crops, especially cotton, a slower increase is envisaged than under the sixth five-year plan, presumably because of the new policy of developing man-made fibers, the production of which is to be expanded twelve-fold.

The planned increase in U.S.S.R. cattle numbers amounts to an average of 5.4 million head per year, or much faster than occurred in the period 1952-58. However, the new livestock targets published in 1957 and designed "to exceed the per caput production of the United States for milk, meat, and butter" had envisaged an annual increase of some 8 million head. It appears that this 1957 program is two or three years behindhand for milk. Milk production in 1958 was 57.8 million tons instead of the planned 70 million. For meat, in order to catch up with the United States, it was intended to produce 21 million tons by 1960 or 1962, but the new 1965 target is much lower.

Under the new U.S.S.R. plan, increased agricultural production is to come very largely from higher yields. Rather than a further expansion of the cultivated area, crop yields are to be raised by the continued development of mechanization, improved crop rotations, selected seeds, and a trebling of the supply of chemical fertilizers. In this connection it is of interest to examine the expansion in investment in capital and labor, the higher payments made for farm deliveries, and the increased means of production, livestock numbers, and cultivated area which have led to the increases in production achieved under earlier plans. Data are not always available for comparable periods, but a rough comparison of changes in input and output is shown in Annex Table 13.

New plans have also been started in a number of the Eastern European countries. Bulgaria has begun its third five-year plan (1958-62). Hungary has substituted a three-year plan for 1958-60 for its previous five-year plan. In Czechoslovakia, Poland, and Romania, although earlier plans have not been scrapped, plans going beyond 1960 have already been prepared and in the former

TABLE II-15. – U.S.S.R.: COMPARISON OF NEW 1965 AGRICULTURAL PRODUCTION TARGETS WITH FORMER 1960 TARGETS AND WITH AVERAGE PRODUCTION 1949-53 AND 1954-58

	Production		Targets		Average annual increase		
	Average 1949-53	Average 1954-58	1960 (former target)	1965 (new target)	Actual increase 1949-53 to 1954-58	Planned increase 1955-60 (former target)	Planned increase 1958-65 (new target)
	Million metric tons				*Percentage*		
Grains	80.9	112.9	180.0	164-180	7	11	2-4
Potatoes	75.7	83.3	132.8	147.0	2	13	8
Vegetables	10.0	13.9	30.7	[1] 30.9	7	17	12
Sugar beet	20.7	34.2	47.7	76-84	11	9	5-7
Cotton	3.5	4.2	6.3	5.7-6.1	4	10	4-5
Flax	0.23	0.40	0.51	0.58	12	6	4
Wool	[2] 0.22	[3] 0.28	0.47	0.55	[4] 5	13	8
Milk	[2] 36.6	51.1	83.8	100-105	[4] 7	14	8-9
Meat	[2] 5.5	[3] 7.0	12.7	16.0	[4] 5	15	11
	Million units						
Eggs	[2] 15.2	[3] 20 9	47.0	37.0	[4] 7	21	7

[1] Unofficial U.S.S.R. figure. – [2] Average 1951-54. – [3] Average 1955-58. – [4] Average 1951-54 to average 1955-58.

two countries seven-year plans for 1959-65 have been superimposed on the existing five-year plans.

In several respects the new agricultural programs closely resemble that of the U.S.S.R. described above. They also are based mainly on higher yields through mechanization and greater use of fertilizers. Improvements in wheat yields of the order of 20 percent in five years are planned. As in the U.S.S.R. there are to be sharp increases in sugar-beet production, Bulgaria planning an increase of 64 percent and Romania hoping to become self-sufficient. The plans of the Eastern European countries lay considerable stress on production for export. Thus, Bulgaria plans to produce 80,000 tons of oriental tobacco (about 40 percent more than in 1953-57) and to increase grape and wine production and the output of preserved fruit and vegetables by some 60-80 percent.

In Poland, an important exporter of livestock products, milk production is to be increased from 113 million hectoliters in 1958 to 154 million in 1965 and meat production from 2.2 to 3 million tons. Substantial increases in livestock numbers are planned in the other Eastern European countries.

Agricultural organization

In the U.S.S.R. the two important reforms announced in early 1958, the sale to the collective farms (*kolkhozes*) of the agricultural machinery of the state Machinery and Tractor Stations (MTS) and the unification of the system of payments for state procurements,[7] have now been put into practice.

The sale of machinery was carried out rapidly and by the end of 1958 was already completed for 83 percent of the *kolkhozes*. Repair stations (RTS), selling machinery, fuel, etc., have been established in place of the MTS, but some of the larger *kolkhozes* are setting up their own repair shops.

For sales of agricultural products to the state, a standard average price has been set for each commodity, instead of the former system of different prices for the various types of sale or delivery. This average price is adjusted for the different regions and according to the size of the harvest.[8] Thus, the mechanism for financial assistance to agricultural production is now more flexible than the straight price increases, practised since 1953, which have been condemned for the future in a speech of Mr. Khrushchev. Changes in the price system were also necessary, however, to enable the collective farms to pay for the purchase and maintenance of agricultural machinery.

These two reforms are the prelude to other substantial changes in the structure of the collective farms in the U.S.S.R. Some significant organizational changes have already been carried out on a number of *kolkhozes*, especially on those called by Mr. Khrushchev "laboratories for the reorganization of agriculture," and are to be progressively introduced elsewhere. Generally speaking, these changes bring the organization of the collective farms close to that of the state farms (*sovkhozes*). In the division of the collective farm's returns among its members there is a tendency to increase the part paid in cash and reduce or even abolish that paid in kind. In further successive stages of this development, the payment per *trudoden* (conventional work day) becomes fixed and then, finally, the concept of the *trudoden* is itself given up and a cash wage paid by the hour or for a day of a fixed number of hours. It is also envisaged that the private plots and livestock of the *kolkhoz* members will eventually disappear completely.

Recently "inter-*kolkhoz* associations" have increasingly been formed, several collective farms joining together and supplying the funds for some common service, such as building construction, electricity generation,[9] transport pools, cattle fattening, and reserve funds for seed and forage. Some associations also organize schools, hospitals, homes for the aged, and medical centers, and in this they bear some resemblance to the Chinese agricultural communes, which are described below.

In almost all of the Eastern European countries efforts to increase collectivization were strengthened in 1958. In Bulgaria, at one extreme, collective and state farms occupied as much as 96 percent of the agricultural area in 1958. Rapid collectivization has brought the figure to 78 percent in Albania, 75 percent in Czechoslovakia, and 54 percent in Romania. In Eastern Germany

[7] These reforms were described in *The State of Food and Agriculture 1958*, pp. 65-66.

[8] For the very good harvests of 1958 the state paid an average of 63 roubles per quintal for cereals, as against the standard price of 74 roubles.

[9] In the Ukraine there are already 600 such associations for building construction, to which 70 percent of the *kolkhozes* belong, and 100 for electricity.

the coverage of co-operatives and state farms was raised from only 35 percent of the land at the end of 1957 to nearly 50 percent in March 1959. In Hungary, where the number of collective farms had been reduced to 2,089 in 1956, they had risen to 4,490 in March 1959 and, together with state farms, covered 44 percent of the agricultural land. In Poland there has been no increase in the number of collectives since 1956 and, although their further development is the officially declared policy, agricultural co-operatives cover only 1 percent of the agricultural area; 14 percent of the area is occupied by state farms and the remaining 85 percent by 340,000 individual farmers.

Collectivization is developing in Eastern Europe toward the so-called "superior" types of agricultural co-operative, resembling the Soviet *kolkhoz*. In Bulgaria and Czechoslovakia almost all the co-operatives are of the Soviet type. Recent developments in Eastern Germany have favored the "inferior" type, but the "superior" type are still the more numerous. In Romania more than 50 percent of the co-operatives are of the looser type. Following the earlier development in the U.S.S.R., collective farms are being amalgamated in Bulgaria and in 1958 3,202 units, with an average area of 1,215 hectares, were combined into 1,470 units averaging 2,960 hectares. As in the U.S.S.R., agricultural machinery is to be transferred to the collective farms in Bulgaria and Czechoslovakia. In Czechoslovakia the proportion of cash in the payments to collective farmers is to be increased and in Bulgaria the definition of the work day is to be revised. Throughout Eastern Europe, including Poland, the proportional importance of compulsory deliveries has been reduced and in several countries it has been announced that, as in the U.S.S.R., the price system for such sales is to be unified.

Far East

Policy developments elsewhere in the Far East have been rather overshadowed by the sweeping changes in agricultural organization reported from Mainland China. Nevertheless, 1958/59 was also a significant year in the agricultural policy field in the rest of the region, especially in India, where the National Development Council set out principles for the gradual organization of rural society on a co-operative basis and for the eventual takeover by producer and consumer co-operatives of all trading in food grains. Land reform measures were announced for West Pakistan and the speedy finalization of land reform was urged in India. Several countries are showing greater interest in providing incentives for farmers through price policies. The agricultural sector continues to be given increasing emphasis in economic development plans, including the several new ones begun or announced during the year.

Mainland China

The organization of rural communes, which had begun somewhat earlier in the year, was made law in August 1958. Already by the end of 1958 it was reported that the more than 740,000 agricultural co-operatives existing in China had been transformed into 26,000 communes, embracing 120 million peasant families or 99 percent of the total.

Some characteristics of the communes resemble the experimental changes now under way in the organization of the collective farms in the U.S.S.R., but in many respects they are quite different. [10] While the *kolkhoz* is a purely economic association, devoted almost entirely to agriculture, in the Chinese communes "industry (the worker) agriculture (the peasant), exchange (the trader), culture and education (the student), and military affairs (the militiaman) merge into one." [11] They are also closely involved with local government and have much greater disciplinary powers than the *kolkhozes*. Special emphasis is placed on the organization of common services such as canteens, "happy homes" for the aged, and especially nurseries and other services made necessary by the extensive employment of married female labor. Members may not possess family plots as they did in the co-operatives and their right to a few cattle and fruit trees appears to be only temporary. It is envisaged that houses will eventually be rented from the Chinese communes, but in the U.S.S.R. they are owned by the *kolkhoz* members. A combination of a monthly wage with the provi-

[10] In the U.S.S.R. there were about 8,000 "communes" until 1933, when they were replaced by the conventional type of *kolkhoz*. Although more limited in function than the new Chinese communes, they were considered to be too advanced a stage of socialism for application at that time.

[11] Resolution of the Central Committee of the Chinese Communist Party on the Establishment of People's Communes in the Rural Areas, 29 August 1958.

sion of basic foods or meals is aimed at, but payment by work day is being retained at least temporarily. The communes are much larger units than the *kolkhozes*. It was announced that each commune would in principle contain some 2,000 families, though existing larger ones would not be reduced. At the end of 1958 the average number was in fact as high as 4,600, compared with the average *kolkhoz* of 245 families in 1957.

In December 1958 the Central Committee of the Chinese Communist Party reviewed the development of the communes, and the regional committees of the Party have since been working on the revision and consolidation of their structure. The importance of the developments in China, at a moment when the Soviet *kolkhozes* themselves appear to be seeking new paths, is indisputable. According to their success the Chinese communes will come to be considered in the other Communist countries either as "laboratories for the reorganization of agriculture" or as a premature development.

The production plans of the communes for 1959 are based on the development of a diversified economy and more stress is placed on cash crops, animal husbandry, and fisheries. The cultivated area is to be reduced this year and more intensive cultivation is planned. Following the reportedly very successful harvests of 1958, which are said to have exceeded the targets under the twelve-year plan (1956-67), new production objectives have been formulated. It was announced that it was hoped to raise "grain" production (i.e., basic foods) to 525 million tons in 1959, as against the 375 million tons reported in 1958. This 40 percent increase seems highly problematical, in view of the intended reduction in area and the fact that yields were apparently already very high in 1958.

Development plans

In the rest of the region, also, in spite of the recent good harvests, the problem of producing an adequate food supply for the rapidly growing population is still a major preoccupation in economic development plans. The large crops of 1958/59 eased certain pressures on development budgets, particularly in the expenditure of foreign exchange on food imports, but resources for economic development continued to be insufficient.

Thus, in India further revisions were necessary in the production goals of the second five-year plan when it became evident that investment expectations could not be achieved. A recent inventory of the resources that could be mobilized internally led the government to call for greater austerity and increased consumer taxes. It is considered essential, if full implementation of the five-year plans is to be achieved, for agricultural production to be increased substantially and food prices contained. Special measures arising from this consideration are discussed below.

With the change of government in Pakistan in mid-1958, immediate measures were taken to cope with the deteriorating economic situation, especially in respect of food supplies. Strong measures to prevent hoarding and the smuggling of grain exports were introduced and prices controlled. Grow-more-food schemes were expanded and new plans announced for self-sufficiency in food by 1960. A Special Committee on Food Problems was established for West Pakistan to make periodic reviews of the food situation, assess progress in the implementation of production measures, and devise new long-term measures. An evaluation of the first four years of Pakistan's five-year plan (1955-60) by the National Planning Commission disclosed that probably only about two thirds of the targets will be achieved and that per caput incomes and living standards have remained about the same. A draft of the scope and objectives of a second five-year plan has been prepared.

The Indonesian Parliament adopted the 12,500 million rupiah (U.S.$ 1,096 million) five-year development plan, retroactive to 1956. In addition 125 million rupiahs ($11 million) were allocated for a five-year rice plan, beginning in 1959, with the aim of self-sufficiency. South Korea, in the second year of its five-year development plan, announced a nine-point agricultural program for 1959 for the expanded production of rice, livestock products, silk, and fertilizers. In the Philippines a five-year program was begun to increase livestock numbers and achieve self-sufficiency in meat.

In both North Viet-Nam and North Korea production targets for 1959 have been set substantially higher. Under North Viet-Nam's three-year state plan (1958-60) agricultural production in 1960 is scheduled to be 74 percent higher than in 1957, the year taken as the end of the economic rehabilitation period.

In addition to the above new plans and new objectives, existing development plans were con-

tinued in the other countries of the region. There were also a number of changes in the administrative machinery for the formulation and execution of development plans. The Pakistan National Planning Board was abolished and a new National Planning Commission set up with wider responsibilities in both formulating and implementing development programs; in addition, in order to achieve greater co-ordination, the Economic Committee of the Cabinet is to give final approval to the various economic development programs and projects and to review their implementation. In Indonesia a National Planning Board was established to draw up projects within the framework of the five-year plan. In South Korea an Economic Development Council was set up in the Ministry of Reconstruction to administer the development plan. Burma decided to form co-ordinating committees at national and district level to assist in the implementation of the four-year rice expansion plan begun in 1957/58.

Price policies

More interest was shown in a number of countries in stimulating rice production by the use of price policies. Guaranteed minimum prices were raised for the 1958/59 crop year in Pakistan, and in Burma prices were increased for the better grades. In South Korea, where rice prices threatened to fall following the recent large crops, the government decided to maintain 1959 purchase prices at the previous year's level. Funds were also provided for increased purchases under the rice lien scheme, whereby farmers who do not wish to sell immediately after the harvest may deposit their surplus in special warehouses and receive a loan until its sale at a later date. On the other hand, minimum purchase prices for rice and paddy were reduced in the Philippines, following a good harvest and a scarcity of funds to implement price supports at previous levels.

In India, although statutory authority has existed to prevent food-grain prices from falling unduly, it has not been implemented for several years. There has been a growing feeling, however, that the introduction of support prices for food grains, effective at the producer level, was essential as an additional inducement to increase production and that these prices should be announced before the sowing season. Minimum prices for rice and paddy were in fact set late in 1958 in those states where prices were falling as a result of bumper crops, and some government procurement was undertaken at support price levels. On the other hand, rising food-grain prices in some areas have continued to cause concern and have led to the fixing or continuation of maximum price regulations.

Movements of grain continued to be restricted. Credit was limited for forward trading in grains and this trading was subsequently banned in early 1959. The National Development Council also called for increased control over, and government intervention in, wholesale trading in food grains in order to reduce marketing margins and bring down living costs. It appears that initially this will consist of increased government purchases of rice and wheat through licensed wholesale traders, who are to buy and sell at the fixed minimum and maximum prices. Furthermore, the distribution of these grains to consumers through "fair price" shops is to be intensified. Apparently the ultimate pattern envisages the sale of all marketable food grains through a nation-wide network of rural service co-operatives and marketing and consumers' co-operatives.

Early in 1959 the Indian government entered the market as a buyer of raw jute in areas where prices had slumped heavily, buying at slightly above the prevailing market rate. In Indonesia, with the dissolution of the monopoly buying organization for copra, producer prices more than doubled in 1958 and now reflect much more closely changes in world prices. In Japan special efforts to increase livestock production in the last few years resulted in a supply of milk that exceeded market demand in 1958, and the policy will now be to discourage any further increase until consumption catches up. In order gradually to eliminate marginal producers, Japan also plans to reduce from April 1960 the minimum prices for wheat and barley, which are at present supported by a subsidy.

Other policy developments

Perhaps the most far-reaching policy development in the region outside Mainland China was in India, where the National Development Council decided that "the entire rural life" should be organized into service co-operatives by 1965, the end of the third five-year plan. As in China, this indicates increasing reliance on the mobilization of rural labor for the implementation of develop-

ment plans, but the changes are to be carried out much more gradually. As a first step, during the remainder of the second five-year plan existing co-operatives are to be strengthened and crop loan facilities expanded. The changes described above in marketing and price systems are linked with this policy. A working group has been appointed to formulate a scheme for completing the change-over to a co-operative form of society.

Also in India, those states which have not yet done so have been urged to fix ceilings on land holdings before the end of 1959. The Congress Party's Working Committee recommended that the states should work out detailed programs to turn over the expropriated land to co-operative farming. New land reform measures for West Pakistan, involving ceilings on individual holdings, were announced early in 1959. Ceylon's Paddy Land Act, passed early in 1958, was put into effect at the beginning of 1959 in some areas, with the election of local Cultivation Committees empowered to select tenants and evict those who do not maintain satisfactory standards of cultivation.

In Pakistan conditions were eased for small loans from the Agricultural Development Finance Corporation and, in view of the expected need for credit for the beneficiaries of the land reform, a commission was appointed to investigate the adequacy of existing credit facilities and recommend improvements. Ceylon announced plans to establish a co-operative development bank and also began a crop insurance scheme in a few pilot areas early in 1959.

Near East

There was renewed interest in agrarian reform in some Near East countries in 1958/59 and the emphasis on other institutional questions, particularly credit, has also increased. Development activities continued to expand and new programs were prepared in Jordan and the United Arab Republic. Several countries made changes in the organization of the bodies responsible for planning, in most cases aiming at the decentralization of the formulation and implementation of plans among the various ministries. A large number of barter and other trade agreements were concluded, mainly with the U.S.S.R., Eastern European countries, and Mainland China. Regional economic co-ordination made further progress.

Land reform

Both Iraq and the Syrian Province of the United Arab Republic introduced land reform measures in September 1958. In addition some crown land was distributed in Iraq and, in Jordan, a program has been undertaken to lease state land at a nominal rent to landless farmers for five years, after which they receive ownership provided at least 75 percent is under cultivation.

The land reform laws in both Iraq and the Syrian Province of the United Arab Republic set ceilings on the ownership of irrigated and non-irrigated land, give priority in land distribution to landless farmers, Bedouins, graduates of agricultural schools and small landholders, and also make the organization of co-operatives compulsory for the beneficiaries of the expropriated lands. Because of the limited data on land holding and ownership, it is difficult to estimate the probable impact on the pattern of land holding, but it appears that in both countries it will be felt more heavily on irrigated land. For the Syrian Province it has been officially stated that about 1 million hectares may be available for redistribution and that nearly 250,000 people could benefit from it.

It is not yet clear to what extent the many local differences in soil, rainfall, cost of irrigation, access to markets, etc. will be taken into consideration in determining the size of the units to be distributed to new owners, but the uniformity in the maximum holding for existing owners indicates that some of these may be put at a disadvantage. The lack, in both countries, of a well-established village structure may make it difficult to provide the credit, seeds, machinery, draft animals, and marketing and other facilities that will be needed by the new settlers. There is also a large nomadic population and, particularly in Iraq, land titles are not clearly defined.

Development plans

In Jordan the Development Board adopted a ten-year plan based on the recommendations of the Mission of the International Bank for Reconstruction and Development which had visited the country in 1956. The estimated expenditure is 110 million dinars (U.S.$ 308 million), of which a major part is to be covered by United States aid. Agricultural projects predominate and include the construction of the East Ghor canal to

irrigate 12,000 hectares, various smaller projects for water development, the planting of clover for fodder, and schemes for fruit and olive production. The production of potash fertilizers is also to be developed.

A development plan, to be implemented in four stages, is in preparation in the Egyptian Province of the United Arab Republic with the aim of doubling the national income in 20 years. As part of this over-all plan, a ten-year agricultural program, costing 59.8 million Egyptian pounds ($172 million) has already been prepared. In addition, work is to begin during 1959 on the first stage of the High Aswan Dam, which should take four years to complete and will increase the summer water capacity by about 8,500 million cubic meters. The cost of the first stage is estimated at 112 million Egyptian pounds ($322 million), of which one third is provided by U.S.S.R. credits. Imports necessary for development purposes are likely to be facilitated by the financial agreement signed with the United Kingdom, for it has been decided that the frozen balances now released will be used only for the import of capital goods.

In the Syrian Province a ten-year plan was begun in September 1958. Total expenditure is set at 2,041.5 million Syrian pounds ($570 million), of which over 70 percent is for agriculture.[12] Projects include the irrigation of a total of 1 million hectares in the Euphrates basin, the Ghab area and the Khabour basin, artesian wells, the development of agricultural research, and an expansion of fruit production around Damascus. An interesting feature is that tobacco production is to be increased over five years to 20,000 tons to meet the requirements of the Egyptian Province. During 1959 the construction of a fertilizer factory with an annual capacity of 100,000 tons is to be undertaken.

The Federal Council of the United Arab States has also proposed a development program for Yemen, and an agricultural mission visited the country in early 1959 in this connection.

In addition to these new programs, development activities continued to expand in most countries. Expenditure under Iran's second seven-year plan (1955-61) was stepped up in 1958/59. In Iraq the new government is reviewing the six-year development program (1955-60) in order to accelerate industrialization, more intensive farming in irrigated areas, and agricultural diversification to provide raw materials for new industries. New grain silos are rapidly being constructed to raise the capacity from 27,000 to 270,000 tons, sufficient for two months' supply. In March 1959 Iraq obtained a long-term loan of 550 million roubles ($138 million) from the U.S.S.R. to be utilized for industrial expansion. The proportion of annual oil revenues appropriated for the development budget in 1959 has, however, been lowered from 70 to 50 percent as a temporary measure.

Development expenditures continued to rise in Turkey, aided by loans of 159 million dollars from the United States and 100 million dollars from the OEEC countries and drawings of 25 million dollars from the International Monetary Fund. Planned investment expenditure in 1959 is some 30 percent more than in 1958. During 1958 the major part of the Demir Köprü Dam, designed to protect 35,000 hectares from floods and irrigate a further 77,900 hectares, was completed.

In the Sudan the first stage of the Managil Extension adjoining the Gezira Scheme, which will irrigate 81,000 hectares out of an eventual total of 325,000, is expected to be completed during 1959. The construction of two new dams, at Roseires on the Blue Nile and on the Atbara River, which would irrigate 735,000 hectares, is under consideration. The United States has provided grants and loans of 30.6 million dollars to assist in development.

Saudi Arabia, on the other hand, has decided not to allocate large sums for development purposes until financial stability is restored, to which end several new fiscal and monetary measures have been taken since April 1958.

In several countries there have been important changes in planning organization. In the Egyptian Province of the United Arab Republic the semiautonomous National Production Council and National Council for Social Services have been replaced by a National Planning Council in the Ministry of Planning. Each ministry will also have a Planning Division and the National Planning Council will have six subcommittees to study the programs submitted by the various ministries. Similarly, in the Syrian Province the Development Board has been abolished and development projects will be assigned to the different ministries

[12] In addition a separate five-year agricultural development program, costing 99.7 million Syrian pounds ($28 million), is under consideration.

for implementation. The Plan Organization in Iran has been abolished and here also development projects are being assigned to the ministries for implementation, co-ordination being carried out by the Prime Minister's office. Iraq has abolished the Development Board and the Ministry of Development, and has established an Economic Planning Council, with the Prime Minister as chairman, and a Ministry of Planning. In Libya the three existing development programs are to be placed under a unified Development Council. A new committee was established in Israel to bring together into an integrated development plan the programs already existing for the various sectors.

Regional economic co-ordination

In January 1959 the Economic Council of the Arab League took several measures to strengthen regional economic ties. Six countries agreed to establish the long-discussed Arab Financial Institution for Economic Development, with an initial capital of 20 million Egyptian pounds ($57 million), to grant loans and undertake technical studies for governmental and nongovernmental organizations engaged in development. The Temporary Arab Economic Unity Council was also set up to make recommendations on the institution of an Arab common market. The Arab Trade Exchange Agreement was amended to extend tariff preference on Arab goods and a resolution passed to remove all restrictions on capital movement between member countries.

Other policy developments

During the period under review a further large number of barter and other trade agreements were concluded, mainly with countries of the Communist bloc. Iraq signed its first trade agreements with Mainland China and several Eastern European countries. Sudan has concluded barter transactions with Mainland China and Hungary to find outlets for its cotton, a trade agreement was signed with the U.S.S.R., and agreements with Czechoslovakia and Poland are being completed. The United Arab Republic concluded trade agreements with a number of countries, including Japan, Eastern Germany, and Mainland China.

Some special export agencies have been set up, including an office to handle the export of fruit in Lebanon, an organization to promote the export of fruit, vegetables, and medical and aromatic plants in the Egyptian Province of the United Arab Republic and a company to promote cotton exports from the Syrian Province.

The principal price policy development in the Near East has been the decision of the Sudan Gezira Board to remove reserve prices at the beginning of 1959. It has continued to sell cotton by auction, but some private sales have also been permitted. In connection with the devaluation of the Turkish currency in early 1959, premium exchange rates were abolished in order to make exports more competitive.

In view of the demand situation for long staple cotton, the United Arab Republic has announced that the 1959/60 area will be restricted to 28 percent less than in 1958/59. The Sudan is also contemplating a partial shift to shorter staple cotton.

Several countries have taken steps to improve the supply of agricultural credit. In Iran 3,500 million rials (U.S.$46 million) were transferred to the Agricultural Bank. The capital of the Iraq Agricultural Bank is to be increased from 4 to 10 million dinars ($11 million to $28 million) to supply credit to the beneficiaries of the land reform. In Jordan a central credit institution is to be established to supervise the work of all the existing government agricultural credit agencies. The Syrian Province of the United Arab Republic has announced plans to establish a new Agricultural Bank with a capital of 100 million Syrian pounds ($28 million) subscribed by the government. In the Egyptian Province a new agricultural credit scheme is being tried in selected districts by the establishment of farmers' co-operatives which will later be broadened to handle other aspects of rural life in addition to agricultural credit.

AFRICA

In the African region policy events in 1958/59 have been mainly concerned with development planning. New plans have been begun in Ghana and the Portuguese territories and are in active preparation in many other parts of the region. The United Kingdom has announced further financial provisions for assistance in the development plans of its dependent territories, including government loans, which are a new departure.

Development plans

In Ghana the second five-year development plan (1959-64) went into operation on 1 July. Requirements during the next five years are estimated at about 350 million pounds ($980 million), including 100 million pounds ($280 million) for hydro-electric development. The government expects to have about 90 million pounds ($250 million) available from reserves, current revenue and loans from the Cocoa Marketing Board, and will embark immediately on projects estimated to cost 132 million pounds ($370 million),[13] to which it is proposed to add as additional resources can be mobilized. Among the projects for immediate implementation, transport and communications are the largest category (22 percent of planned expenditure); agriculture and natural resources are to receive 8 percent of total funds. Priorities in the agricultural program are to raise cocoa yields, to establish large areas of rubber and bananas in the southwest, to develop the cattle industry in the north and the southern savannas, to raise cereal yields in the backward northern region, to irrigate the Volta flood plain, and to study and promote the use of fertilizers.

A second development plan, for the six-year period 1959-64, was started at the beginning of the year in Portugal and its overseas provinces. In the African territories a total expenditure of 8.4 million contos ($292 million) is planned, of which more than one third is to come from foreign loans. Transport and communications are again the major item in these territories, their share rising from 35 percent under the first plan to 45 percent of the greatly expanded total under the second. The share of agriculture and irrigation (including settlement and colonization projects in Angola and Mozambique) is also increased from 31 to 35 percent.

The third development plan for the French territories, some features of which were described in last year's report, was begun in 1958. There has been considerable planning activity designed to secure a sharp increase in the pace of development in Algeria. The development plan for Algeria is still in somewhat broad terms, but for agriculture priority is to be given to the production of intensive crops, especially in the irrigated areas established under the first and second plans. A number of special bodies have been set up to carry out detailed planning and co-ordinate the plan's implementation, including the *Conseil supérieur du plan* and a new planning directorate. Financial resources will be centralized in the *Fonds d'équipement de l'Algérie*, to which the government will make each year in the period 1959-63 a minimum contribution of 100,000 million francs ($203 million) and a further contribution to be decided annually.

Further development plans are being prepared for the Belgian territories and also in Morocco and Tunisia. The new state of Guinea is no longer entitled to French grants under the *Fonds d'investissement pour le développement économique et social* (FIDES) toward its development plan and is preparing a new plan. Following its political union with Ghana, Guinea received a 10 million pounds ($28 million) loan from that country.

In most of the British territories current plans run till the end of 1960. New Colonial Development and Welfare legislation has been introduced in the United Kingdom, making funds available for 1959-64 and thus allowing an overlap with the previous planning period of 1955-60 "to eliminate any sag in development expenditure." Additional grants of 95 million pounds ($266 million) are provided, which, together with the unspent balance from the 1955 Act, makes a total sum of 139 million pounds ($389 million)[14] available for the coming five-year period. Hitherto United Kingdom financial assistance for the development plans of its overseas territories has been entirely in the form of these grants, though colonial loans have also been guaranteed. In view, however, of the recent shortage of loan funds on the London market, provision has also been made for the first time for Exchequer loans of a total of up to 100 million pounds ($280 million) over five years, to supplement the existing sources of loan finance.

The Commission of the European Economic Community is studying development projects in the overseas territories of the members of the Community proposed for financing from the European Development Fund.

[13] The 100 million pounds for hydro-electric development is budgeted separately. It is hoped to begin work soon on the purely hydro-electric aspects of the Volta River Project, independently of any eventual development of aluminum production.

[14] These sums cover all the British territories, including those outside Africa.

Other policy developments

Not all of the economic implications of the political changes in the French territories in 1958 are yet clear. At the beginning of 1959 an agreement was signed with France under which Guinea will remain in the franc zone and will continue to enjoy its former preferential status in the French market. The two countries would co-ordinate their trade policies and if Guinea wished to enter into trade agreements with other countries it would inform France before beginning negotiations. Provision was also made for technical and educational assistance and the French Government indicated that it would propose the association of Guinea with the European Common Market. The four republics of the former French Equatorial Africa have formed a customs union for the free circulation of goods and capital. A customs union has also been concluded among the countries comprising French West Africa, excluding Guinea.

Morocco and Tunisia have concluded further trade agreements, mainly with countries of the Communist bloc. Ethiopia has also increased its trade relations with these countries. Ghana has taken vigorous steps to expand its foreign trade and has sent trade delegations to a number of countries. Guinea has concluded trade agreements with Bulgaria, Czechoslovakia, Eastern Germany, and Poland.

In the Union of South Africa an interesting development has been the division of the Ministry of Agriculture into a Ministry for Agricultural Technical Services and a Ministry for Agricultural Economics and Marketing. Under its reserve price scheme, introduced in March 1958, the South African Wool Board again bought heavily when the new season opened in September. Following the earlier abolition of fixed prices for mutton and beef, a system of auctions with a floor price was also introduced for pig meat in 1958. A committee has been appointed to investigate the working of the meat control scheme and to recommend how supplies can be improved.

Latin America

Difficulties in financing development projects were again rather widespread in Latin America in 1958/59. Export earnings were reduced, especially for coffee, and a Coffee Agreement was concluded in an effort to stem the fall in world prices. Argentina introduced a currency reform, partly in order to facilitate exports, and there were some further changes in price policies. Measures for regional economic co-ordination received further attention and preparatory work toward a Latin American common market was intensified. In this region, also, there was some renewed interest in agrarian reform measures.

Development plans

With lower world prices for many of the major Latin American agricultural and mineral exports causing difficulty in financing the import of capital goods, the rate of investment appears to have fallen off in most countries. Latin America was also particularly affected by the decline during 1958 in the flow of private United States investment abroad. Some development projects had to be postponed or curtailed, particularly those involving imported equipment, and import restrictions were reinforced in a number of countries.

An important measure designed to combat these problems and increase the supply of loan finance for economic development was the recommendation of the Economic Council of the Organization of American States in May 1959 to establish an Inter-American Development Bank. It would have a capital of 1,000 million dollars, of which 450 million would be subscribed by the United States.

In spite of the financial and other difficulties during the year under review, progress was made with existing agricultural programs and some new projects were announced. In Argentina a National Institute of Technology has been established for the promotion of better farm practices, and agricultural development programs for the northern provinces are being studied. Bolivia has obtained a loan of 2.5 million dollars from the United States to implement plans for the expansion of sugar production. The Subsidized Wheat Expansion Program was continued in Brazil and progress was made in programs for the improvement of storage and transport facilities. The Federal Government has submitted a proposal to Congress for increased investment to accelerate economic development in northeast Brazil, including the irrigation of an additional 25-40,000 hectares each year. Proceeds from the sale of United States surplus foodstuffs in drought-afflicted areas will be used to finance agricultural schemes.

Implementation of Chile's eight-year agricultural and transport development program was slower than scheduled, mainly because of financial difficulties and inflation. In Colombia the reorganization of the administrative machinery for agriculture has been completed and changes made in the structure of the official planning bodies to ensure more efficient formulation, co-ordination, and implementation of projects.

In Mexico public investment in agriculture was increasingly directed to the improvement of marketing facilities in 1958, the large irrigation program and other projects receiving less funds than in previous years.

Venezuela has begun a five-year program, costing 660 million bolivares ($197 million), to increase meat production and overcome recurrent shortages. Funds will be available through the Agricultural Bank for the establishment of new cattle ranches, irrigation, fencing, the import of breeding animals, the purchase of machinery and equipment, and for pig breeding.

Price policies

In recent years producer prices in a number of Latin American countries have been raised and consumer price controls removed in order to provide greater incentives for agricultural production. This trend continued in 1958/59, especially in connection with the drive for self-sufficiency in several countries of the region, and there have also been some other significant modifications in price policies.

In Argentina the present policy tends to favor exports as against domestic consumption, which had been excessively encouraged before. In the progressive removal of the controls of earlier years, the elimination of state monopolies has now been completed and free trading established for all major agricultural products except wheat. As future meat supply prospects deteriorated further during the year, however, restrictions have been placed on cattle slaughtering and meat consumption in order to bring about a recovery in cattle numbers. To make exports more competitive a single fluctuating exchange rate was adopted at the beginning of 1959, in place of the former system of controlled rates combined with variable *aforos* and foreign currency retentions amounting in practice to different and variable rates for each product. For most agricultural products this involved a more or less substantial devaluation. Agricultural exports are now taxed by retentions of foreign currency of 20 percent for crops and 10 percent for livestock products to avoid inflationary pressure from a sudden rise in export earnings. The currency reform represents an important step toward the long-term goal of free multilateral trade, with domestic prices free to reflect world market trends in order to encourage corresponding adjustments in production. Minimum price guarantees are continued, however, for all major crops.

Persistent inflation has limited the success of Brazil's food price and supply control program under which price ceilings have been established and the number of retail outlets increased in an effort to keep down food prices. At the same time, price supports for basic food products have been maintained at incentive levels. In Chile the support price for wheat was sharply raised in 1958/59, following the abolition of price control on flour and bread. A rebate of 50 percent on railway rates for wheat was maintained, as well as a special bonus on purchases of fertilizers. The removal of price control for milk brought about a substantial increase in production.

Price policies in the Central American countries, especially Costa Rica, El Salvador, and Honduras, have continued to emphasize self-sufficiency in food supplies. Cuba is encouraging self-sufficiency in basic foodstuffs by means of support prices for maize, rice, meat, etc., and taxes on the consumption of imported products. In Colombia the *Instituto Nacional de Abastecimientos* (INA) is carrying out a marketing program designed to reduce seasonal and geographical variations in food prices. In Venezuela changes in import regulations for powdered milk are expected to provide greater incentives for domestic milk production; assistance to rice producers is to be continued in order to reduce imports.

Falls in coffee prices, accompanied by increasing surplus stocks, have particularly affected the Latin American countries as coffee is the principal export item in no less than 10 of them. The Latin American coffee producers have attempted to co-ordinate their policies in order to avoid further declines in prices and in September 1958 15 countries agreed to withold a certain percentage of their exportable supplies. Brazil will withhold 40 percent of its crop, 10 percent to be utilized as fertilizer and the other 30 percent for domestic consumption. The financing of the coffee stock

has created or aggravated inflationary pressures in a number of countries.

Regional economic co-ordination

Preparatory work for a Latin American common market has continued, with studies and discussions at various levels, and most governments now desire its prompt implementation. At the May 1959 session of the Economic Commission for Latin America it was decided to hold a governmental meeting in February 1960 at which specific proposals for the common market would be prepared. The draft agreement is likely to be based on a division of the 20 Latin American countries into three groups, according to their degree of economic development. The elimination of customs tariffs would be realized over a ten-year period, at the end of which there might still be some degree of protection in certain countries for particular commodity groups.

The Central American countries, which are carrying out a broad integration scheme, have concluded a Multilateral Treaty on Free Trade and Economic Integration and an Agreement on Central American Integration Industries. Other steps toward an eventual common market embracing the whole region include discussions by Colombia, Ecuador, and Venezuela on the operation of an integrated market, and an agreement by Argentina, Brazil, Chile, and Uruguay on initial measures to set up a system of multilateral payments. A further development in the field of regional economic co-operation was the decision to set up the Inter-American Development Bank, discussed above.

Land reform

An agrarian reform was adopted in Cuba in June 1959. Land ownership is to be limited to 440 hectares per person or company, except for sugar, rice, and cattle farms which reach certain standards of productivity, for which the maximum is 1,500 hectares. It is estimated that more than 3 million hectares of land will be available for redistribution. The holdings to be distributed or made available for assisted purchase will vary in size with the productivity of the land, with a minimum of about 30 hectares of nonirrigated land per family of five persons. They will be used for the development of more diversified agricultural production, with emphasis on intensive rather than extensive cultivation. The National Institute of Agrarian Reform created to implement the law is to encourage the formation of agricultural co-operatives.

Land redistribution is being accelerated in Colombia, together with other measures to foster rural employment. During 1958 plots of government land were given to more than 3,000 landless farmers under Guatemala's farm settlement program. In Argentina new land reform measures are being studied, particularly for the northern provinces.

FISHERY POLICIES

By the end of 1958, 37 countries had ratified the Convention on Fishing and the Conservation of the Living Resources of the High Seas, which had been agreed at the United Nations Conference on the Law of the Sea held early in the year. The Convention established machinery for the examination of measures for the conservation and management of fish stocks. The Conference had found no universally acceptable solution to the problem of the breadth of the territorial sea, and several countries have subsequently declared extensions of their territorial sea and taken action to enforce the new limits. This problem again came before the General Assembly of the United Nations, which has called for a third Conference, to be held in the spring of 1960.

Agreement was reached in early 1959 on a fisheries convention for the Northeast Atlantic to replace the International Fisheries Convention of 1946. The new convention, if ratified by the signatory powers, will extend the convention area and permit new types of measure for the management of fishing operations.

The International Whaling Convention of 1946 is in danger of being abandoned since Japan, the Netherlands, and Norway have given notice of their intention to withdraw unless an agreement on catch allocations is reached by 30 June 1959.

At the national level, pressure for increased government assistance or protection for fishery industries has been mounting in several countries in Western Europe and in North America, primarily because of the declining profitability of operations. Recent policy measures have therefore been mainly concerned with the rationalization of production, processing and marketing operations, the improvement of export prospects, the

stimulation of domestic consumption, and maintaining and improving the income of primary producers.

In the United States loan funds for the financing of fishing craft have been increased from 10 to 20 million dollars. A quality inspection system has been initiated in fish processing establishments in Canada. Western Germany has given high priority to the provision of economic assistance to the deep-sea trawler fleet, which is burdened by heavy debts, and considerable attention has also been devoted to marketing improvement. In Norway a government committee recently made recommendations for a radical overhaul of fisheries policies and proposed the replacement of small vessels, restricted to seasonal fishing, by larger vessels capable of year-round operations. In order to promote exports, exchange equalization payments to producers of all varieties of fish except herring are being increased in Iceland. The subsidy schemes for white fish and herring producers in the United Kingdom were renewed, but the subsidy rates for steam trawlers were reduced and the interest rates on loans to the white fish fleet increased.

Among the smaller European producers, Belgium has authorized new measures of financial assistance, including subsidies for vessel operations and marine research. Yugoslavia has embarked on a program for the development of a trawl fishery. Poland plans to give greater emphasis to exploratory fishing and factory-ship operations. Increased economic assistance to the deep-sea fishing industry is contemplated in Greece. Ireland has allocated a substantial sum to the development of marine fisheries over a period of five years.

The U.S.S.R.'s new seven-year plan envisages an increase of two thirds in the volume of annual landings of its fishing fleet by 1965. The increase is to be effected by greater emphasis on research, exploratory operations, and the use of factory ships for fishing in distant waters. Mainland China's targets for fisheries production are even higher and, if fulfilled, would probably make the country the world's largest fish producer by 1963.

The 1959 budget for fisheries in Japan is to be increased and greater attention given to measures for raising productivity, to marine research, and to the development of fisheries exploiting distant waters.

In the less-developed countries, where fisheries can make a particularly important contribution to dietary improvement, fisheries policies generally aim at streamlining production and distribution methods in order to widen the market area and raise per caput domestic consumption. Stress is laid on survey work for the appraisal of development possibilities, the promotion of co-operatives, and the organization of regular markets and supporting institutions and services. In India the preparation of fisheries schemes for the third five-year plan has already begun. Training courses in administration and technology and the continued promotion of co-operatives are important aspects of fisheries development work in this country.

Forest policies

Again in 1958/59 there were no substantial changes in forest policies. There has, however, been an increasing tendency to introduce measures to improve the productivity of small private forests, including control measures, fiscal encouragement, technical assistance, and the development of co-operatives.

In land utilization policies, the better co-ordination of agriculture and forestry is tending to receive more attention, though only to a small extent in the less-developed countries. Where extensive afforestation programs are under way this increased attention has resulted from the need to find suitable land for this purpose. In countries where the forest is still being cleared, as well as in arid areas where it has been destroyed, however, it can be attributed to a fuller understanding of the role of the forest. The latter is also in evidence in the widespread interest in the techniques of watershed management.

It is chiefly in Western Europe that the improvement of small forests has received attention. At the same time afforestation, once restricted by the difficulty of finding available land, has continued in this region, assisted by the development of research on the introduction of exotics, on quick-growing species such as the poplar and eucalyptus, on the use of fertilizers and, above all, on genetic improvement. In Sweden, for example, a working party of agriculturists and foresters has arrived at a surprisingly high figure to be planted in this already heavily forested country. Forest legislation continues to be improved and in certain countries, as in Spain, recently renewed legislation will quickly bring results.

In some countries in Western Europe a consid-

erable difficulty in implementing forest policies is the insufficiency and the aging of the forest labor force, in spite of the rapid development of mechanization. Measures to increase training facilities and to improve living conditions for forest labor therefore continue to be a major preoccupation.

In the extensive forests of the north and east of the U.S.S.R., where hitherto the forest had been exploited purely on the basis of timber requirements and a general forest inventory, attention is now being given to forest management. This is likely to bring about a stabilization of the *lespromkhozes* and the development in these areas of forest industries supplied on a permanent basis by the managed forests. In Eastern Europe, especially in Bulgaria, Poland, and Romania, considerable attention is being given to the place of the forest in soil and water conservation.

North America has always been the leader in developing policies for the multiple utilization of forests. At present, more and more attention is being devoted in this region to forest development for tourism and other recreational purposes as a result of urban expansion and the improvement of communications. Considerable progress has been made in methods of forest management more adapted to these rising needs.

There has been a substantial increase in the Far East in research on wood utilization, which is essential for the development of forest industries. In the Philippines, for instance, a new laboratory is giving promising results. The most important forest policy development in this region, however, is the emphasis given to forestry in Mainland China, especially to afforestation for erosion and flood control and for productive purposes. It is planned to expand the forested area to 19 percent of the total land area by 1965, in comparison with only 8 percent in 1945.

Progress in the development of forest policies has been very small in the Near East, where the few remaining forest resources are in grave danger of destruction. Among the rare encouraging signs, an energetic forest policy in Sudan is likely to lead in the near future to a rational utilization of forest resources. A school for forest rangers is to be opened in the Syrian Province of the United Arab Republic.

Increased exports of tropical hardwoods and the development of towns and of *infrastructure* have helped to increase interest in forest industries in Central Africa. The rapid political changes in this region, however, are not conducive to the continuity of forest policies and it is to be feared that the designation of forest reserves may be held up, with severe effects on industrialization and on the competition between forestry and agricultural land use.

In Latin America afforestation continues to be the major interest in forest policies. Some attention is now being given also to the conservation of existing forest resources, particularly in the form of precautionary measures embodied in legislation on the alienation of forested state land or taken in the course of settlement programs. Thus, Chile has taken steps to avoid the deforestation of the south of the country, and Venezuela has established a forestry section in the service dealing with colonization and settlement.

Various commercial concerns are interested in the development of the forests, particularly the tropical forests, of this region, but progress is still slow, mainly because of the shortage of forest technicians, of training facilities, and of adequate government forestry services. There has recently been some progress in Central America, while several states in Brazil have established or reinforced forestry services.

Commodity survey and outlook

A main feature of the world commodity situation in 1958/59 was the unusually large increase in grain production. There was a further sharp rise in the level of stocks of both coarse grains and wheat. Grain prices generally remained remarkably steady, however. Other commodities for which the production increase was particularly heavy included sugar, coffee, and cotton. Export prices averaged much lower during 1958 for these commodities and also for dairy products, wool, and rubber. The coffee problem became more acute and unsold stocks rose very substantially. Butter marketing also faced considerable problems in Western European countries during the earlier

part of 1958, the alleviation of which may prove to be only temporary. The increase in the output of fats and oils was checked for the first time since 1953 and total exports were down by as much as 7 percent. Cocoa production recovered, though it was still below the 1956/57 peak, and prices fluctuated sharply, averaging much higher in 1958 than the year before.

The commodity outlook for 1959/60 is for still larger supplies of most products, especially grains, coffee, and cotton. Some of the recent price declines may therefore not yet have reached a floor. Supplies of beef, wool, and natural rubber, however, are expected to be somewhat tighter in relation to demand.

In the field of international commodity policy, revised agreements on wheat and sugar were concluded during the period under review, covering a larger share of international trade in these two commodities. In addition an export retention scheme was agreed to by Latin American coffee producing countries.

Wheat

The imbalance between supply and demand for wheat was accentuated in 1958/59 by an exceptionally large increase in production. Ever since 1952 world supply has consistently exceeded effective demand, with the consequent accumulation of heavy carry-over stocks. Trade has expanded, but this has been mainly because of exports under special programs from the United States and, on a much smaller scale, Canada, France, and Italy. International prices, although partially insulated from the supply position, have recently been at about the lowest levels since the war.

World production in 1958/59 (excluding the U.S.S.R., Eastern Europe, and China) rose by nearly 13 million tons to an all-time peak, having previously changed very little since 1955. The United States alone increased production by 14 million tons, though in countries other than the four major exporters there was a net decline (Table II-16). In the world as a whole the increase was even greater. The U.S.S.R. reported a harvest of 75 million tons, which is as much as one third above the estimated average of the preceding six years. In Mainland China a rise from 24 million tons to the unprecedented level of 40 million tons was announced.

Table II-16. – World Wheat Production, Prewar and 1952/53 - 1958/59

	Prewar average	Average 1952-57	1957/58	1958/59 (prelim.)
	..... *Million metric tons*			
Argentina	6.6	6.6	5.8	6.5
Australia	4.2	4.5	2.6	5.8
Canada [1]	7.2	13.8	10.1	10.0
United States [1]	19.5	28.8	25.9	39.8
Total	37.5	53.7	44.3	61.6
Western Europe	31.1	35.6	40.5	39.0
Four importing countries outside Europe [2]	11.6	12.5	13.3	12.3
North Africa and Near East [3]	7.6	13.0	15.0	12.8
Others [4]	7.2	10.7	12.9	12.5
World [4]	95.0	125.5	126.0	138.6

[1] Production for the years 1934-38 (the prewar average) was abnormally low owing to droughts in 1934 and 1936. The 1937-41 averages for Canada and the United States were 10.4 and 23.4 million tons, respectively. – [2] Brazil, India, Japan, Pakistan. – [3] Algeria, Iraq, Morocco, Tunisia, Turkey, United Arab Republic. – [4] Excluding the U.S.S.R., Eastern Europe, and China.

The increased output will be reflected in enlarged carry-overs. The 1958/59 season started with lower stocks in the four major exporting countries (42 million tons as against 48 million in the last three years), but at the end of the season they will probably amount to about 51 million tons.

Trade was slightly larger in 1958/59. Argentina, Australia, and the United States increased their exports, but those of Canada were about the same as in 1957/58 (Table II-17). These four countries continue to account for 80 percent or more of

Table II-17. – World Exports of Wheat and Wheat Flour, Prewar and 1952/53 - 1958/59, by Trade Season (July-June)

	Prewar average	Average 1952-57	1957/58	1958/59 (prelim.)
	... *Million metric tons (wheat equivalent)* ...			
Argentina	3.3	2.6	2.1	2.5
Australia	2.9	2.5	1.7	2.5
Canada	4.8	8.3	8.6	8.5
United States	1.5	9.6	10.9	12.2
Total	12.5	23.0	23.3	25.7
Others [1]	5.8	4.6	6 0	4.3
World [1]	18.3	27.6	29.3	30.0

[1] Including exports from the U.S.S.R., Eastern Europe, and China, to the rest of the world but excluding (except for the prewar average) trade within this group.

world exports, though in recent years the exports of France and Italy have expanded rapidly. Other traditional deficit countries, such as Mexico and Spain, have also become net exporters and the flour exports of Western Germany have increased.

Europe's import requirements have recently shown little increase and in the next few years they are expected to decline steadily. In 1958/59, however, European imports have increased. Imports into Asian countries have been rising rapidly, but a large part has been provided under special terms. The wheat requirements of this area will probably continue to grow as the per caput production of cereals in the Far East, which is below the prewar level, has declined further.

Preliminary indications suggest that the 1959/60 crop will also be high. India has reaped a record crop and in North America the acreage has increased. Import demand will at best scarcely exceed present levels. Thus, there is no sign of any fundamental change in the immediate future in the main wheat problem: the surpluses, which are large and still growing in North America, and which, more recently, have developed also in some countries of Western Europe. Any long-term solution must depend on changes in the level of price supports in both importing and exporting countries and on new measures to cover the vast and rapidly increasing latent requirements of less-developed countries.

A new International Wheat Agreement, to run for four seasons from 1959/60, has been drafted. If fully ratified it will assure participating countries an over-all 75 percent of the commercial wheat imports of importing members, provided prices do not exceed the agreed maximum.

Coarse grains

There was also a very large increase in the production of coarse grains in 1958/59. Production and, to a smaller extent, consumption and trade have been rising in recent years much more rapidly than for wheat. Maize production especially has increased, mostly in the United States, where the output of maize and grain sorghum, for which there has also been an unusually large increase, rose by about 25 million tons between 1952 and 1958. In countries other than the U.S.S.R., Eastern Europe, and China, maize crops increased by about 11 million tons in this period. In the U.S.S.R. the acreage has expanded to more than twice the 1952 level.

World production of coarse grains (excluding the U.S.S.R., Eastern Europe, and China) increased by 15 million tons to reach a record level in 1958/59 (Table II-18). This was the largest increase since 1952

Table II-18. – World Production of Coarse Grains,[1] Prewar and 1952/53-1958/59

	Prewar average	Average 1952-57	1957/58	1958/59 (prelim.)
	Million metric tons			
Argentina	9.2	6.0	7.0	6.5
Australia	0.7	1.8	1.3	2.1
Canada[2]	7.7	13.5	12.5	13.4
United States[2]	72.8	115.7	129.7	143.0
Total	90.4	137.0	150.5	165.0
Western Europe	37.4	43.0	46.2	44.6
Five importing countries outside Europe[3]	28.4	37.0	38.2	36.6
North Africa and Near East[4]	8.7	11.9	12.0	12.1
Others[5]	25.0	31.9	32.0	33.7
World[5]	190.1	260.8	278.8	292.0

[1] Barley, oats, maize, sorghums, millets, mixed grains. – [2] Production for the years 1934-38 (the prewar average) was abnormally low owing to droughts in 1934 and 1936. The 1937-41 averages for Canada and the United States were 9.7 and 89.9 million tons, respectively. – [3] Brazil, India, Japan, Mexico, Pakistan. – [4] Algeria, Iraq, Morocco, Tunisia, Turkey, United Arab Republic. – [5] Excluding the U.S.S.R., Eastern Europe, and China.

and compares with an annual average increase of 6.3 million tons in the five years 1953-57. The main increment in 1958/59 was again in maize, with nearly 10 million tons more in the United States, where the production of barley, oats, and sorghum also rose on a reduced acreage. Barley supplies were sharply reduced in Iraq and the Syrian Province of the United Arab Republic, but recovered in Australia and North Africa.

Trade in coarse grains has almost doubled in the past decade and there was a further increase in 1958/59. As in the last few years, the expansion of maize exports was particularly noteworthy. United States exports of maize remained large, mainly as a result of special programs, exports under which averaged 46 percent of the country's total coarse grain exports in 1954/55-1957/58. Argentina and the Union of South Africa increased their maize exports and United States exports of barley and sorghum were also much larger in 1958/59.

At the opening of the 1958/59 season North

TABLE II-19. – WORLD EXPORTS OF COARSE GRAINS, [1] PREWAR AND 1952/53 - 1957/58, BY TRADE SEASON (JULY-JUNE)

	Prewar average	Average 1952-57	1957/58
	Million metric tons		
Argentina	7.2	2.0	2.3
Australia	0.1	0.7	0.5
Canada	0.5	2.5	2.0
United States	1.1	5.6	7.9
Total	8.9	10.8	12.7
Others [2]	5.5	4.3	5.4
WORLD [2]	14.4	15.1	18.1

[1] Barley, oats, maize, sorghums, millets. – [2] Including exports from the U.S.S.R., Eastern Europe, and China to the rest of the world, but excluding (except for the prewar average) trade within this group.

American carry-over stocks of coarse grains were already 7.6 million tons larger than a year before. United States stocks have now been rising since 1952/53 and are expected to increase by another 10 million tons to a total of 63 million tons at the end of the crop year. To try to stem a further increase, support prices for the 1959/60 crop have been reduced by an average of 17 percent, but this measure is linked with the abandonment of acreage restrictions for maize.

Despite the heavier supplies, international prices have shown an upward tendency in 1958/59, though by postwar standards they are still low. Price relationships have altered, reflecting supply changes, and import prices for barley have consistently been higher than maize prices for the first time since the war.

In the next few years population growth and rising levels of living should lead to the expansion of the livestock industry and increased utilization of coarse grains. But production may continue to rise faster than consumption and the problem of surpluses, at present confined to the United States, may therefore be accentuated.

RICE

Rice production resumed its rising trend in 1958/59. With favorable weather, crops in both importing and exporting countries recovered from the 1957/58 setback. There were exceptionally large harvests in India and Mainland China.

Although production declined in 1957/58, world rice supplies in the two years 1957-58 averaged some 30 percent more than in 1948-52 (Table II-20). Per caput consumption increased by about 15 percent over the same period. In the Far East, where nine tenths of the world's rice is consumed, a marked recovery in consumption has occurred in importing countries, as a result of increases in both

TABLE II-20. – ESTIMATED SUPPLIES OF RICE AVAILABLE FOR CONSUMPTION, AVERAGES 1948-52 AND 1957-58

	Production		Balance of imports (+) or exports (—)		Estimated total supplies [1]		Estimated per caput supplies [1]	
	Average 1948-52	Average 1957-58	Average 1948-52	Average 1957-58	Average 1948-52	Average 1957-58	Average 1948-52	Average 1957-58
	Million metric tons (milled basis)						*Kilograms*	
Far East								
Importing countries [2]	50.8	62.8	+ 2.9	+ 3.6	53.7	66.4	81	87
Exporting countries [3] (excluding China)	11.3	13.1	— 3.0	— 3.4	8.3	9.7	116	117
Mainland China [4]	39.0	56.6	+ 0.1	— 0.5	39.1	56.1	70	87
Total	101.1	132.5	—	— 0.3	101.1	132.2	78	89
Latin America	3.1	4.0	+ 0.1	+ 0.3	3.2	4.3	20	22
Africa and Near East	3.0	3.6	— 0.1	+ 0.2	2.9	3.8	10	12
North America	1.3	1.5	— 0.5	— 0.7	0.8	1.1	5	6
Europe	0.9	1.1	+ 0.2	+ 0.4	1.1	1.5	3	3
WORLD (excluding U.S.S.R.)	109.4	142.7	— 0.3	— 0.1	109.1	142.6	47	54

NOTE: Paddy is converted to milled basis at extraction rates applicable in individual countries or regions. No allowance has been made for changes in stocks, except in the United States. Differences between total export and import balances reflect imports into the U.S.S.R. and differences in quantities in transit at beginning and end of period.

[1] Food and nonfood. – [2] Mainly Ceylon, Federation of Malaya, India, Indonesia, Japan, South Korea, Pakistan, Philippines. – [3] Burma, Cambodia, Taiwan, Thailand, Viet-Nam. – [4] Export balance in 1957-58 excludes shipments to the U.S.S.R. which totaled 180,000 tons in 1957.

domestic production and imports. In exporting countries in this region (excluding China), per caput consumption, which was already greater than before the war, has remained stable and the increase in their output has thus permitted an expansion of exports to deficit countries. In Mainland China production and consumption are apparently much higher than in 1948-52 and substantial quantities have been exported. Most other regions have shared in the general expansion, but the increase in per caput supplies has been modest.

World exports are more than 1 million tons higher than in 1948-52 and have thus kept pace with the growth of production over the period as a whole. Preliminary returns for 1958 indicate that exports were only about 5 percent less than the 5.7 million tons shipped in the previous year. International market prices were also generally steady in these years, partly because more than one half of world trade is arranged through government-to-government contracts, some on a long-term basis.

In spite of this over-all stability, individual countries are still faced with disturbing fluctuations in their trade owing to the effects of weather on crops. After the drought-affected harvests of 1957/58 there was a pronounced decline in exports from Burma and Thailand, the two largest exporting countries. The total volume of trade was sustained, however, by an equally marked expansion in exports from Mainland China, the United Arab Republic, and some other countries. Import demand was stronger, because of the lower crops and the steady increase in population and per caput consumption. Some importers, notably India, were able to meet part of their additional requirements by shifting to other cereals available on concessional terms.

With the larger crops of 1958/59, there is sufficient rice available to permit an increase in trade in 1959 and international prices fell moderately at the beginning of the year. In the early months of 1959, however, the volume of trade was lower than a year earlier and it seems likely that part of the increased export supply will be added to stocks.

Sugar

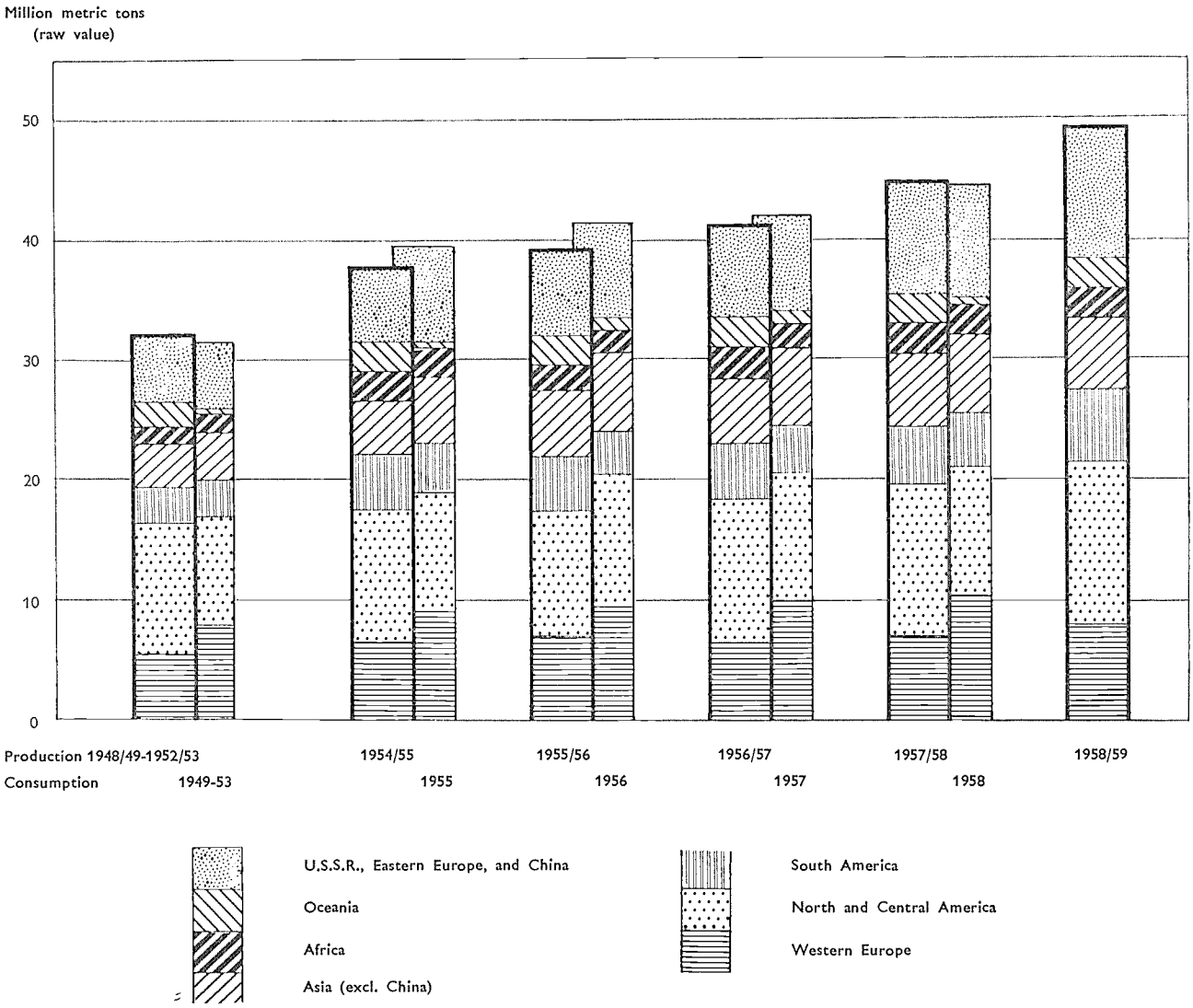
The postwar increase in sugar production continued in 1958/59. Production of centrifugal sugar outside the U.S.S.R., Eastern Europe, and China is likely to have exceeded 38 million tons (raw value), as compared with 35 million in the previous year and 33 million tons in 1956/57. World production is estimated at 48.8 million tons, an increase of 4.2 million tons over 1957/58 and of more than 90 percent over the prewar years (Figure II-11).

Many factors contributed to the sharp rise in production in 1958/59. Weather conditions were favorable in most of the principal producing areas and probably accounted for about one half of the increase. The balance must be attributed to economic and technological factors. With the substantial increase in world prices at the end of 1956 and the first part of 1957 (from 3.7 to 6.7 U.S. cents per lb.), prices paid to beet and cane farmers, as well as factory prices, were raised in many countries during 1957 and 1958, leading to larger areas under sugar. Lower prices for some competitive crops also made sugar relatively more profitable. In Western Europe the beet area rose by 10 percent and sugar production by 15 percent. In many countries the expansion of sugar production for domestic consumption, and to some extent for export, was the consequence of deliberate national policies and programs, developed some years ago, to promote agricultural and industrial diversification. Part of the production increase was also due to higher productivity through improved varieties, greater and more widespread use of fertilizers, irrigation, better agricultural practices, and improvements in transport and milling efficiency.

Consumption, too, continued its steady and rather steep increase (Figure II-11). In 1958 world consumption of centrifugal sugar (exluding the U.S.S.R., Eastern Europe, and China) probably rose by 1.4 million tons over the 1957 total of 33.8 million. As in previous years, the greatest gains were achieved in the less-developed countries of South America and the Near East. In Asia, however, the increases were not as high as had been anticipated, partly because of the difficulties experienced in implementing programs to expand production.

The uncertain political situation in Cuba helped for a time to maintain world prices, but the improvement in the production outlook in that country suggested that 1959 supplies would be ample to meet all foreseeable import demand and prices therefore weakened. The decision of the International Sugar Council in February 1959 to reduce

FIGURE II-11. - PRODUCTION AND CONSUMPTION OF CENTRIFUGAL SUGAR, AVERAGE 1949-53 AND ANNUAL 1955-58



free market export quotas by 7.5 percent (and that the exporting countries should withhold from the market, for the time being, 10 percent of their quotas) had little effect on the market, and prices remained 5 to 7 percent below the Agreement minimum of 3.25 cents per lb. However, it is possible that, in the absence of the stabilizing influence of the newly-negotiated Agreement, prices might well have fallen further since supplies at present substantially exceed demand.

MEAT

Meat production (in the major producing areas only and excluding the U.S.S.R., Eastern Europe, and China) is estimated to have been a little smaller in 1958. Production declined in Argentina, the United States, and Uruguay. In the world as a whole, however, production probably continued to increase, as the U.S.S.R. reported a rise of 7 percent and the Eastern European output also appears to have been higher.

The volume of trade increased slightly, stimulated by a marked growth in United States import demand for beef (Tables II-21 and II-22). A large part of New Zealand's exportable beef supplies was diverted to the United States and, largely in consequence of this, imports of beef and veal into the United Kingdom were 13 percent less than in 1957. World prices for beef rose considerably during 1958 and the unit value of United

TABLE II-21. – IMPORTS OF MEAT [1] INTO MAJOR IMPORTING COUNTRIES, AVERAGE 1948-52 AND ANNUAL 1954-58

	Average 1948-1952	1954	1955	1956	1957	1958 (prelim.)
	Thousand metric tons					
Belgium-Luxembourg	43	17	15	22	31	28
France	25	34	48	45	65	66
Germany, Western	73	73	91	191	169	164
Greece	5	4	7	13	12	15
Italy	33	40	66	90	124	163
Netherlands	22	21	23	32	31	29
Spain	8	1	5	21	36	34
Sweden	14	32	16	16	33	21
Switzerland	15	10	18	20	20	27
United Kingdom	1 136	1 209	1 352	1 407	1 478	1 421
Canada	15	25	29	30	32	38
United States	132	139	133	119	178	378
Japan	1	1	2	3	26	8
Total	1 522	1 606	1 805	2 009	2 235	2 392

[1] Beef and veal, mutton and lamb, pork, poultry, offal, game, horse meat and other meat, fresh, chilled or frozen; prepared meat: bacon, ham, and salted pork; other dried, salted or smoked meat; canned meat. Figures generally exclude unrendered pig fat, meat extracts, and sausage casings.

Kingdom beef imports was 20 percent above 1957 levels.

In 1959 the United States output will be larger, with pork and poultry meat accounting for most of the increase. Expansion will continue at a moderate rate in Western Europe. In Australia and New Zealand, where production has grown very rapidly since the beginning of the decade, the high levels of 1958 will probably be exceeded. These increases should outweigh the expected fall in Argentina's output and the world total is likely to exceed the record level of 1957.

Although the decline in United States cattle numbers was reversed during 1958, United States beef prices are expected to remain high throughout 1959; a strong expansion of cattle numbers is under way, however, and it is likely that prices will decline markedly in the early 1960's. Exportable

TABLE II-22. – EXPORTS OF MEAT [1] FROM MAJOR EXPORTING COUNTRIES, AVERAGE 1948-52 AND ANNUAL 1954-58

	Average 1948-1952	1954	1955	1956	1957	1958 (prelim.)
	Thousand metric tons					
Denmark	207	396	415	265	438	441
France	33	69	78	44	42	41
Ireland	42	107	64	53	70	84
Netherlands	72	120	151	153	169	161
Poland [2]	[3] 38	84	81	97	96	[3] 97
Yugoslavia	5	24	21	31	37	42
Canada	97	65	45	40	46	64
United States	65	81	104	146	147	100
Argentina	372	285	393	577	606	651
Brazil	27	2	7	14	33	[3] 50
Uruguay	84	76	9	46	55	24
Australia	247	277	295	236	295	324
New Zealand	352	391	409	431	400	416
Total	1 641	1 977	2 072	2 133	2 434	2 495

[1] See footnote 1 to Table II-21 – [2] Figures for the years 1954-58 include the meat equivalent of exported live pigs but do not include poultry meat. – [3] Estimate.

supplies of beef will be reduced by the fall in Argentine production and world market prices in 1959 will therefore stay at high levels. In Western Europe the situation may ease by 1960, when the recent increased emphasis on beef in a number of countries should cause an increase in production.

Sheep numbers have increased steadily in most of the major producing countries and supplies of mutton and lamb will remain plentiful.

Pigmeat production in Western Europe, the principal trading area for pig products, will be only slightly larger in 1959. Pig breeding was reduced in some of the major producing countries in the course of 1958. Western Germany's production will be about 5 percent less and in the United Kingdom there may be some decline from the 1958 record level, which was more than 70 percent greater than before the war. Bacon and pork prices in Western European markets will therefore probably average higher than in 1958. In North America, on the other hand, sharp increases in output have already resulted in much reduced prices.

The production of poultry meat has increased rapidly in recent years. The biggest expansion has been in North America, but large-scale production methods are also being increasingly applied in the United Kingdom and many other countries. Poultry meat will therefore continue to be in abundant supply.

Eggs

Egg production and trade continued to increase in 1958. Production was fairly stable in North America and the main increase was in Western Europe, especially in Denmark, the Netherlands, and Western Germany. There was a new and marked increase in Italy's imports, but the growth of imports into Western Germany, the world's largest importer, slowed down. United Kingdom imports, although larger than in 1957, remained small in comparison with the period prior to 1956. Among the exporters the largest gains were achieved by Argentina, Eastern Europe, and Israel.

Supplies have increased further in 1959, with bigger exports from Denmark and the Netherlands. World prices at the beginning of the year were therefore much below the corresponding months in 1958. As egg production reacts relatively quickly to price changes, the recent expansion of production in the major trading countries may be followed by some contraction in 1960. The general trend of world production is upward, however, and efforts are being made almost everywhere to expand poultry industries. Many importing countries are increasing production and exporters may find it more and more difficult to accomplish any major expansion in their sales abroad.

Dairy products

For dairy products 1958 was an eventful year. At the beginning of the year the United Kingdom, the United States, and certain other countries lowered price supports with the specific aim of discouraging milk production. Later there was a severe butter crisis, with consequential remedial measures whose results will have important lessons for the future. There was also increasing concern at the development of "filled" milk.

Milk production in the main producing areas was only slightly more than in 1957. Production increased in Canada, the Netherlands, and Western Germany, but bad harvests and lower prices caused a reduction in the United Kingdom and there was also some decline in Denmark, Sweden, and the United States. On the whole, yields continued to increase and cow numbers to fall. The United States Government purchased the equivalent of 5 percent of total milk production under its price support operations. Elsewhere, also, high supports encouraged production and thus tended to reduce imports of dairy products or to increase assisted exports from marginal exporters.

These factors were responsible for the butter crisis of May 1958, when the import price of New Zealand butter on the London market dropped to 206 shillings per hundredweight, compared with 293 shillings a year earlier. As a result the United Kingdom took action, at the request of New Zealand, to restrict butter imports from Finland, Ireland, Poland, and Sweden. Denmark, New Zealand, and some other major exporters sharply reduced producer prices. Certain exporting countries, particularly Denmark, the Netherlands, and Sweden, also took special measures to stimulate domestic butter consumption. Substantial increases were achieved in these countries and also in the United Kingdom, mainly at the expense of margarine. But the other problem, the contracting market for butter in almost all areas except the

TABLE II-23. – BUTTER: PRODUCTION AND COMMERCIAL TRADE, PREWAR TO 1958

	Total twenty dairying countries		Four main exporters [1]		Nine minor exporters [2]		Five main importers [3]		United States and Canada	
	Production	Exports	Production	Exports	Production	Exports	Production	Imports	Production	Exports
	Thousand metric tons									
Prewar average	2 861	536	649	441	566	93	488	572	1 158	2
Average 1953-57	2 841	463	635	394	800	60	544	374	863	7
1956	2 860	478	660	403	799	56	549	416	853	19
1957	2 909	511	651	393	847	116	567	447	846	2
1958 (preliminary)	2 957	517	649	388	870	113	605	451	834	11

[1] Australia, Denmark, Netherlands, New Zealand; for Australia and New Zealand, trade data refer to July-June season. – [2] Argentina, Austria, Finland, France, Ireland, Norway, Poland, Sweden, Union of South Africa. – [3] Belgium, Italy, Switzerland, United Kingdom, Western Germany.

United Kingdom, is still not solved. For instance, Belgium, Switzerland, and Western Germany together imported 59,300 tons of butter in 1957 but only 6,500 tons in 1958. Italy temporarily stopped butter imports in late 1958 and again in January 1959.

Despite these difficult marketing problems, total exports of butter actually increased in 1958, as a 16 percent rise in United Kingdom imports more than balanced the heavy reduction by other traditional importers (Table II-23). By the end of 1958 the London price of New Zealand butter had recovered to 290 shillings per hundredweight. There had also been considerable reductions in the large stocks which had accumulated a year earlier and had helped cause the ensuing crisis. As a result of the improved situation the United Kingdom withdrew the restrictions imposed earlier on imports from certain countries.

The expansion of cheese production in the main producing countries was checked in 1958 and there was a marked improvement in prices on the London market. Production of condensed and evaporated milk increased slightly, mainly in Western Germany. For dried milk the big expansion of 1957 was not repeated and there was only a small increase in 1958. There was a substantial rise in Canada and the Netherlands, but production declined in Australia, New Zealand, and the United Kingdom, as well as in the United States, which contributes about three fifths of world supplies of dried milk.

The outlook is for a slight expansion in milk production in most countries during 1959. A substantial increase is forecast for Australia and a small increase expected in the United States. For butter the situation is still uncertain, although better than a year ago. Much depends on the reaction of United Kingdom consumption to the higher prices now ruling and on the extent to which exports to protected markets can be increased. A further uncertainty in the dairy products situation arises from the growing importance of "filled" milk and its implications for the market for condensed and evaporated milk.

FISHERY PRODUCTS

Fresh and frozen fish

Trade in fresh and frozen fish remained substantially unchanged in 1958. The United States, the leading importer of fishery products, obtained a larger proportion of the supplies for its fish processing industry from foreign sources. Total United States imports, for the most part in fresh or frozen form, probably exceeded 300 million dollars, valued at the port of shipment. Imports of frozen tuna and tuna loins from Japan by United States packers were the highest ever. Canada accounted for about two thirds of United States imports of groundfish fillets and blocks, though this was a smaller proportion than in 1957.

Exports of fresh and frozen fish from Iceland and Denmark increased, mainly because of improved market opportunities in both the OEEC countries and the dollar area. Norway's shipments, primarily to the United Kingdom, Western Germany, the U.S.S.R., and Eastern Europe, were smaller.

Toward the end of 1958 frozen fishery products from Mainland China, notably squid, guppies, and other speciality items, made their first appearance in European markets, principally in Italy and Switzerland.

Prices of fresh and frozen products generally

remained firm. Reduced groundfish landings on the Atlantic coast, combined with strong demand, caused a substantial increase in the prices of fresh and frozen fillets in the United States.

The frozen fish trade in Western Europe has benefited from an increase in cold storage facilities in wholesale and retail distribution outlets and in households, as well as from promotional campaigns. These developments promise to result in significant improvements in the relative position of the trade.

Dried, salted, and smoked fish

Norway's salted cod exports continued to decline in 1958, but its exports of dried unsalted cod, a high proportion of which goes to Nigeria, increased slightly. Its exports of salted herring, nearly two thirds of which were destined for the U.S.S.R., were approximately the same as in 1957, in spite of the reduced catch of winter herring. Among new trade agreements concluded by Norway was one with Czechoslovakia, under which fish oil and other products will be delivered in addition to salted herring.

Canada's exports of salted groundfish and pickled and dry salted fish, mostly to Caribbean countries, were smaller. Iceland and the Netherlands also were confronted by shrinking markets for salted and other cured fish, especially in the U.S.S.R. and Eastern Europe.

Indonesian imports of dried fish from other countries in Southeast Asia have continued to decline and are down to about one tenth of the prewar level.

Canned fish

Canadian exports of canned salmon were as much as three times the 1957 volume. The near-record sockeye salmon catch was the largest in 50 years. The United Kingdom absorbed almost all of Canada's exports of this commodity, having relaxed restrictions on salmon imports from the dollar area for the first time in 20 years.

The consumption of canned tuna in the United States was the highest ever in 1958. Both canned imports and domestic packs were at peak levels and imports accounted for one seventh of total consumption. Among the United States' suppliers, Peru in particular made substantial progress in building up its canning industry. The reappearance in quantity of pilchards in the waters off California was another factor responsible for improved conditions in the Pacific coast canning industry. Market prospects for California canned pilchards were less favorable than for canned tuna, however. In the long period of low abundance of the species, which had lasted from 1951, the industry lost some of its customers in Southeast Asia to Japanese and South African competition.

Improvements in the South African pilchard fishery and the Norwegian herring fishery early in 1959 have brightened canning prospects. Moroccan sardine packers, however, have been confronted by declining demand. Portugal is another country seriously concerned about market prospects for its canned sardine pack, partly because increased competition in Common Market countries is expected from French packers.

The fish canning industry has recently made great strides in the U.S.S.R., both through the improvement of facilities and methods and the expansion of production, mainly for the domestic market.

Fish meal

The production of fish meal is still increasing. As a result of the failure of Norway's winter herring fishery and a consequent reduction of 20 percent in its fish meal exports, the demand for the exports of the Union of South Africa, Peru, Denmark, and other countries was considerably strengthened. The Norwegian herring fishery has partially recovered in 1959, however, and Norway should therefore be able to preserve its markets for fish meal.

There was a reduction in imports into Western Germany and the Netherlands of menhaden oil from the United States, partly because of the continued decline in United States catches. The demand situation for this product is affected by the competition of other animal and vegetable oils, particularly from nondollar sources, for use in margarine production.

Fats and oils

The production of fats and oils declined slightly in 1958 for the first time since 1953. Total supplies (including the estimates now available for the U.S.S.R.) were somewhat above 29 million tons. There were further increases in groundnuts, soybeans, butter, and pig fat, but the pro-

duction of copra, linseed, sunflowerseed oil and tallow was lower. As a result of smaller 1957/58 harvests, 1958 supplies were reduced in each of the largest producing countries – India, Mainland China, the United States, and the U.S.S.R. – which together represent one half of the world total.

Trade sharply reflected these supply changes and total exports were probably as much as 7 percent less than in 1957. Exports were substantially lower for all major commodities except groundnuts, palm products, rapeseed, soybeans, and butter. Copra and coconut oil exports fell from 1.3 million tons (copra equivalent) in 1957 to less than a million tons in 1958.

Price developments in 1958 were closely related to the international supply situation for individual oils. Prices of "soft" oils, other than olive oil, declined sharply throughout 1958. For whale oil, palm oil, tallow, lard, and olive oil, and also for linseed and other drying oils, prices were stable or fell slightly. In marked contrast, prices for copra and palm kernels and their oils registered an unusually strong upward movement in 1958, especially during the second half of the year. The general level of fats and oils prices recovered somewhat in the last quarter of 1958, which brought them back close to the level at the beginning of the year. Average prices for 1958 were about 6 percent below 1957 and a little less than the 1952-54 average.

Most of the contraction in exports was reflected in lower imports into Western Europe, the principal market, where net imports are estimated as at least 10 percent less than in 1957. There were large but somewhat lower requirements of liquid edible oils to supplement olive oil supplies in southern European countries. Raw material purchases for the manufacturing industries of northwestern Europe were greatly reduced. Margarine output, which had been expanding very rapidly until 1956, fell by a further 2 percent because of the ample supplies of butter at low prices in the first half

TABLE II-24. – ESTIMATED SUPPLY AND DISPOSITION OF FATS AND OILS USED PRINCIPALLY FOR FOOD, 1948-1958

	Average 1948-52	Average 1953-57	1957	1958 (preliminary)	Percentage distribution	
					Average 1948-52	1957
	Million metric tons				*Percentage*	
PRODUCTION						
Butter and ghee (fat content)	3.3	3.8	4.1	4.2	16	15
Other commodities [1]	18.1	22.0	23.8	23.5	84	85
Total	21.5	25.8	27.9	27.7	100	100
DISPOSITION (excluding butter)						
Estimated use in						
Margarine	2.1	3.1	3.4	3.5	12	14
of which: Western Europe	(1.2)	(1.6)	(1.7)	(1.7)	(6)	(7)
Soap	2.7	3.0	3.1	...	15	13
Shortening [2]	1.0	1.2	1.1	1.2	6	5
Total	5.9	7.3	7.7	...	32	32
Retention in major producing regions for other uses						
Asia	4.9	5.6	6.0	...	27	25
Latin America	1.1	1.6	1.7	...	6	7
Africa	0.9	0.9	1.0	...	5	4
Oceania	0.1	—	—	...	—	—
Total	7.0	8.1	8.6	...	39	36
Other uses in						
North America	2.0	2.2	2.3	...	11	10
U.S.S.R. and Eastern Europe	1.0	1.4	1.7	...	5	7
Western Europe	2.2	3.0	3.5	...	12	15
of which: olive oil [3]	(0.8)	(0.9)	(0.9)	(1.0)	(4)	(4)
Total	5.2	6.6	7.5	...	29	31

[1] Includes edible vegetable oils, coconut, palm-kernel and palm oils, tallow, lard and other slaughter fats, marine oils. – [2] A limited number of major producers only. – [3] Consumption in producing countries only.

of 1958 and also, perhaps, because an upper limit in per caput food fat consumption may have been reached in a few countries. The long-term decline in soap output also appears to have accelerated. Import demand for lard was lower and imports of drying and technical oils reflected lower shipments of linseed and oil. In other regions, retained quantities of fats and oils principally for food were again larger in 1958 (Table II-24).

The outlook is for a renewed increase in production and export supplies. Late 1958 crops are reported as excellent in Mainland China and the U.S.S.R. United States supplies and exportable surpluses are appreciably larger than in the marketing year that ended in September 1958. West African groundnut crops are lower but, including carry-overs, exportable supplies are still well above the recent average. Copra supplies should increase following more favorable weather.

Larger import demand, particularly in Western Europe, is likely, also some improvement in world prices. Price advances were held in the early months of 1959 and imports into some northwestern European countries were at a higher rate. European demand for soap manufacture is expected to decline further, but margarine manufacture should increase and use of industrial and drying oils should return to more normal levels. Although the Mediterranean countries have harvested good "off year" olive crops, their needs for other oils will again increase. In the United States domestic use is expected to reach a new peak.

Fresh fruit

Apples and pears

In recent years the main influence on the level of world production of apples and pears has been the pronounced fluctuations that have occurred in the European crop. In 1958/59 there was a bumper crop in Western Europe which was more than double the low output of the previous year. Changes in other regions were small, with some increase in apple crops in Australia and the United States and a sharp reduction, because of late frosts, in Argentina.

As a result of the heavy supplies some countries applied import restrictions and prices generally fell steeply. European imports of winter fruit appear to have been considerably less than the year before and the large quantities of apples in storage are also limiting export possibilities from the Southern Hemisphere in the spring and summer of 1959.

Citrus fruit

Citrus production was also at record levels in 1958/59, when it is estimated to have increased by as much as 6 percent. The United States accounted for most of the increase, though its output of oranges and grapefruit did not quite recover from the effects of the 1958 frost. There were substantial increases in the Mediterranean countries also.

In spite of the increased production, world trade in oranges and tangerines was probably less in 1958/59 than in the previous season. Exports of summer oranges from the Union of South Africa fell steeply, as drought damage caused an unusually high percentage to fail to reach export standards. Import demand for winter citrus was weakened by the exceptionally large fruit crops in Europe. Bad weather delayed harvesting and shipments in a number of Mediterranean countries. Although the 1958/59 season for winter oranges started in October with higher prices in London and Hamburg, quotations declined later.

Exports of lemons appear to have increased with the rise in production. United States exports are less than the high volume of last year, but Italy has gained a greater share of the market.

Bananas

Exports of bananas expanded further in 1958. Shipments from Ecuador, the leading exporter, rose from 26 to almost 29 million bunches. The biggest increases in imports were in France, the United States, and Western Germany. The latter's imports rose from 120,000 tons in 1953 to 300,000 tons in 1956 and 420,000 tons in 1958, causing a sharp fall in prices, particularly from September 1958.

Dried fruit and wine

Raisins and currants

Although production increased by 2 percent to about 625,000 tons in 1958/59, this was still rather less than the levels reached in previous years.

The United States crop was again below average. In Greece the production of currants increased slightly, and sultana production fell by one third from the record of the preceding season. The decline in raisin exports from Northern Hemisphere countries was more than counterbalanced by a further substantial rise in exports from Australia, which in 1958/59 was the world's largest exporter of raisins. With exports of currants approximately the same as in 1957/58, total exports of dried vine fruit are estimated to have increased by about 11,000 tons in 1958/59 (Table II-25).

Stocks were unusually low at the beginning of the 1958/59 season. With the small increase in output, total supplies will probably prove smaller than requirements and there will be no unsold stocks of dried vine fruit by the end of the season. Prices have risen, reflecting the tight supply situation, and price prospects depend mainly on the size of the new crop.

Dates

Production is estimated to have been rather greater in 1958 than the 1.4 million tons recorded in the two preceding years. Date crops in Iran and Iraq increased by about 20 percent. Provisional data indicate no substantial change in the level of exports. Japan has not continued its imports of dates from Iraq, but there were larger markets in the Near East itself, notably in the United Arab Republic, Saudi Arabia, Bahrein, and Aden.

Wine

The production of wine recovered from the sharp decline in 1957. In Italy production rose by 23 million hectoliters to reach a new record and Western Germany and Austria also had record crops. The vintage in France, though 14 million

TABLE II-25. – WORLD PRODUCTION AND EXPORTS OF RAISINS AND CURRANTS, 1955/56 - 1958/59

	Production [1]				Exports [2]			
	1955/56	1956/57	1957/58	1958/59 (prelim.)	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Thousand metric tons							
RAISINS								
United States [3]	204	181	148	156	72	46	25	25
Turkey	141	186	131	147	27	65	48	58
Iran	60	62	63	64	39	39	41	42
Greece [4]	42	41	63	43	44	42	58	40
Spain	9	9	8	10	5	6	5	6
Others	22	22	22	24	5	3	13	10
Total Northern Hemisphere	478	501	435	444	192	201	190	181
Australia	71	46	70	78	55	33	53	69
Union of South Africa [5]	8	5	5	7	4	5	2	4
Others	8	11	4	3	1	—	—	...
Total Southern Hemisphere	87	62	79	88	60	38	55	73
WORLD TOTAL [6]	565	563	514	532	252	239	245	254
CURRANTS								
Greece	65	92	86	81	58	59	65	65
Australia	11	14	11	11	7	9	6	8
Union of South Africa	1	1	1	1	—	–	—	—
WORLD TOTAL [6]	77	107	98	93	65	68	71	73
TOTAL, RAISINS AND CURRANTS [6]	642	670	612	625	317	307	316	327

[1] Crop year starting with Southern Hemisphere harvest in first part of period indicated. – [2] Trade season for Northern Hemisphere, September-August; Australia, March-February; other Southern Hemisphere countries, calendar year. – [3] Production includes a small quantity of currants. – [4] Production data cover sultanas (seedless raisins) only, but exports include all raisins. – [5] Exports include a small quantity of currants. – [6] Excluding the U.S.S.R.

hectoliters above the low 1957 level, was much below the average and there were also significant reductions in Algeria and Portugal. It is estimated that there was a slight further rise in wine exports. France continued to import large quantities and, with reduced exports from Algeria, 4.1 million hectoliters or one fifth of French imports were supplied by Spain, Portugal, and Greece, which normally export less than 100,000 hectoliters to this destination. In contrast to a decline of one quarter in Algerian exports, Spain's total wine exports doubled and those of Greece were almost seven times the 1957 levels.

As a result of the low 1957 output, wine prices had risen sharply in producing countries from the end of 1957. When the expectations of a good crop materialized in the autumn of 1958, there was a rapid fall in prices.

Cocoa

It is still difficult to discern a marked longer-term upward trend in cocoa production, although there was a renewed increase in 1958/59 (Table II-26). Production rose in 1956/57 to 895,000 tons from 801,000 and 836,000 tons in the two preceding years, but in 1957/58 it fell as low as 775,000 tons. Estimates of the 1958/59 crop, promising at the beginning of the season, were reduced afterwards because of unfavorable weather and pest and disease damage in West Africa. Later on, however, it turned out that the crop, while late, would not be smaller than average. According to present estimates production is likely to be between 855,000 and 870,000 tons, an increase of more than 80,000 tons over the previous year, but still below the 1956/57 peak level.

TABLE II-26. – WORLD PRODUCTION, PRICES AND GRINDINGS OF COCOA BEANS, AVERAGE 1949-53 AND ANNUAL 1955-59

	Average 1948/49-1952/53	1954/55	1955/56	1956/57	1957/58	1958/59 [1] (prelim.)
	Thousand metric tons					
PRODUCTION						
Africa	499	492	521	584	458	539
Ghana and Nigeria	(362)	(329)	(349)	(405)	(300)	(385)
French Territories	(109)	(130)	(138)	(140)	(119)	(116)
Latin America	253	298	304	298	304	305
Brazil	(130)	(151)	(171)	(161)	(162)	(165)
Asia and Oceania	8	11	11	13	13	15
WORLD TOTAL	760	801	836	895	775	855
PRICES						
Spot Accra, New York (U.S. cents/lb)	31.4	43.0	29.4	26.9	43.1	[2] 39.5
Spot Accra, London (sh.d./cwt)	254/10	338/4	233/4	220/4	348/5	[2] 311/4
	Average 1949-53	1955	1956	1957	1958	1959 (forecast)
	Thousand metric tons					
GRINDINGS						
Europe	358	382	420	480	425	417
United Kingdom	(117)	(103)	(94)	(110)	(96)	(96)
Western Germany	(51)	(76)	(95)	(100)	(95)	(85)
North and Central America	290	227	262	273	247	245
United States	(258)	(191)	(227)	(235)	(210)	(208)
South America	63	72	71	90	92	92
Asia, Africa, Oceania, and U.S.S.R.	45	47	55	54	59	70
WORLD TOTAL	756	728	808	897	823	824

[1] Estimate of Statistical Committee of FAO Cocoa Study Group, 12 May 1959. – [2] To April 1959.

As a result of the low 1957/58 crop, prices rose from 180 shillings per hundredweight in March 1957 to 360 shillings a year later, with the average for the 1957/58 crop year at about 350 shillings. When production had fallen to the same level in 1953/54, however, prices had risen as high as about 550 shillings, with an average of 467 shillings for the year 1954. The different behavior of prices in the second period was probably because manufacturers' stocks were higher and an adjustment in consumption was achieved more quickly. Better statistical information also enabled manufacturers to follow more careful buying policies. The course of consumption since 1954 demonstrates that it is quite considerably affected by price changes.

During 1958/59 prices have fluctuated between 270 and 360 shillings per hundredweight. The relatively depressed production outlook at the end of 1958 strengthened prices, but concern about the effects on consumption exercised a moderating influence and prices quickly reacted to the improvement in crop prospects early in 1959. Even the comparatively mild increase in prices toward the end of 1958 may have had some adverse effects on consumption. World grindings are estimated at 823,000 tons in 1958, almost 10 percent below the 1957 level, and 1959 consumption appears likely to be no higher and possibly even lower. Any substantial increase in production in 1959/60 could therefore have a marked effect on prices.

TABLE II-27. – WORLD PRODUCTION, IMPORTS, STOCKS, AND PRICES OF COFFEE, 1956/57 - 1958/59

	1956/57	1957/58	1958/59 (prelim.)
	..... *Thousand metric tons*		
WORLD PRODUCTION	2 510	3 090	3 410
of which:			
Brazil	979	1 409	1 730
Total Latin America	1 870	2 420	2 710
Africa	517	530	560
Asia-Oceania	118	133	133
WORLD IMPORTS [1]	2 264	2 259	2 270
of which:			
United States	1 274	1 252	1 212
Western Europe	748	755	800
OPENING STOCKS			
Brazil-Colombia [2]	670	565	935
	..... *U.S. cents per lb.*		
PRICES [1]			
Santos No. 4	58.1	56.9	48.4
Colombia Mams	74.0	63.9	52.3
Ivory Coast Courant	31.0	34.2	36.5

[1] Calendar year, first year indicated. – [2] On 1 July of the first year indicated.

COFFEE

In 1958, for the second consecutive year, the major features of the world's coffee economy were rising production, stationary volume and falling value of trade, heavy stock accumulations in producing countries, and gradually declining prices (Table II-27). International co-operation was on a broader basis than before and led to the establishment of the International Coffee Study Group in June 1958 and to the conclusion of the Coffee Agreement in September. Under the latter, 15 Latin American countries, supported by France and Portugal on behalf of their African territories, agreed to withhold a percentage of their exportable production.

World production, estimated at 55 million bags (3.4 million tons) was 10 percent higher in 1958/59, mainly because of an increase of 19 percent in Brazil. Total African output rose by about 6 percent, with the largest increases in the Belgian territories, the Ivory Coast, and Uganda.

This increase in production was not reflected in the volume of imports, which, at 2.3 million tons, were very little more than in 1957. Anticipating a further weakening of prices, buyers have been reluctant to purchase beyond immediate consumption requirements. The United States imported 1.2 million tons in 1958, 3 percent less in quantity and 15 percent less in value than in 1957. Western Europe's imports, however, rose by 7 percent to 0.8 million tons. Exports of mild and robusta coffees were maintained, but Brazilian exports declined by 11 percent in volume and 19 percent in value. Total Latin American coffee exports were worth U.S.$1,952 million in 1956 and $1,788 million in 1957, but they earned only about $1,400 million in 1958.

The downward trend in prices continued throughout 1958 and early 1959, particularly for Brazilian coffee, for which prices declined by 33 percent between early 1958 and March 1959. Retail prices in the United States fell by about 11 percent during 1958 and there were gradual downward adjustments in some European countries. Con-

sumption responded well to the lower prices. In the United States roastings increased by 3 percent, to reach the highest figure since 1949, and consumption was well maintained in France, the United Kingdom, and Western Germany.

Imports are likely to rise substantially during 1959 because of the lower prices and the need in importing countries to replenish stocks, which at present cover only a few weeks' requirements. So far in 1959 Brazilian exports have been relatively high. Domestic consumption in producing countries is also likely to improve as more and cheaper coffee is being made available from the retained quotas. Stocks, however, will be higher at the beginning of the 1959/60 season than a year earlier and will probably be around 28 million bags (1.7 million tons), which is 70 percent of annual world requirements. Brazilian stocks were 13.9 million bags (0.8 million tons) on 1 July 1958 and are likely to reach 21-22 million bags (1.3 million tons) at the beginning of the new crop year.

Growing conditions for Brazil's 1959/60 crop have so far been good and, if the crop is as large as forecast (30-31 million bags or 1.8-1.9 million tons), the world output may reach a new record level of 57-58 million bags (3.4-3.5 million tons). In these circumstances, no large-scale buying for stocks is likely and the possible increase in consumption alone will not suffice to dispose of the huge exportable supplies. On the whole, therefore, it would seem that prices have not yet found their long-term equilibrium level.

Tea

Tea production in 1958 (excluding the U.S.S.R. and China) was about 750,000 tons, 5 percent more than in 1957. Production increased in all Far Eastern and African growing countries except Indonesia. India reached the production target under the second five-year plan three years in advance. Ceylon's crop of 187,000 tons was a record and production in Pakistan recovered.

Exports exceeded the 1957 level by 30-40,000 tons. Among the major consuming countries, the net imports of Canada, Ireland, New Zealand, the United Kingdom, and the United States were slightly lower, however, and the larger volume of world trade was accounted for by higher imports in Near Eastern and North African countries. This is in line with the postwar tendency for relatively stable tea imports in western countries and rapidly rising levels in the Moslem countries of Asia and Africa.

The large export supplies, consisting mainly of low and medium quality teas, had some adverse effect on buying policies and prices. Although there were no disproportionate fluctuations in 1958, prices were generally lower and the differential between quality and plain tea remained wide. In order to meet the sharper competition in world markets and to encourage sales, Ceylon and India reduced taxes and export duties on plain tea. Renewed interest in regulated marketing was evident in the discussions in late 1958 between Indian and Ceylonese growers' organizations.

The outlook for 1959 is for still higher supplies. Production is expanding not only in the traditional Far Eastern producing countries but also in Africa, Latin America, and Mainland China. Production in China, the third largest producer, is likely to increase substantially once the areas reported to have been planted since 1953 are in full bearing. The major part of the expected increase in world production will come from areas producing mainly low quality tea, however, and high qualities will therefore remain in strong demand. Excess supplies of low quality tea are likely to continue to influence prices.

Tobacco

Tobacco production fell slightly in 1958, mainly because of lower production of oriental leaf in Greece, Turkey, and Yugoslavia. United States output of cigarette tobaccos increased appreciably and the rising trend in flue-cured, Burley, and Maryland crops is likely to continue in 1959, with the termination of the Acreage Reserve Program. Canada harvested a record crop in 1958 but in the Federation of Rhodesia and Nyasaland the increase was small, bad weather damaging crops and lowering quality.

Exports were a little lower than in 1957. Greek and Turkish exports fell and, mainly because of reduced import demand for American flue-cured leaf, United States exports of unmanufactured tobacco were 4 percent lower. Exports from India to the United Kingdom, its major market, increased by nearly 25 percent.

Prices of flue-cured leaf rose sharply in the United States in 1958, owing to the interplay of

reduced supplies and increased domestic demand, and this will cause further difficulties in finding export markets. Flue-cured prices declined in Rhodesia and Nyasaland and the average price of dark fire-cured in Nyasaland dropped by almost 20 percent because of the lower quality. In Canada bidding at auctions tended to be below the minimum grade prices for flue-cured set by the Growers' Marketing Board. The reduced supply of oriental-type tobacco resulted in higher prices for Turkish tobaccos, but prices in Greece fell because of lower quality.

United States stocks declined significantly for the first time in the postwar period. United Kingdom stocks were slightly lower, but in Greece they had increased by about one third by the end of 1958. Stocks also rose in Canada.

Cigarette consumption continued to grow in 1958, with a moderate increase in the United States and a substantial one in the United Kingdom. There was also some increase in the consumption of other smoking tobaccos, reversing the trend of recent years. United States cigar consumption increased substantially, chiefly because of the growing popularity of smaller cigars and cigarillos.

Cotton

Supplies of cotton were slightly heavier in 1958/59, in spite of a further reduction in opening stocks from 4.9 to 4.7 million tons, reflecting a considerable drop in the United States surplus (Table II-28). World production rose from 9.1 to about 10 million tons. Mainland China reported an increase of almost 50 percent and U.S.S.R. production recovered to the 1956/57 peak. Record yields raised United States production, notwithstanding a further reduction in acreage allotments, and there were larger crops of long staples in the Egyptian Province of the United Arab Republic and in the Sudan.

Consumption is likely to have been somewhat higher in 1958/59. Expansion is reported in the U.S.S.R., Eastern Europe, and China, as well as in producing countries in the Near East and Latin America. In the United States and Canada consumption rose slightly, but in Western Europe and also in Japan it was more than 10 percent lower. Trade may have contracted from 3.1 to some 2.7 million tons. United States exports fell sharply, but most other countries increased their exports.

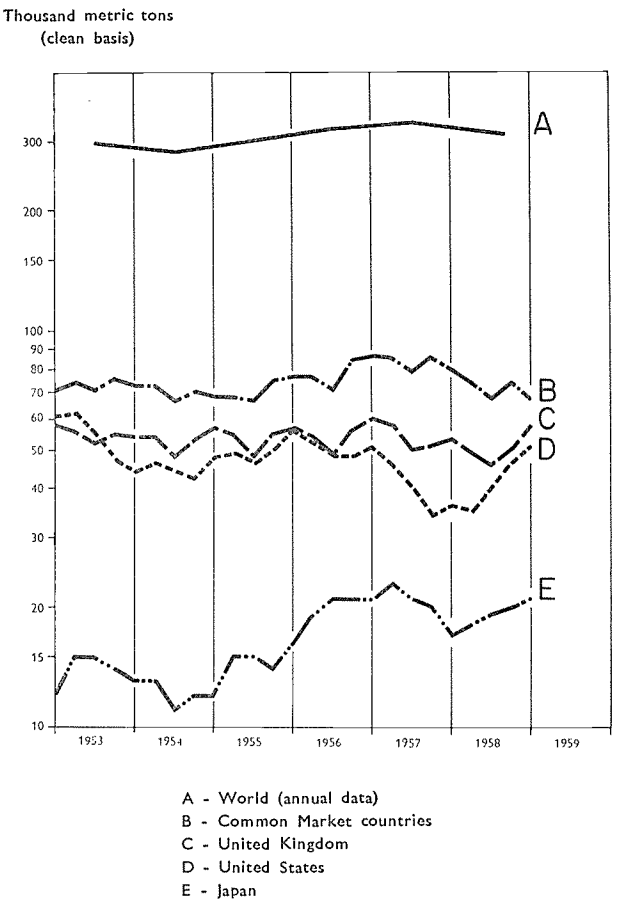
Table II-28. – World Supply and Distribution of Cotton, 1953/54 - 1958/59

	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)	1959/60 (prelim.)
	Million metric tons						
Opening Stocks							
United States	1.2	2.1	2.5	3.2	2.5	1.9	2.0
U.S.S.R., Eastern Europe, and China	0.5	0.4	0 3	0.4	0.5	0.7	1.0
Other: Net exporters	1.1	0.8	0.8	0.6	0.6	0.8	0.9
Net importers	1.2	1.3	1.3	1.1	1.3	1.3	1.1
World total	4.0	4.6	4.9	5.3	4.9	4.7	5.0
Production							
United States	3 6	3.0	3.2	2.8	2.4	2.5	2.9
U.S.S.R. and China	2.4	3.0	3.2	2.8	2.4	2.5	...
Others	3.0	3.4	3.5	3.4	3.6	3.8	...
World total	9.0	8.9	9.5	9.1	9.1	10.0	...
World Supply	13.0	13.5	14.4	14.4	14.0	14.7	...
Consumption							
United States	1.9	1.9	2.0	1.9	1.8	1.8	...
U.S.S.R., Eastern Europe, and China	2.6	2.6	2.7	2.8	3.1	3.6	...
Others	3.9	4.1	4.2	4.6	4.4	4.3	..
World total	8.4	8.6	8.9	9.3	9.3	9.7	...

Source: International Cotton Advisory Committee.

FIGURE II-12. - CONSUMPTION OF VIRGIN WOOL IN PRINCIPAL MANUFACTURING COUNTRIES, 1953-58, BY QUARTERS

(Semi-logarithmic scale)



A - World (annual data)
B - Common Market countries
C - United Kingdom
D - United States
E - Japan

World prices declined almost continuously throughout the first part of the season, the fall for long staples being particularly steep. Only United States prices remained relatively stable. By the end of April 1959 United States cotton was 8 percent cheaper, but prices of other types were from 10 to 23 percent lower than at the opening of the season.

Opening stocks for 1959/60 may show some increase. An unexpectedly large number of United States farmers chose to plant only their basic allotments for a support price of 80 percent of parity, but, with the termination of the Acreage Reserve provision of the Soil Bank, the crop is tentatively forecast as 2.9 million tons, a rise of 16 percent. Chinese and U.S.S.R. plans provide for further expansion, but some decline seems likely elsewhere, especially in the Egyptian Province of the United Arab Republic, Mexico, and the Sudan.

The United States 1959/60 cotton export program continues the subsidy, but it is increased from 6½ to 8 cents per lb. and subject to revision without notice. At the same time the domestic price, based on the new differential support levels, will be materially reduced. The lower price levels in relation to man-made fibers will, it is hoped, stimulate demand. Assuming a renewed expansion in economic activity, especially in importing countries, where stocks are now relatively low, an increase in trade seems to be in prospect.

WOOL

Wool supplies are estimated to have been about 5 percent higher in 1958/59. Producer stocks had increased considerably in South America and also in New Zealand and the Union of South Africa, where price reserve schemes had resulted in some accumulation. The world clip rose to some 1.6 million tons (clean basis), reflecting recovery from drought conditions in Australia and the Union of South Africa and continued expansion in the flocks of Argentina and New Zealand (Table II-29).

TABLE II-29. - WORLD PRODUCTION, CONSUMPTION, AND STOCKS OF WOOL, 1953/54 - 1958/59

	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Thousand metric tons (clean basis)					
PRODUCTION	1 170	1 191	1 261	1 330	1 305	1 357
CONSUMPTION [1]	1 165	1 198	1 297	1 340	1 266	[2] 1 300
OPENING STOCKS						
In supplying countries	97	112	130	92	79	122
In consuming countries and afloat:						
Volume	386	382	356	358	368	364
Consumption months	*4.0*	*3.8*	*3.3*	*3.2*	*3.5*	*3.4*

SOURCE: International Wool Study Group and Commonwealth Economic Committee.

[1] Calendar year, second year indicated. - [2] Estimated.

The decline in wool consumption that had begun early in 1957 was halted in the third quarter of 1958 (Figure II-12). World consumption for the whole year was only 6 percent below the record level of 1957 The trend toward increasing use of man-made fibers was also reversed at the end of 1958, when wool became cheaper than most synthetic staples. Wool stocks in consuming countries, already relatively light, decreased further with the revival in consumption. Trade expanded by almost 20 percent in the second half of 1958, with increased shipments from South America following currency reforms.

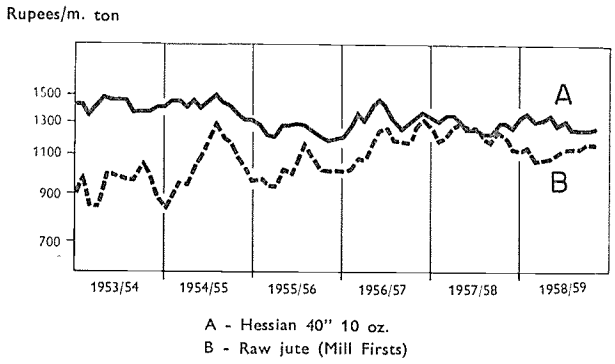
Prices fell in the first half of the season, though less sharply than in 1957/58. Recovery began in November 1958 for crossbreds and in January 1959 for merinos, and April prices ranged from 95-105 percent of the level ruling a year earlier.

With increasing economic activity, particularly in the United States, the revival in the demand for wool is likely to gather momentum. New techniques to give wool some of the characteristics of the synthetics can be expected to check to some extent the competition of man-made fibers.

Jute

Jute crops were considerably larger in 1958/59, although the better qualities were not very plentiful. Pakistan produced over 1.2 million tons and India almost achieved self-sufficiency by growing 940,000 tons of jute and 290,000 tons of mesta (kenaf). Minor producers registered

Figure II-13. - Monthly Prices of Jute and Jute Goods, Calcutta
(Semi-logarithmic scale)



only moderate gains, but further considerable expansion was reported in Mainland China.

The larger crops, combined with somewhat increased opening stocks, caused a sharp reduction in prices early in the season. By mid-season, however, the fixing of minimum export prices in Pakistan and the decision of Indian mills to purchase five months' requirements stabilized the price level. Lower prices stimulated demand in Western Europe. Pakistani mill consumption is running 20 percent above last season's level. In India consumption has not changed much, but improved margins between prices of raw jute and jute products, reflecting the ample supplies of jute, may encourage a higher rate of consumption in the near future (Table II-30 and Figure II-13).

For the first time since 1950 India has lifted the ban on raw jute exports. The relatively low quality of the fiber available for export and the heavy export duty have, however, discouraged large-

Table II-30. - Production and Commercial Disappearance of Jute (and Mesta) in Pakistan and India, 1953/54 - 1958/59

	1953/54	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Million metric tons					
Production						
Pakistan jute	0.76	0 91	1.27	1.18	1.13	1.24
Indian jute	0 56	0.53	0.76	0.78	0.74	0.94
Indian mesta	0.12	0.20	0.21	0 27	0.23	0.29
Total	1.44	1.64	2.24	2 23	2.10	2.47
Commercial Disappearance						
Indian mill consumption	0.95	1.10	1.21	1.15	1.18	1 18
Pakistan mill consumption	0.05	0.06	0.13	0.16	0.17	0 20
Pakistan exports overseas	0.68	0.71	0 79	0.74	0.71	0.77
Total	1 69	1.87	2 13	2 05	2 06	2 15

Source: Indian Jute Mills Association and Pakistan Jute Association.

TABLE II-31. – WORLD PRODUCTION OF HARD FIBERS, 1953-58

	1953	1954	1955	1956	1957	1958 (prelim.)
	Thousand metric tons					
ABACA	127	111	117	130	128	93
Philippines	109	100	107	124	119	89
SISAL	401	418	465	490	508	517
British East Africa	207	217	219	227	230	247
Portuguese Africa	54	55	68	66	77	82
Brazil	66	66	90	102	117	102
HENEQUEN	99	120	100	118	119	122
Mexico	87	104	91	106	108	111
OTHER HARD FIBERS	26	28	24	28	26	[1] 26

SOURCE: Economist Intelligence Unit.

scale shipments. Although Pakistan's exports overseas are almost 10 percent greater, the decline in shipments to the Indian market may not be offset by this increase or by expanded domestic consumption, and some increase in stocks is probable by the end of the season.

The Pakistan Government proposed to license a slightly larger area for jute cultivation in 1959/60, but growers have been reluctant to plant more jute.

HARD FIBERS

At around 760,000 tons, hard fiber production was 3 percent lower in 1958. Abaca production dropped to 93,000 tons, balings falling by a further 25 percent in the Philippines and contracting somewhat in Central America and Indonesia. Sisal production reached a new record of 517,000 tons. Output in British East Africa rose by 8 percent and there were similar increases in other African territories, though production was considerably reduced in Brazil and Indonesia. Henequen production was slightly higher (Table II-31).

Demand in 1958 was sufficient to clear stocks in the principal growing countries. Abaca requirements, although smaller than in 1957, exceeded current production. The use of sisal and henequen increased with the large grain harvests in North America. United States imports of hard

TABLE II-32. – IMPORTS OF HARD FIBERS INTO PRINCIPAL CONSUMING COUNTRIES, 1953-58

	1953	1954	1955	1956	1957	1958 (prelim.)
	Thousand metric tons					
United States	219	181	187	174	172	166
of which abaca	54	33	35	39	44	42
United Kingdom	76	78	94	81	87	85
of which abaca	15	15	18	17	16	14
Common Market countries	102	130	156	176	183	188
of which abaca	17	16	19	18	17	14
Japan	36	35	44	49	53	47
of which abaca	30	26	32	32	34	27
Canada	26	31	36	36	41	34
of which abaca	3	3	3	3	3	2

SOURCE: Economist Intelligence Unit.

fibers were about 5 percent less than in 1957, however, because of increasing imports of Mexican twines. In Western Europe the level of imports was unchanged, but sisal partly displaced the scarcer abaca. Japanese imports fell by 25 percent (Table II-32).

The downward trend in abaca prices, begun in mid-1957, had been halted in May 1958 and by March 1959 prices were higher than at any time since the Korean crisis. Sisal prices became firmer after mid-1958, following a decline in Brazilian supplies.

Demand for ropes and twines may well show an expansion in 1959, especially in the United States, and total consumption of cordage fibers should be greater than in 1958, provided harvests are normal. Abaca production seems unlikely to make a full recovery in 1959 and sisal and henequen may increase less than in 1958. Continued scarcity of abaca and reduced pressure from Brazilian sisal may keep prices higher than in recent years.

Rubber

Natural rubber production was slightly higher in 1958 (Table II-33). The main increase was in the Federation of Malaya, both on estates and smallholdings, and production also increased in Ceylon, India, Thailand, and Viet-Nam. Indonesian production is estimated to be about the same as in 1957.

World consumption reached a record of almost 2 million tons, chiefly because of an unprecedentedly large offtake in the U.S.S.R., Eastern Europe, and China. However, consumption in the United States fell by a further 10 percent to the lowest level since the Korean crisis and United Kingdom consumption continued to decline as usage of synthetic rubber increased. In Western Europe and in Japan consumption was stationary. Toward the end of 1958 consumption generally showed signs of expanding (Table II-34).

World stocks dropped slightly between December 1957 and December 1958. After an initial fall which brought them into line with prices of synthetic rubber, prices of natural rubber began to recover in May 1958, rising rapidly until November and continuing firm with only a slight setback at the end of the year. At the same time, margins between prices of different grades narrowed.

In 1959 consumption is expected to increase further. The industrial expansion programs of the U.S.S.R. and China entail substantial growth in rubber requirements, which may, however, be partly met by synthetic rubber. Recovery in United States consumption may gain momentum during the year, but the synthetic rubber capacity is not fully employed. Increases in Western Europe, where new synthetic rubber plants have been constructed, may be less pronounced. At the present rate, supplies of natural rubber may fail to keep up with demand in the short run. The upward pressure on prices may stimulate the expansion of synthetic rubber utilization.

TABLE II-33. – WORLD PRODUCTION, CONSUMPTION, AND STOCKS OF NATURAL RUBBER, 1953-58

	1953	1954	1955	1956	1957	1958 (prelim.)
	Thousand metric tons					
Production	1 755	1 839	1 948	1 918	1 933	1 990
Consumption	1 681	1 803	1 910	1 933	1 915	2 017
Stocks at end of year	716	732	765	739	765	749

SOURCE: International Rubber Study Group.

Forest products

Roundwood

World roundwood production again declined slightly in 1958 (Table II-35). In 1957 the decrease in production had been due to a reduction of about 8 percent in fellings in North America as a consequence of the recession, while in other parts of the world production had continued to rise. In 1958, however, the slowing down or cessation of industrial expansion reduced consumer demand for most categories of forest products in other parts of the world as well. This led to lower raw material requirements in most forest industries, particularly in Europe. As in 1957, the decline in output was almost entirely in industrial roundwood, fuelwood production remaining more or less unchanged.

In North America the drop in output of industrial roundwood was smaller than in 1957. The recession leveled off during 1958 and, toward the end of the year, industrial production and especially dwelling construction was again on the upturn.

TABLE II-34. – RUBBER CONSUMPTION IN PRINCIPAL INDUSTRIAL AREAS, 1953-58

	1953	1954	1955	1956	1957	1958 (prelim.)
	Thousand metric tons					
United States						
Natural	562	606	645	571	547	493
Synthetic	797	647	909	888	943	886
Total	1 359	1 253	1 554	1 459	1 490	1 379
United Kingdom						
Natural	233	243	250	196	184	178
Synthetic	5	9	21	40	58	64
Total	228	252	271	236	242	242
Western Europe						
Natural	392	452	475	461	470	468
Synthetic	40	52	80	115	156	167
Total	432	504	555	576	626	635
Japan						
Natural	90	90	89	111	132	129
Synthetic	2	2	4	9	13	16
Total	92	92	93	120	145	145
Eastern Europe and U.S.S.R.						
Natural [1]	106	50	86	212	169	284
Mainland China						
Natural [1]	61	63	51	96	117	150
Rest of World						
Natural	247	299	314	286	296	315
Synthetic	42	42	66	99	107	114
Total	289	341	380	385	403	429

SOURCE: International Rubber Study Group.
[1] Imports.

As demand continues to rise in 1959, production is likely to increase and may regain the 1956 level.

Sawlog production remained at the 1957 level in Europe. As the demand for sawnwood declined during the latter part of 1958, however, fellings are on a reduced scale in the current season. In the northern countries, output was as much as 20 percent less than in the 1957/58 felling season. With reduced coal output, the demand for pitprops declined and their production fell from 16.8 million cubic meters in 1957 to 15.7 million in 1958. Pulpwood production also declined because of a reduced demand for pulp products. The improved economic situation may increase demand for forest products in this region in 1959. Large stocks in exporting countries, however, together with some reduction in production in certain forest industries are expected to keep raw material requirements at about the same level as in 1958.

North American exports of sawlogs, both coniferous and broadleaved, remained at the 1957 level. In Europe trade in coniferous sawlogs increased. European exports of broadleaved logs fell, though there was a rise in imports because of increased demand for tropical logs. While the U.S.S.R. was able to increase its exports of pulpwood and pitprops, exports from North America and Europe, especially of pitprops, declined. Exports of broadleaved logs from Africa were at about the same level as in 1957.

Sawnwood

After a decline of about 10 million cubic meters in 1957, world production of sawnwood was maintained at about 285 million cubic meters.

TABLE II-35. – WORLD PRODUCTION AND TRADE IN FOREST PRODUCTS, 1953-58

	1953	1954	1955	1956	1957	1958 (prelim.)
	Million cubic meters					
Roundwood						
Production [1]	1 470	1 552	1 601	1 625	1 597	1 580
Exports [2]	18.4	21.3	27.0	26.6	27.3	24.9
Sawnwood						
Production	266.3	273.9	295.5	293.9	283.2	285.0
Exports	28.7	32.1	35.7	31.8	33.8	32.9
Plywood						
Production	8.3	9.0	10.7	11.3	11.7	12.1
Exports	0.5	0.8	1.0	0.9	1.1	1.0
	Million metric tons					
Wood pulp						
Production	39.1	42.4	46.6	49.8	50.1	50.0
Exports	6.0	6.9	7.6	7.8	7.8	7.5
Newsprint						
Production	9.8	10.4	11.2	12.0	12.3	12.0
Exports	6.0	6.2	6.6	7.0	6.9	6.7
Other paper and paper board						
Production	38.5	40.8	46.4	48.0	48.9	49.7
Exports	2.3	2.8	3.2	3.2	3.6	3.5

[1] Including fuelwood. – [2] Logs, plywood, pitprops, fuelwood, poles, pilings and posts.

North American output increased slightly, having fallen by about 12 percent in 1957. Renewed activity in residential construction in the United States revived demand for both United States and Canadian sawnwood in 1958. The output of sawn softwood and hardwood took an upward turn in the second half of the year and the improvement has continued in the first months of 1959.

In Western Europe the output of sawnwood changed little from the 1957 level, despite lower requirements. This led to a certain degree of overproduction and to increased stocks in exporting countries. The incipient recovery evident in the European economy and increased activity in house building at the beginning of 1959 have been favoring demand anew. As shippers have large stocks still to be absorbed, however, somewhat reduced production in the main exporting countries is expected to lead to a lower over-all output of sawnwood in 1959.

Following an increase of about 5 percent in 1957, there was a slight reduction in the production of sawnwood in Asia (excluding China). In other regions changes were generally small, except in the U.S.S.R., where the steady rise in output continued during 1958.

The pattern of world trade in sawnwood showed some changes in 1958. Favored by the recovery in the United States, Canadian exports to that country rose. Exports from Canada to Europe declined, however, lower prices for sawn softwoods on the European markets making Canadian sawn goods less competitive, despite the exceptionally low level of freight rates. In Europe, trade in sawn softwood was reduced, with lower volumes recorded by all the major exporters except Finland and the U.S.S.R. During the early months of 1959, the market has shown signs of recovery and forward sales as well as exports are well above 1958 levels.

Woodpulp

The steady 7 to 8 percent annual increase in output achieved by the pulp industries since the war slowed to a rise of 1 percent in 1957 and came to a halt in 1958. In 1957 the fall in production occurred in North America, owing to the recession, and was offset by increased output elsewhere. In 1958, however, production ceased to expand in Europe and Asia also.

In the United States the decline in production

in the chemical pulp sector was only slight and a moderate increase in Canada brought total North American production to about the same level as in 1957. Mechanical pulp production, however, declined by about 4 percent. In Europe, where a slackening in demand led to reduced production, principally in the exporting countries, chemical pulp decreased by about 1 percent and mechanical pulp by about 3 percent. The expansion of pulp production was also interrupted in Japan, output falling by about 5 percent. The volume of both inter-regional and intra-regional trade in pulp was also affected.

As pulp production capacity continued to expand in 1958 and demand to flag, the margin of surplus capacity again increased and operating ratios fell further. In the United States the pulp industry operated in 1958 at only 83 percent of its practical capacity. The producers of mechanical pulp in northern Europe decided to reduce their output to 65 percent of normal capacity in order to achieve a better balance between supply and demand.

In 1959 the upturn in economic activity in North America as well as in Europe will probably bring about a rise in demand for pulp and an increase in production. As new capacity is still being added, however, output will probably continue to be much below capacity.

Newsprint

World production of newsprint, which had risen without interruption until 1957, declined by more than 2 percent in 1958. European output was at about the 1957 level and that of Asia increased slightly, but production in North America dropped by about 4 percent.

The decrease in North America was largely due to a decline in domestic demand, the fall in economic activity resulting in less advertising and smaller newspapers. Newsprint production in the United States was reduced by about 3.5 percent, and Canadian production, mainly dependent on exports to the United States, by 4.5 percent. Reduced exports to the United States and the lower level of economic activity also influenced the output in Europe. While the downward trend in production continued into 1959, a rundown in newsprint stocks suggests that it may be reversed later in the year. Since capacity was further increased in 1958, bringing the operating ratio down to about 83 percent, manufacturers are well able to meet new increases in demand.

Other paper and board

The production of paper (other than newsprint) and board showed a general upturn during the latter half of 1958, raising the year's over-all output by about 1 million tons. In the United States the 1958 paper production was about the same as in the previous year and paperboard production, which increased sharply during the last quarter, rose slightly. In Europe and Asia the production of paper and paperboard rose by about 3 percent, a much smaller increase than in previous years.

In view of the recent increase in the rate of growth of production, which had been checked by the recession, the outlook for 1959 can be regarded as favorable.

Chapter III - AGRICULTURAL INCOMES AND LEVELS OF LIVING IN COUNTRIES AT DIFFERENT STAGES OF ECONOMIC DEVELOPMENT

For many reasons there has been a growing interest of late in the levels of living of farm and rural people. Present day concern with economic development and social welfare makes it natural to inquire whether there has been any recent improvement in their condition and how it compares with that of people living in towns, for in many countries those engaged in agriculture are among the poorest and least privileged members of the community.

There are also economic motives which have led to increased interest in measuring levels of living in agriculture. Many of the more industrialized countries now pay, directly or indirectly, large subventions to agriculture in the form of price supports, subsidies to improve farming efficiency, and so forth. This may be done for social, defense, economic, or other reasons. In these countries there is much interest in how rural and urban incomes and living conditions compare, largely as a guide to policy.

In economically less-developed countries, interest has arisen not only from social motives, but also from the growing realization that the very low incomes of their farm people are an obstacle to the expansion of agricultural production which they badly need to provide for the rapidly growing population, especially in towns, to raise nutritional levels, and often for economic motives of export expansion or import saving. Low agricultural incomes reduce the funds available for investment to improve agriculture and also the incentives for investment. In extreme cases they seriously impair the cultivators' capacity for work.

The purpose of the present chapter is to assemble the rather scattered and incomplete information on farm or rural incomes and levels of living in countries at different stages of economic development, and to reach some conclusions on how these levels compare between countries, with incomes and levels of living in towns, and whether any measurable improvement has been made in recent years. A final section analyzes some of the factors which determine rural levels of living. It thus acts as a bridge to Chapter IV, which deals with some of the main problems of agricultural development in countries at an early stage of economic progress.

Because of the limitations of the data available most attention had perforce to be given to incomes, expenditures, wage rates, consumption levels, and other economic indicators. But these are not of course the only things which determine the welfare of a population. It is indeed in many of the non-economic amenities of life that rural people are often most lacking. To the extent that information is available, comparisons are made of such borderline or noneconomic factors as literacy and education, medical services, housing, and other amenities, but much more information on these aspects is necessary before any final assessments can be made.

The broad conclusions which emerge from the inquiry are that except in a very few countries (nearly always agricultural exporting countries) farm incomes are appreciably lower on average than incomes in towns. The disparities appear somewhat greater if based on per caput production in agriculture and in other sectors of the economy than if based on household surveys of expenditure, largely because many farm families have non-agricultural sources of income. In many countries, however, the gap is of the order of 25 to 50 percent and sometimes more. There are some factors which tend to narrow the gap in the more industrialized countries and to widen it in the less-developed countries. Nevertheless, income disparities are not always greatest in the less-developed countries and there are some striking examples to the contrary.

Differences in farm incomes between countries at different stages of economic development are substantially greater than those between average farm and urban incomes in the same country. It is shown that these differences between countries

bear relatively little relation to the size of farms. They owe something to the price mechanism and to agricultural support measures. But they are correlated primarily with productivity per man. For example, the labor time needed to produce a ton of wheat can be as much as 30 to 50 times greater in countries where farm incomes are low as in those where farm incomes are high. Similar though less striking differences occur for other agricultural products.

While higher incomes in agriculture in the economically less-developed countries must stem ultimately from higher productivity, it would be an oversimplification to suppose that it is only necessary to provide the farmers in these countries with the technical knowledge and equipment, the investment funds, the marketing services and so forth to enable them to match the per caput output of farmers in more advanced agriculture.

In nearly all countries agriculture was the first and basic occupation and absorbed by far the largest part of the labor force. To a large extent economic progress consists of the gradual transfer of population from agriculture to other occupations, made possible by gradually rising productivity in agriculture. The growth of other industries in turn stimulates agricultural development, and so a more and more rapidly rising spiral of economic progress is developed. Thus, in the course of economic progress the proportion of the population engaged in agriculture becomes smaller and smaller, though it is not yet possible to foresee where the optimum level will be established.

Agricultural progress must go hand in hand with over-all economic progress, and to a large extent farm productivity and farm income can expand only at the pace that growing urban markets and higher urban incomes provide the necessary pre-conditions for higher farm productivity and production. But there is of course no assurance that agricultural productivity and production will in fact grow at this rate. In many less-developed countries at the present time production does not keep pace with the growth of demand, and exports have had to be scaled down or increasing resort had to imported food. Some of the main factors which lead to this result are discussed fully in Chapter IV.

Finally, although it seems clear that major increases in levels of farm incomes must go hand in hand with general economic development, this in no way implies that nothing can be done in the meantime. On the contrary, measures are now being developed in several of the economically less-developed countries which give promise that at least the worst disabilities of rural poverty can be overcome without waiting on urban development.

Levels of income in agriculture

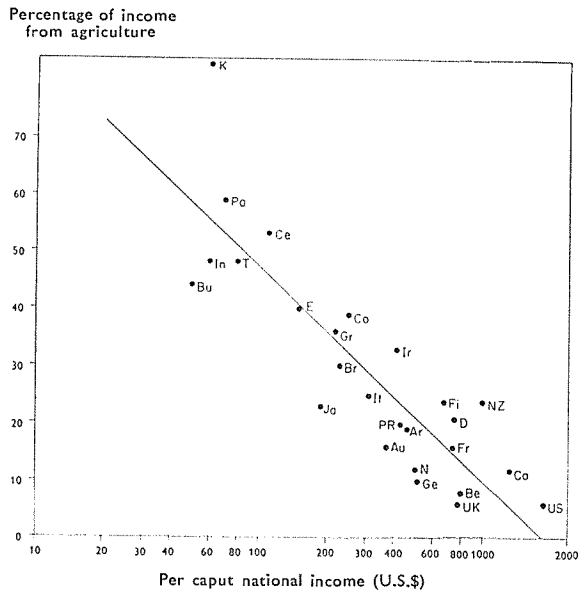
As levels of living depend ultimately upon levels of income, it is appropriate to begin by setting out some of the basic facts on income levels in relation to the pattern of production and employment in different countries. Three approaches to the estimation of incomes are attempted. The first is on the basis of national income data. This is later compared with data on wage rates in agriculture and manufacturing industries, and in particular with the results of household expenditure and consumption surveys.

National income data

In Annex Table 14 some 40 countries are grouped according to their average per caput national income, and for each are shown the percentage of the national income originating in agriculture, the percentage of the population dependent on agriculture, and the percentage living in rural areas.

The table brings out the well-known fact that the role of agriculture in the national economy tends to be greatest in economically less-developed countries with low levels of income, and to decline progressively in countries with relatively high levels of income. The same broad relationship is shown in Figure III-1. Evidently, however, the correlation is far from perfect. For example, with about the same level of per caput national income, the percentage originating in agriculture is about four times as large in Denmark as in the United Kingdom. Similarly, although the percentage of the national income arising from agriculture is about the same in Japan as in New Zealand, the per caput national income in the latter country is

FIGURE III-1. PER CAPUT NATIONAL INCOME OF SELECTED COUNTRIES AND SHARE ORIGINATING FROM AGRICULTURE
(Semi-logarithmic scale)



Ar	- Argentina	Gr	- Greece
Au	- Austria	In	- India
Be	- Belgium	Ir	- Ireland
Br	- Brazil	It	- Italy
Bu	- Burma	J	- Japan
Ca	- Canada	K	- Kenya
Ce	- Ceylon	N	- Netherlands
Co	- Colombia	NZ	- New Zealand
D	- Denmark	Pa	- Pakistan
E	- Ecuador	PR	- Puerto Rico
Fi	- Finland	T	- Thailand
Fr	- France	UK	- United Kingdom
Ge	- Germany, Western	US	- United States

some five times higher than in Japan. As would be expected, the share of the national product originating in agriculture tends to be higher at any given income level in agricultural exporting countries and lower in agricultural importing countries, though again there are some exceptions to this rule.

The same broad relationship holds between the per caput national income and the percentage of the population engaged in agriculture, the latter tending to fall as incomes rise. It is apparent from Annex Table 14, however, and from the same data shown graphically in Figure III-2, that in all but few countries the percentage of the national product originating in agriculture is appreciably smaller than the percentage of population engaged in agriculture. It follows that per caput incomes generated in agriculture are smaller than in other activities. Of the countries listed, the reverse is true only in Australia, New Zealand, and Ceylon, all countries with important agricultural export industries.

If there were no other circumstances affecting the relative incomes of people engaged in agriculture and in other occupations, this income relationship could be conveniently shown by the "disparity factor" in the final column of Annex Table 14, and also in Figure III-2. This factor represents the ratio of the per caput income originating in the agricultural sector to that originating in all other sectors of the economy and is calculated from the earlier columns of the Annex table. In practice, actual incomes available in agriculture and in other walks of life are affected by many other things, e.g., land rent, taxation, government subsidies and payments, etc. Nonetheless, the disparity factor can be usefully discussed as a first approach to this income relationship, though it is important that these reservations should be borne in mind.

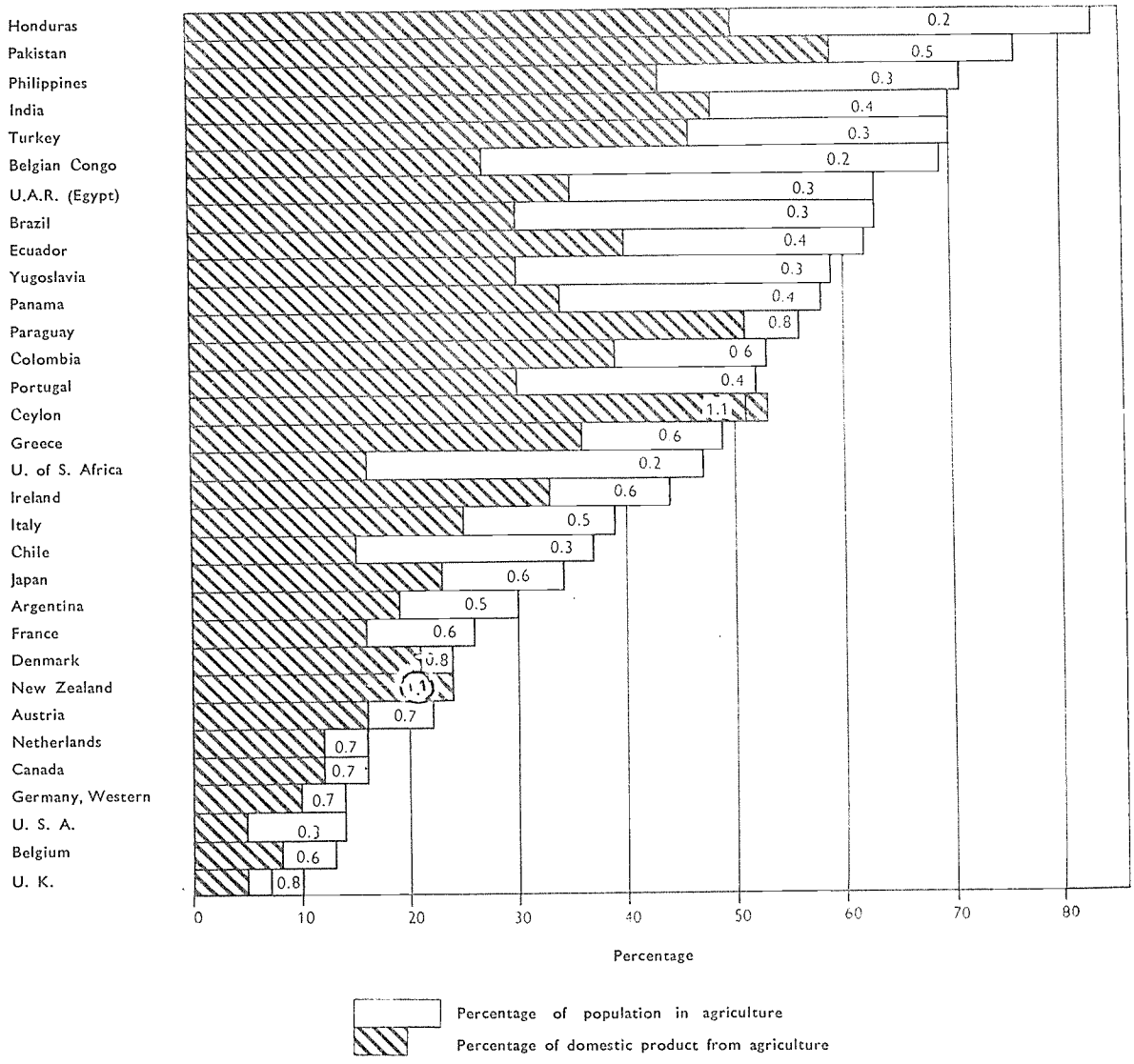
In Figure III-3, therefore, per caput national income originating in agriculture and in other occupations are plotted against each other for as many as possible of the countries included in Annex Table 14. A series of diagonal lines show the levels at which there would be parity of income between agriculture and other occupations, and the levels corresponding to different percentages below parity. For about two thirds of the countries listed per caput income originating in agriculture lies between 40 and 60 percent of per caput incomes originating outside agriculture. For about one quarter of the countries the ratio is less than 40 percent.

On the whole, the data suggests that income disparities to the disadvantage of agriculture tend to be greatest in the economically less-developed countries, notably in some countries of Latin America and Africa where mining is important or where industrialization is beginning to get under way. The disparities tend to be smaller in the countries of northern and western Europe. But there are important exceptions to the general rule as is evident from the rather wide disparity in the United States.

WAGE RATES

Further indications of the income disparities between agriculture and other industries are to be had from wage statistics. While there is no means of comparing them directly with yearly incomes as indicated by national income data or consumption surveys, the ratio between average wages in agriculture and in manufacturing (using national data whether these are given as per hour, per day, per week, per month or per year) gives some indication

FIGURE. III-2. PERCENTAGE OF POPULATION OF SELECTED COUNTRIES DEPENDENT ON AGRICULTURE AND PERCENTAGE OF DOMESTIC PRODUCT ORIGINATING FROM AGRICULTURE



NOTE: Figures in each bar represent disparities between per caput incomes originating in agriculture and in other occupations (Annex Table 14).

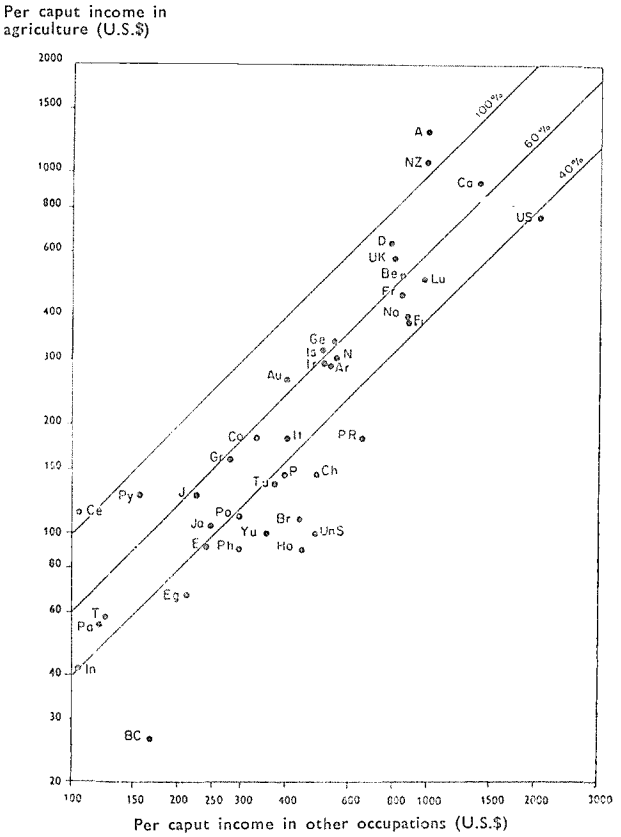
of levels of living in agriculture and in towns. The comparison is again inexact since it does not take account of the degree of underemployment and of the length of the work day. Nevertheless, it confirms in a general way the comparisons based on national income data (Table III-1).

First it is seen that the disparity of wages is on the whole similar to the income disparities derived from national income data. Of the three countries which in Annex Table 14 showed a plus-disparity, Australia alone shows a higher wage level in agriculture than in manufacturing, but in the two other instances, New Zealand and Ceylon, the wage disparities are rather moderate. Similarly, in countries where national income data suggest a considerable disparity so, as a rule, do the wage comparisons.

The wage disparities are wider in most cases than those derived from national income data. This may be due in part to the rather high proportion of independent operators in farming, and in part to the fact that in most countries a large proportion of the labor in agriculture is classed as unskilled. The main cases to the contrary (Belgium, Sweden, Norway, Finland, and the United States) are countries in which there are considerable groups

FIGURE III-3. PER CAPUT INCOME ORIGINATING IN AGRICULTURE IN RELATION TO PER CAPUT INCOME ORIGINATING IN OTHER OCCUPATIONS

(Logarithmic scale)



Ar	- Argentina	Is	- Israel
A	- Australia	It	- Italy
Au	- Austria	Ja	- Jamaica
BC	- Belgian Congo	J	- Japan
Be	- Belgium	Lu	- Luxembourg
Br	- Brazil	N	- Netherlands
Ca	- Canada	NZ	- New Zealand
Ce	- Ceylon	No	- Norway
Ch	- Chile	Pa	- Pakistan
Co	- Colombia	P	- Panama
D	- Denmark	Py	- Paraguay
E	- Ecuador	Ph	- Philippines
Eg	- Egypt	Po	- Portugal
Fi	- Finland	PR	- Puerto Rico
Fr	- France	T	- Thailand
Ge	- Germany, Western	Tu	- Turkey
Gr	- Greece	UnS	- Union of S. Africa
Ho	- Honduras	UK	- United Kingdom
In	- India	US	- United States
Ir	- Ireland	Yu	- Yugoslavia

NOTE: Diagonal lines indicate levels of income parity (100 %), and of 60 % and 40 % of parity, respectively.

of small, marginally economic holdings, which return very low incomes to their operators. In some of these countries a good deal of attention is being given to the consolidation of such holdings.

Some of the wage disparity also applied to different kinds of work done by the same workers. In the United States, for example, farm workers are paid higher wages for nonfarm wage work than for farm wage work, even though the former wage was still much lower than the wages paid

TABLE III-1. – AVERAGE PER CAPUT DISPARITIES BETWEEN FARM AND NONFARM INCOMES AS ESTIMATED FROM NATIONAL INCOME DATA AND FROM AVERAGE WAGE RATES IN AGRICULTURE AND MANUFACTURING

	Disparity factor estimated from			Disparity factor Estimated from	
	National income data	Wage rates		National income data	Wage rates
Australia	1.4	1.1	Belgium	0.6	0.8
New Zealand ...	1.1	0.7	Colombia	0.6	0.5
Ceylon	1.1	0.6	Japan	0.6	0.4
Denmark	0.8	0.7	Sweden	0.5	0.7
United Kingdom	0.8	0.6	Norway	0.5	0.7
Germany, Western	0.7	0.6	Finland	0.4	0.6
Austria	0.7	0.6	India	0.4	0.3
Canada	0.7	0.5	United States ...	0.3	0.4
Ireland	0.6	0.6	Philippines	0.3	0.4

in the manufacturing industries.[1] In India, on the contrary, there appears to be no noteworthy difference in the wages paid to agricultural laborers for agricultural and nonagricultural work.[2]

CONSUMER EXPENDITURES

While data on national income and on wage rates are available for a rather wide range of countries, these over-all statistics are too imprecise to reveal anything more than broad trends. For a more limited number of countries, closer comparisons of income levels (or rather of expenditures) in agriculture and other occupations (or in rural and urban areas) can be made on the basis of household surveys. Household survey data for 12 selected countries, including as many as possible of the economically less-developed countries, are given in Annex Table 15. The basic figures for total living expenditures, taken as an indicator of incomes, are presented in Table III-2 and in Figure III-4. In both instances comparisons are given with the income disparities derived from national income statistics.

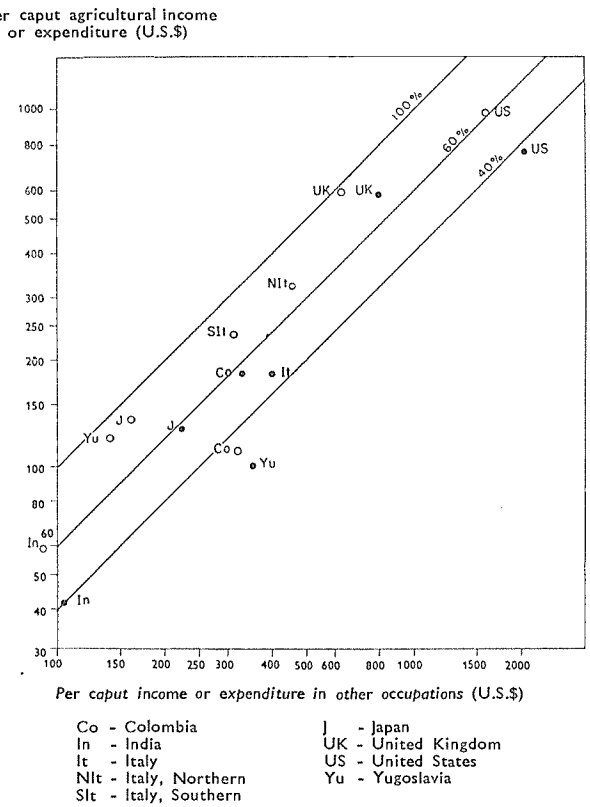
It is noteworthy that the household survey data suggest considerably smaller disparities between farm and nonfarm incomes than those derived from the data on national income and wage rates for

[1] "The hired farm working force of 1954," U.S.D.A., AMS 103, p. 16.

[2] B. Ramamurti, *Agricultural labour: How they work and live*, All-India Agricultural Labour Enquiry, Delhi, 1954, p. 19.

FIGURE III-4. PER CAPUT INCOME IN AGRICULTURE IN COMPARISON WITH INCOME IN OTHER OCCUPATIONS AS INDICATED BY *a)* HOUSEHOLD SURVEYS OF EXPENDITURE, AND *b)* NATIONAL INCOME DATA

(Logarithmic scale)



Co - Colombia
In - India
It - Italy
NIt - Italy, Northern
SIt - Italy, Southern
J - Japan
UK - United Kingdom
US - United States
Yu - Yugoslavia

NOTE: Diagonal lines indicate levels of income parity (100 %), and of 60 % and 40 % of parity, respectively.

o Expenditure according to consumer surveys
• National income data

all countries for which comparisons are available, with the exception of Colombia. In the United Kingdom and Japan there is very little disparity, while in the United States, Italy, Yugoslavia, and India the disparity has been reduced to values ranging from 0.6 to 0.8.

There appear to be a number of reasons for the differences in the estimates of the disparities between farm and nonfarm incomes derived from national income and from household survey data. In some countries the household survey data are not representative of the farm population as a whole. Thus, in the United States the figures relate to farm operators only, who are likely to have somewhat higher incomes on average than their employees. In India, Jamaica, and the United Kingdom the household surveys cover all those living in rural areas, whether engaged in agriculture or not. In the United Kingdom, for example, about 20 percent

TABLE III-2. – ESTIMATED PER CAPUT EXPENDITURE IN AGRICULTURAL AND URBAN AREAS FROM HOUSEHOLD SURVEYS [1]

	Per caput expenditure		Disparity ratio rural/urban	Disparity ratios estimated from income statistics
	Agricultural or rural households	Urban households		
	..... *U.S.* $		..... *Ratio*	
United States	[2] 990	...	0.6	0.3
United Kingdom	[3] 590	620	1.0	0.8
Italy North	[2] 320	455	0.7	0.5
Italy South	[2] 235	310	0.7	0.5
Japan	[2] 135	160	0.9	0.6
Jamaica	[3] 135	...	...	0.4
Yugoslavia	[2] 120	140	0.8	0.3
Colombia	[3] 110	320	0.4	0.6
United Arab Rep. (Egyptian Province)	[3] 70–95	...	...	0.3
Ghana	[2] 65	75–125	...	...
Ivory Coast	[3] 100	...	...	...
Thailand	[2] 65	...	...	0.5
India	[3] 60	90	0.7	0.4

NOTE: Ratio figures were calculated before expenditure figures were rounded.

[1] Basic data in Annex Table 15. – [2] Farm households. – [3] Rural households, including rural nonfarm families.

of the population lives in areas classified as rural, though only 7 percent is engaged in agriculture, i.e., considerably less than half the rural population (Annex Table 14). In India the difference is less striking and about five sixths of the rural population is engaged in agriculture. In these four countries, however, the group covered by the household survey is likely, to a greater or lesser extent, to have incomes higher than the average for the farm population as such.

On the other hand, there appear to be at least three major statistical sources of discrepancy which would be likely to lead to some underestimation of farm incomes from the national income data:

(*a*) defects in the statistics on which the national income data are built are likely to lead to an underestimation of the contribution of the agricultural sector;

(*b*) overlap in source of income between the farm and nonfarm sectors (nonagricultural income accruing to the agricultural population and *vice versa*);

(*c*) differences in the valuation of home-produced food.

These three points are considered somewhat more fully below:

(*a*) Statistics of agricultural output are not only often less accurate than statistics on industrial output, trade, etc., but are probably more often biassed

downward owing to incomplete coverage and in some cases to understatement of production. For this reason, the contribution of agriculture to national income is often somewhat underestimated, and the income of the average farmer somewhat higher than would be expected from national income data. Some other assets of rural life are often incompletely covered by statistics. For instance, rural housing is in some countries not imputed any value at all, while in some others the imputed rental value of rural houses is low. To a varying degree, some other goods which are produced and consumed in rural areas, such as clothes, tools, and ornamental objects, tend to be underestimated or altogether omitted. Moreover, many services are omitted from national income calculation when rendered locally, e.g., unpaid mutual aid or work performed within the individual household; in the latter cases it often merges with the marketing margin for home-produced food (see below). The accrual of invisible services occurs also in urban areas, but normally to a much smaller extent than in rural areas.

(*b*) Nonfarm income of the agricultural population appears quite important in countries from which data are at hand. In the United States, in 1955, income of farm-operator families from nonfarm sources amounted to more than half of their net income from farming, or to over one third of their total income. The biggest item was wages for nonfarm work. Among farm workers in the same country, defined as those who worked 25 days or more on farms during the year, 15 percent of the work time and about 20 percent of the wages were in nonfarm work; of the nearly 2 million workers concerned, only just over half returned farm work for wages as their chief activity during the year. In Japan, during the years 1949-56, farm households derived about 30 percent of their net incomes from nonagricultural sources. In India, the agricultural labor inquiry of 1950-51 showed that agricultural laborers derived about one fifth of their (extremely low) incomes from nonagricultural work. These examples make it clear that income generated in agriculture cannot always be directly equated with income of the agricultural population. Examples of urban workers earning part of their incomes in agriculture are likely to be less common.

(*c*) In most household surveys, home-produced food is valued at retail prices for comparability with data from urban areas as well as for comparability between the data on home-produced and purchased food. National income estimates, on the other hand, base their value of agricultural production on the prices paid to the farmer. The marketing margin, including some processing services, e.g., the plucking of poultry, thus invisibly accrues to the income of the agricultural population in the household survey, though not in the national income data. The importance of this difference in methods of estimating farmers' incomes can to some extent be gauged from the data in Table III-3, bearing in mind that, on the average, processing and distribution costs commonly account for about half the retail value of foodstuffs. The share is somewhat smaller for unprocessed livestock products, and greater for most plant products and for highly-processed foods.

TABLE III-3. – ROLE OF HOME-PRODUCED FOOD

	Value of home-produced food as percentage of total value of food consumed		Home produced food in rural areas as percentage of total living expenditure
	Farm or rural	Urban	
	Percentage		
United States	40	2.5	17
Yugoslavia	77	...	52
Japan	68	8.5	33
India	56	17	37

The national income data thus seem likely to exaggerate somewhat the disparity between farm and nonfarm incomes, though not necessarily to the full extent of the difference between these and the household survey estimates. The household survey data on the other hand may tend to understate the disparity, especially where they relate to rural rather than farm households. It should be added also that points (*a*) and (*c*) above are likely to be of more importance in the economically less-developed countries, where the statistical services are less complete, and where home-produced food accounts for a large share of the total farm income. These two points may partly explain the apparently greater disparities between farm and nonfarm incomes in less-developed countries.

SIZE OF FAMILY

Before turning to a more detailed consideration of the main items of expenditure, mention may be

made of a factor which often contributes to the lower per caput incomes in agricultural and rural families: that, as a rule, fertility rates are higher and families larger in rural areas than in towns. This may be seen from Table III-4, based on population census data, which shows a considerable difference in the average size of the family in all the countries listed, except India. It may be added that while the 1947 census of Egypt gives data on family size only for provinces, the average size of households, in the largely urban provinces of Cairo and Alexandria, are not very different from the rest of the country, the average being about 4½ in each case. The situation in Egypt thus appears to be similar to that in India.

TABLE III-4. – SIZE OF HOUSEHOLD

	Year	Agricultural occupations	Other occupations	Rural areas	Urban areas	Whole country
		..... *Average number of members*				
Norway	1950	4.1	3.3	3.5	2.8	3.3
Italy	1951	4.8	3.9	...	...	4.2
North	1951	(4.9)	(3.6)	...	...	(4.1)
South	1951	(4.6)	(4.6)	...	...	(4.6)
Yugoslavia	1948	5.1	3.3	4.8	3.1	4.4
Japan	1955	[1] 6.1	[1] 4.9	5.4	4.8	[2] 5.1
India	1951	...	...	4.9	4.7	4.9

[1] 1950. – [2] The corresponding figure for 1950 is 5.3.

The average size of families in the samples covered by the household data are in fairly close agreement with the census figures in Table III-4. Thus in northern and southern Italy, respectively, the average family size was 5.0 and 4.9 persons in farm families and 4.1 and 4.6 in urban families. In the United Kingdom (not included in Table III-4) the difference in the size of the families surveyed was relatively small, averaging 3.3 persons in the rural and 3.1 to 3.2 in the urban groups.

The difference in family size largely reflects the higher fertility of the agricultural and rural families, as is evident from the data in Table III-5 showing the average number of children per married woman. Detailed figures for married women in particular age groups show the same result. The 1951 census of India does not give comprehensive data for specific fertility for the whole union; data from the former state of Travancore-Cochin show, however, that there were there only small differences in fertility between rural and urban areas, and between agricultural and other families; this is in accordance with the family size data shown in the previous table. In Egypt, too, as in the case of size of households, there is no very marked difference in fertility between the mainly urban provinces of Cairo and Alexandria and the rest of the country.

TABLE III-5. – NUMBER OF CHILDREN PER MARRIED WOMAN

	Year of data	Agricultural occupations	Other occupations	Rural areas	Urban areas	Whole country
United States	1957	3.5	2.4	2.9	2.3	2.5
Great Britain	1951	2.0	1.7	1.8	1.5	1.7
Norway	1950	...	...	2.7	1.8	2.4
Yugoslavia	1948	2.9	1.9	...	...	2.6
Japan	1952	4.0	2 9	...	...	3.5

The data in Tables III-4 and III-5 are generally consistent with each other and together with the data from India and Egypt confirm the conclusion that where rural or agricultural families are larger than urban families this results in large measure from higher fertility. As a consequence, each earner has more persons in his charge in the agricultural populations than in other sectors of the community and the income available per head is correspondingly smaller.

REGIONAL VARIATIONS

National averages of income disparities often conceal rather wide regional variations within a country. In the United States, for instance, national income data indicate that in the western parts of the country the disparities between farm incomes and nonfarm incomes are smaller than for the country as a whole. The larger disparities elsewhere may of course be partly offset by differences in income from nonfarm sources. There are also considerable differences in the level of incomes (farm and nonfarm) and also of wage rates in different regions of the United States: as is well known, they tend to be lower in the southern states. Similar differences between northern and southern Italy were shown in Table III-2, while in Yugoslavia there are considerable differences between the constituent republics in income disparities calculated from national income data, though these are much smaller if the estimates are based on household surveys. However, in Japan, where regional data are also available, the differences between different parts of the country are much smaller.

The pattern of expenditure

The consumer survey data given in Annex Table 15 have been broken down to show separately the share of the total expenditure on food, clothing, housing, and other items. In all countries food is the largest single item, accounting for about one third of the total expenditure in the wealthiest countries, about one half to two thirds in economically less-developed countries, and occasionally rising to over three quarters. Clothing usually accounts for between 10 and 20 percent of total expenditure, but its share is smaller in some countries with low levels of income. Expenditures on housing and "other items" tend in general to amount to an increasingly large share of the total as incomes rise, and in the countries at the head of the list account for about one quarter and one third respectively of the family budget.

Expenditure on food

It has long been recognized that while expenditure on food increases with rising incomes it does so at a lower rate, so that the share of the income spent on food tends to become progressively smaller in the higher income groups (Engels law). The percentage of the income spent on food (the Engels coefficient) is thus in itself some indication of the level of living, as is clearly evident in Annex Table 15.[3] An even better indicator is the type of food consumed. At low income levels the largest expenditure must necessarily be on inexpensive cereals and starchy roots to satisfy hunger, but as incomes rise an increasing share of the money spent on food goes for sugar, fats, livestock products, and fresh fruit and vegetables. At the highest income levels highly-processed foods and meals in restaurants become a large item in the total expenditure: here the additional expenditure in effect goes on services rather than on more food or more expensive foods.

More detailed examination of the consumer survey data suggests that rural and farm families do not react in a significantly different manner from those living in towns so far as their total expenditure on food is concerned, if home-produced food consumed in the household is valued at retail prices and counted as part of their income. The data for some representative countries is analyzed further by income groups in Figure III-5, which shows the percentage spent on food at different levels of total expenditure taken as an indicator of income. At any given income level the percentage spent on food is usually somewhat lower in towns than on farms in India and southern Italy, and usually somewhat higher in Japan and the United States. In the United Kingdom the correspondence is remarkably close. It is uncertain what significance should be attached to the differences where they exist: they may arise in part from small differences in statistical treatment, e.g., the method of valuing home-produced food.

Some differences between countries seem to emerge from the chart. Thus, the share of the income spent on food seems to fall particularly rapidly in the United States, Italy, and (after a certain income level) in India. By contrast the decline is somewhat slower in Japan and especially in the United Kingdom. It has recently been noted that, in a number of European countries, the rise in national income since the war has not been accompanied by a significant change in the share of the income spent on food, a fact attributed to the larger expenditures on prepared and processed foods or restaurant meals now that more married women work outside the home.[4] This may also be the explanation of the very slow decline in the curve for the United Kingdom in Figure III-5.

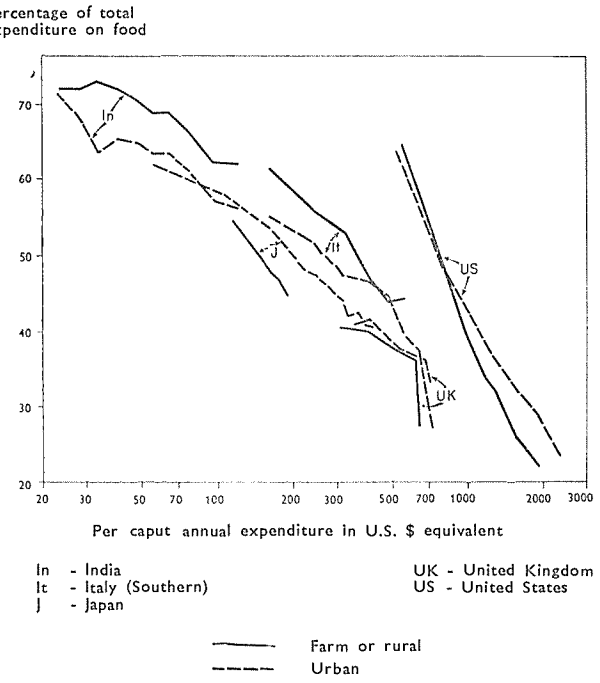
The pattern of food expenditure as between commodities (Figure III-6) on the whole bears out the conclusion that level of income has more bearing on the type of diet than agricultural or urban occupation. The share spent on cereals declines sharply in the wealthier countries and is usually somewhat higher in farm than in urban households, which probably reflects income disparities. Conversely, in the higher income countries an increasing share of the total food expenditure is for more expensive foods, including livestock products, fruit and vegetables. Again,

[3] *Income elasticity for food derived from household surveys*, by L. Goreux. FAO, Rome, 1959.

[4] United Nations Economic Commission for Europe, *Economic survey of Europe in 1958*. Geneva, 1959.

FIGURE III-5. PERCENTAGE OF TOTAL EXPENDITURE ON FOOD (INCLUDING HOME-PRODUCED FOOD) AT DIFFERENT INCOME LEVELS, RURAL AND URBAN

(Semi-logarithmic scale)



the difference between rural and urban households is consistent with the previously established income disparities.

Coefficients of income elasticity of expenditure as a whole have been worked out separately for rural and urban households in five countries on the basis of consumer data, for foodstuffs as a whole and for some main commodities (Annex Table 16). They indicate the change in expenditure, at constant prices, which would be expected from a change in real income of 1 percent, and are of interest in the light they throw on probable future developments. To eliminate complications due to differences in the size, sex, and age composition of the households the coefficients have been calculated on a per caput basis.

It is noteworthy that for foodstuffs as a whole income elasticities tend to be larger in urban than in farm households in the wealthier countries where elasticities are generally low, as in the United States, but that the reverse is the case where incomes are low and elasticities high, as in India. It is likely that, except at the lowest income levels, elasticities for farm-produced foods are very low, but that for purchased foods income elasticities in farm households may be as high or higher than in town households. The data for individual commodities give support to this view, though with some exceptions. Thus, income elasticities in farm households would be lower than in urban families to the extent that the former can provide food for themselves.

Income elasticities for home-produced foods as a whole in farm households have been worked out for three countries for which sufficiently detailed data were available:

United States	— 0.17
Japan	+ 0.44
India	+ 0.99

In the United States the negative figure suggests that at the higher levels farm households consume less of their own produce and turn increasingly to purchased foods, including processed foods. The relatively high elasticities for home-produced foods in Japan and India, on the contrary, probably reflect the normal response at the lower income levels of those countries. With rising incomes farm households consume more food or more expensive types of food, whether home-produced or purchased.

TABLE III-6. – PERCENTAGE OF HOME-PRODUCED FOODS CONSUMED IN FARM HOUSEHOLDS

	United States (1955)	Japan (1955/56)	India (1951)	
			Aug.-Nov.	April-June
	..... Percentage			
ALL FOOD	40	68	56	50
Cereals	6	83–94	65	62
Pulses	...	91	61	58
Potatoes	28	96	...	...
Other fresh vegetables	63	92	39	25
Fresh fruit	37	...	35	40
Meat, poultry, fish	51	[1] 65	31	6
Eggs	80			
Milk and products	65		70	64
Edible oils	31	[2] 43	15	14

[1] Excludes fish and seaweeds.
[2] Includes condiments.

The types of home-produced food most typically consumed in farm households in these three countries are shown in Table III-6. In the three

FIGURE III-6. PATTERN OF FOOD EXPENDITURE (INCLUDING HOME-PRODUCED FOOD) BY COMMODITIES, RURAL AND URBAN

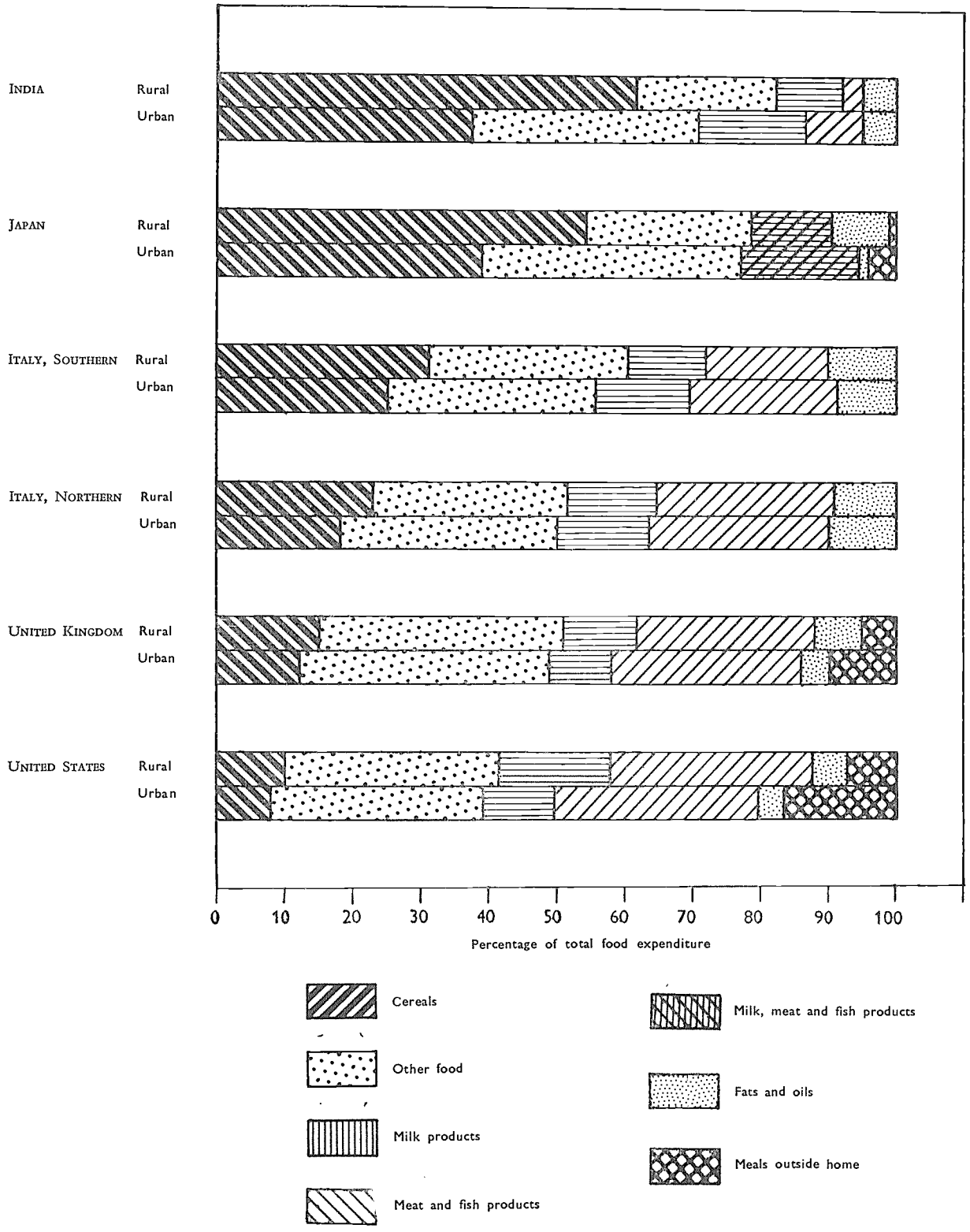
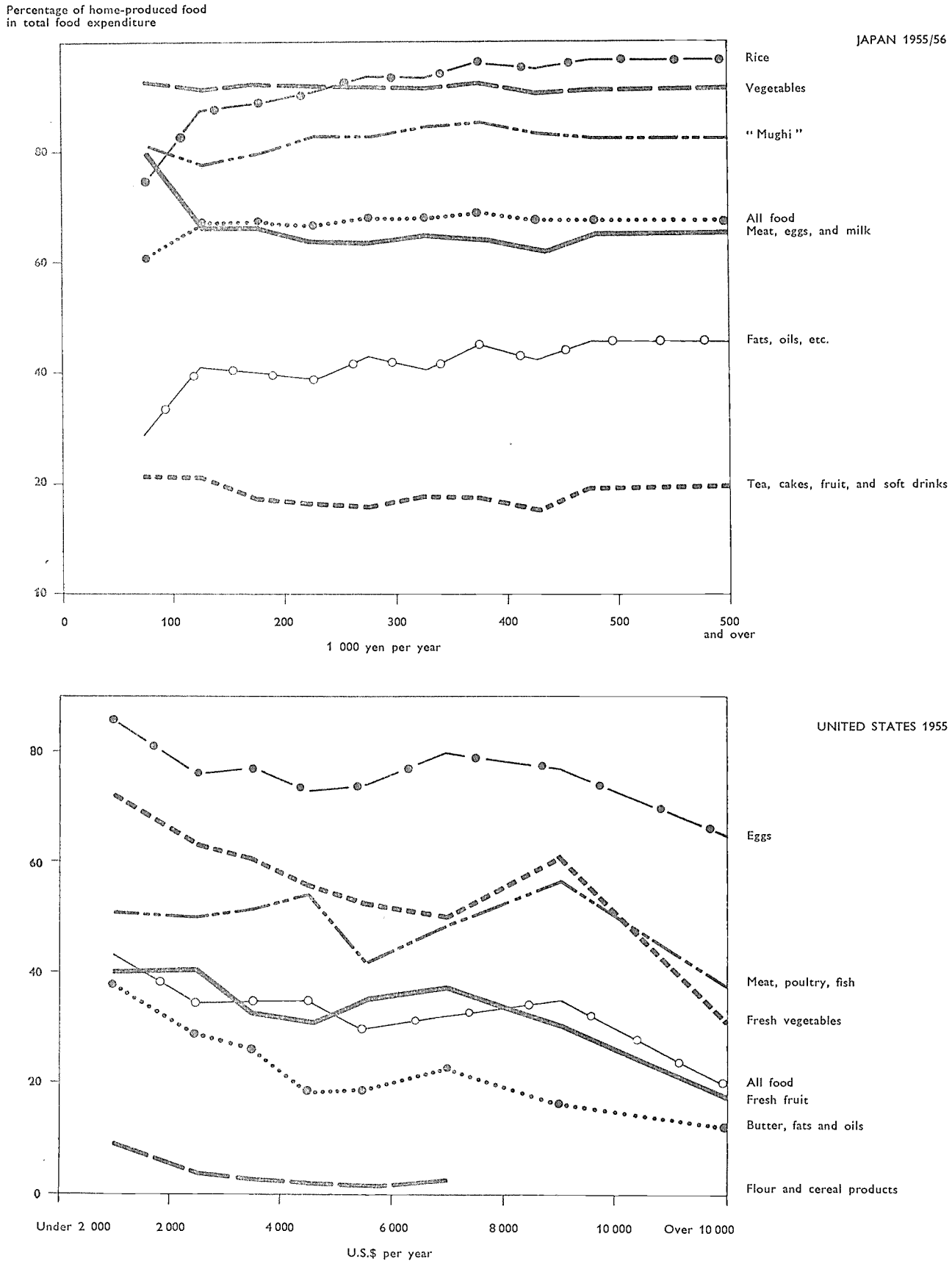


FIGURE III-7. SHARE OF HOME-PRODUCED FOOD IN TOTAL FOOD EXPENDITURE OF FARM FAMILIES, UNITED STATES AND JAPAN



countries a large share of the milk products and some other animal products, e.g., eggs, are home-produced. Mainly home-grown vegetables are consumed in the United States and Japan, but not in India. Farm households in Japan also produce most of the cereals they consume; in India the percentage is considerably lower, while in the United States it is very small as the main cereal foods are bakery products bought from outside the farm. The relatively low percentage of home-produced cereals in India compared with Japan may reflect the very low level of incomes which may make it impossible for many farmers to produce their full needs or to retain enough grain at the time of harvest to carry them through the year.

The extent to which home-produced food forms part of the diet of farm households, however, is in no sense an indicator of the level of living. It may reflect consumer preference. In Japan, for example, in contrast to the United States the share tends, if anything, to rise rather than to fall in the better-off households (Figure III-7). It must also depend largely on the type of farming, tending to be higher where mixed farming is practiced and lower where only one or two commodities are produced for sale.

The contrasting tendencies between the two countries are also evident if a comparison is made in time. Thus, in the United States comparison between the farm household surveys of 1942 and 1955 shows a marked decline in the proportion of home-produced food in all food groups except fresh fruit. The same is true of rural nonfarm households (Table III-7).

In Japan the annual farm household economy survey also shows a slight tendency for home-produced food to represent a smaller share of the total family expenditure. But this is not so much due, as in the United States, to a switch to outside sources for food produced on the farm. On the contrary the home-produced share of staple foods, including cereals, tends if anything to rise. It results rather from increasing expenditure on the things not produced on the farm: such items as "drinks and tobacco," and especially manufactured goods and other nonfood items. Agriculture remains on a largely subsistence basis even in the higher income classes.

TABLE III-7. – PERCENTAGE OF HOME-PRODUCED FOOD CONSUMED IN RURAL HOUSEHOLDS IN THE UNITED STATES, 1942 AND 1955

	Rural farm households		Rural nonfarm households	
	1942	1955	1942	1955
	..... *Percentage*			
Milk products	89.7	67.9	37.5	7.7
Fats and oils (including butter)	57.6	28.3	14.7	3.6
Flour and cereal products	19.1	8.8	1.3	1.1
Bakery products		—		—
Meat, poultry, and fish	60.8	50.3	14.9	7.0
Eggs	96.2	80.4	50.2	18.4
Sugar and sweets	27.2	9.6	15.0	6.4
Potatoes and sweet potatoes	63.4	30.6	18.8	8.5
Fresh vegetables	61.9	59.3	30.9	25.4
Fresh fruit	20.1	28.0	8.3	12.4
Fruit and vegetable juices	—	18.5	—	6.1
Dried fruit and vegetables	18.5	4.8	4.2	1.3

FUTURE TRENDS OF FOOD EXPENDITURE

The general similarity of income elasticities in farm and urban households in most countries suggests that in general further increases in farm incomes will tend to lead to a gradual approxi-

TABLE III-8. – SHARE OF HOME-PRODUCED FOOD IN FARM HOUSEHOLD EXPENDITURES, JAPAN, 1949 TO 1956

	1949	1950	1951	1952	1953	1954	1955	1956
	..... *Percentage*							
Total expenditure	45.9	46.9	46.6	43.8	41.9	42.7	42.9	42.1
Total food expenditure (incl. tobacco)	66.3	69.8	71.2	69.9	68.0	67.3	67.9	67.2
Staple food [1]	88.5	90.4	92.8	92.1	91.1	90.5	91.4	91.6
Subsidiary foods - I [2]	86.8	89.9	90.1	88.4	87.4	87.1	86.6	86.3
Subsidiary foods - II [3]	20.9	25.4	26.1	28.4	27.6	28.5	28.9	28.4
Condiments, fats, and oils	53.7	51.1	51.2	52.2	49.0	47.3	47.1	46.1
Drinks and tobacco	9.6	13.2	14.0	26.8	15.1	15.4	15.8	15.5

[1] Includes rice, wheat, barley, naked barley, other cereals, and potatoes. – [2] Include such foods as pulses, vegetables, pickles, seaweeds, and grocery. – [3] Include such foods as fish, shellfish, meat, eggs, milk, and processed foods.

mation of farm food consumption patterns to those in towns. This does not necessarily imply that in all countries farm households will gradually follow the trend in the United States and consume less and less of their own production. In this respect the determining factors may be tradition, and perhaps especially the abundance or otherwise of farm labor. The United States trend, however, seems likely to apply increasingly in the farm sector of many European countries and probably still more in Australia and New Zealand.

In poor communities and countries, where food consumption has a high elasticity against income, the small farm households that produce a single product like, say, rice, wheat, millet, etc., usually keep most of their production for their household use, being obliged to sell some part in order to pay taxes, debts, and other necessities. So-called "sales for hunger" may occur here. Such farm households seldom have enough food and their members may want to increase their own consumption. The income elasticity coefficient of home-produced foods in India, which is as high as 1.0, represents this situation. If then commercial conditions improve in favor of farm households, these may decrease the sale of their products, increasing their own consumption. A sharp increase in income from rising prices may thus sometimes lead to shortages in urban markets which are dependent upon the producers' sales.

The effect of a rise in prices and farm incomes on market sales is likely, however, to be influenced not only by the income elasticity of the particular product, but also by the tendency, when incomes rise, to switch to more preferred foods: in economically less-developed countries, for example, from millet, barley, and maize to rice or wheat. Thus a rise in income might lead to a reduced supply of rice on the market and an increased supply of "inferior" grains. On the other hand, a relative rise in the price of, e.g., rice in comparison with other cereals is likely to lead to some reversion to the farm consumption of cheaper cereals in order to benefit from the higher returns from rice. Instances of both effects have been reported from Japan.

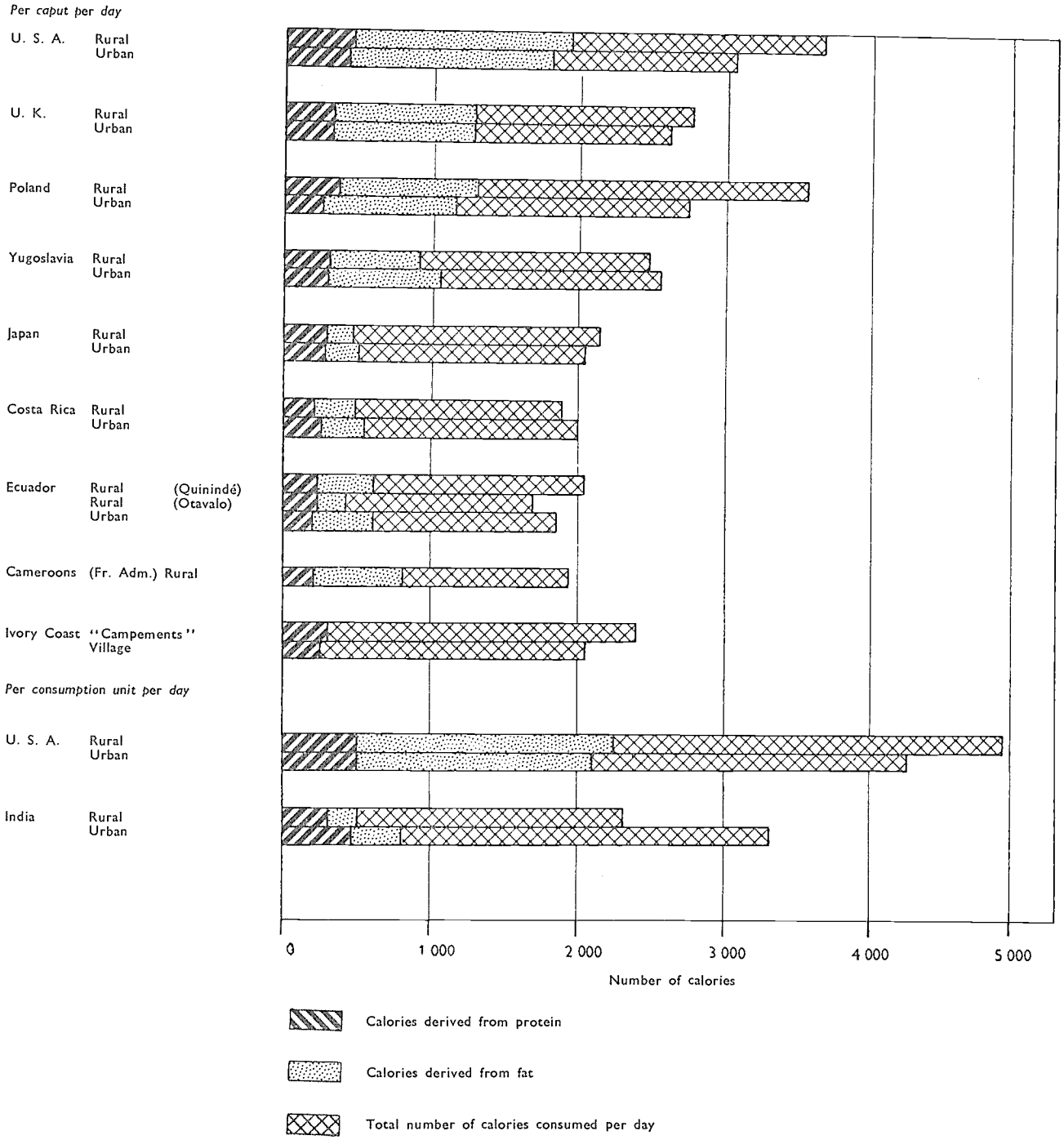
Nutritional aspects

Expenditure on food does not tell the whole story. A nutritionally adequate diet may be made up in many ways and with varying proportions of cheaper or more expensive foodstuffs. Moreover, the cost of food varies considerably from country to country. A relatively low level of expenditure on food does not therefore necessarily imply a diet nutritionally inadequate, and *vice versa.* Data from a number of consumption surveys, showing nutrients per caput per day, are set out in Annex Table 17. The figures are not always strictly comparable and in several cases are not representative of the entire country. Nevertheless, some broad conclusions may be drawn from them.

The quantitative aspect or the energy value of food is usually expressed in terms of calories. Moreover, an acceptable basis for estimating the specific calorie requirements of different population groups is now available, thus making it possible to assess the quantitative adequacy of various national diets on an international basis. In the light of such an analysis, it seems that in most countries of the world average per caput food supplies are not far short of the estimated calorie requirements of their respective populations. Indeed in some regions, especially in North America, Australasia, and Europe, the problem is often one of overconsumption rather than shortage of calories. In many economically less-developed countries, however, especially in Asia and Africa, calorie intakes are still marginally adequate, which means, in plain words, that many millions still go hungry, at least part of the time. For even in countries where the national average calorie supply seems higher than the requirement level, some sections of the population get less than their needs and others more, since food supplies are rarely distributed evenly over the population.

If requirements were fully met, the total calorie intake would be expected to be on an average higher among farm or rural populations than in urban or nonfarm populations, because of the usually higher incidence of heavy physical work in agriculture. When rural people get less calories than urban people it is likely that their calorie requirements are not fully met. Of the countries included in Annex Table 17 the rural calorie intake appears to be higher than the urban intake in the United States, the United Kingdom, Poland, and Japan (Figure III-8). There is a small difference in the opposite sense in Yugoslavia and Costa Rica, and a larger one in India. (The Indian data are by "consumption unit," which makes the

FIGURE III-8. INTAKE OF CALORIES PER CAPUT PER DAY AND NUMBER OF CALORIES DERIVED FROM PROTEIN AND FAT, RURAL AND URBAN



absolute level not comparable with the per caput figures from other countries, though the United States' figures are expressed in both manners.) The data for Ecuador also show some indications of a lower calorie intake in rural districts than in towns.

The food from which the calories are derived can be analyzed separately for a few countries, and show a broadly similar distribution to that indicated by the household expenditure surveys, though the proportions are naturally different as they do not take into account the relative prices of the different foods (Table III-9). The similarity of the consumption pattern of rural and urban people in both the United States and the United

TABLE III-9. – PERCENTAGE OF TOTAL CALORIES DERIVED FROM EACH MAIN FOOD GROUP

	United States		United Kingdom		India		Cameroons (French Adm.) (mainly cocoa farmers)	Ivory Coast (rural village sample)
	Urban	Farm	Urban (London)	Rural	Industrial workers	Agriculturists		
	Percentage							
Cereals	24.0	27.6	31.5	38.2	72.8	82.4	0.5	3.5
Pulses and nuts	0.8	1 3	...	...	8.7	7.3	13.1	0.5
Tubers	2 9	2 8	6 8	6.4	2.5	2.1	47.4	81.5
Vegetables	3.2	2 4					3.5	0.6
Fruit	4.6	3 2	2 6	1.7			15.6	0.4
Sugar and sweets	9.7	11.9	12.6	12.3	2.4	1.0	...	0.2
Milk and milk products	15.1	14.8	13 3	11.7	1.6	1.6	...	...
Meat, eggs, and fish	26.5	21.1	18 3	14.9	2.1	0.9	3.3	7.7
Fats and oils	13.0	14.7	14.1	14.0	[1] 7.6	3.5	15.4	3.4
Miscellaneous	0.2	0.2	0 8	0.6	2.2	1.3	1.2	2.2
Total	100.0	100.0	100.0	99.8	99.9	100.1	100.0	100.0

[1] Including ghee.

Kingdom is very striking. The figures for India again bring out the low income level and the heavy dependence on cereals. In the African countries listed, tubers largely take the place of cereals, but the figures suggest somewhat more variety in the diet than in rural India.

The calorie value of the diet indicates only its quantitative value. Its nutritional quality cannot be expressed in terms of a single nutrient, as proteins, vitamins, and minerals must all be taken into account. Moreover, no objective standards can yet be established of the basic requirements of many nutrients. On the present rather subjective basis, average diets appear to be defective in most economically less-developed countries, and again it must be borne in mind that inequalities of distribution may mean that some sections of the population have defective diets even in countries where the national average appears satisfactory.

But while a single nutrient cannot properly reflect the nutritional quality of the diet, the protein content deserves special attention not only because protein is one of the most important nutrients, but also because most foods rich in protein are also usually good sources of many other essential nutrients. Since this is particularly true of foods of animal origin, animal protein content is probably even more significant although recent advances in nutritional science tend to "de-emphasize" the traditional superiority ascribed so far to animal protein. Estimates of protein intakes suggest that large numbers of persons, especially children, in Asia, Africa, and in parts of Central and South America, have too little protein in their diets. Indeed, a number of surveys in those regions indicate that protein malnutrition, known as kwashiorkor in some parts of Africa, is probably the most serious nutrition problem at the present time.

The data in Annex Table 17 and Figure III-8 bring out clearly the much lower level of protein intake in the economically less-developed and poorer countries, and in most of these countries indicate a lower protein intake in rural than in urban families. So far as they go, therefore, the figures suggest that protein deficiency is likely to be a more serious problem in rural than in urban areas in economically less-developed countries. This is likely to be true of other nutritional deficiencies as well, even though (if they had the knowledge) rural people could grow many of the foods they lack with little or no cash outlay.

Figure III-8 shows the approximate proportion of the calorie intake derived from fat as well as from protein. Fat is the most concentrated source of calories, providing more energy for a given weight consumed than any other food. It is striking how closely a high calorie intake is associated with a high proportion of fat in the diet. Again, the higher average energy requirements of the rural population, compared with town dwellers, is reflected in their larger fat consump-

tion in the wealthier countries, though the reverse is the case in economically less-developed countries, probably because of the great poverty of their rural populations.

Existing differences in nutritional levels, however, do not depend entirely on differences of income, though this is probably the most significant factor. Some nutritional deficiencies may arise from the absence of certain foods which are neither produced locally nor available in local markets. This situation occurs more often in rural than in urban areas. In some cases such foods are actually produced but not consumed, owing either to the need to buy other goods and services, or to prejudice or ignorance.

Very little information is available on the changes that take place in the dietary pattern as a consequence of urbanization, be it because rural populations move to urban areas, or because they are influenced by urban ways of life. However, it is known that significant rises in per caput income, associated with urbanization in economically less-developed countries, normally lead to an increased consumption of livestock products, fruit and vegetables, and other foods of high nutritional value. But there are many exceptions, and higher incomes in towns are not infrequently spent on more "sophisticated" diets, including highly milled rice, sugar, and beverages of little or no nutritional value. During the early period of industrialization in Western Europe there was much malnutrition among urban populations because they consumed diets deficient in many essential nutrients. From what is known, it seems that the situation is similar in many of the newly urbanized populations in other regions. For instance, the surveys carried out among the Bantu of the Union of South Africa show that with urbanization the normal rural diet of whole-grain cereals and milk is often replaced by one based on maize meal, white bread, and mineral water. Another example is the increasing incidence of beriberi as a consequence of the replacement of nutritious home-pounded rice by highly milled or polished, but vitamin deficient, white rice, even in the rural areas of Asia.

Expenditures other than on food

The natural converse of the falling percentage of the income spent on food with rising incomes is of course an increased expenditure on other items. Some indications of the nature of the non-food expenditure is given in Annex Table 15, but since these, for purposes of comparability, are classified in somewhat broad divisions, a rather more detailed analysis is given below for a more limited number of countries. After food, the most essential household expenditures are for housing, clothing, and fuel (including light), and these are first considered in the paragraphs that follow.

Housing

As already indicated, the statistical data are not always comparable between rural and urban areas. Thus, in the United States and the United Kingdom house rent (or its equivalent in the case of house ownership) accounts for a somewhat higher share of the total expenditure in urban than in rural areas (Table III-10). Apart from any income differential, this might be expected in view of the higher site value of urban dwellings. For other countries included in the table, however, the difference between urban and rural expenditures is so marked that it seems probable that rural housing (except where it involves direct cash outlay) has been valued at a more or less nominal figure, or not valued at all, as in the survey in Thailand. The implications are twofold. For one thing the low rental value imputed to rural housing owned by its inhabitants lowers the total estimate of rural family incomes. Secondly, as a result the share of the income spent on food and other items tends to be overstated.

At the same time it is probable that expenditures on housing are highly responsive to increases in income. This seems to follow from the low expenditures on housing even in urban areas in the countries (other than the United States and the United Kingdom) which are included in Table III-10. Again, most of these countries have rather warm climates where less elaborate housing is needed.

Moreover, the lower expenditures on rent in rural areas are due not only to defects in the statistics; in many instances they also reflect fewer amenities. Rural houses are less frequently equipped with running water, main sanitation, and electricity than houses in towns, and this in itself can go far to explain lower rental values (Table III-11). In most countries, poorer housing may be counted as one of the definite disabilities of the

TABLE III-10. – PERCENTAGE OF TOTAL EXPENDITURES IN RURAL AND URBAN HOUSEHOLDS DEVOTED TO HOUSING, FUEL, CLOTHING, AND OTHER NONFOOD ITEMS

	House rent		Fuel, light		Clothing		Total shelter, heating, clothing		Other nonfood	
	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural
	Percentage									
United States	11	10	9	8	12	11	32	29	37	36
United Kingdom	11	8	4	5	10	13	25	26	42	42
Italy { North	4	2	5	4	19	16	28	22	30	23
Italy { South	4	2	4	4	19	18	27	24	28	24
Japan	2	...	5	5	11	11	18	...	37	...
Jamaica	10	1	3	2	6	11	19	14	25	17
Ghana										
Capital and rural areas	5	1	5	6	12	17	22	24	14	10
Small towns	2	...	5	...	17	...	24	...	12	...
Thailand	...	...	...	7	...	9	...	16	...	...
India	3	1	6	7	7	7	16	15	31	19

TABLE III-11. – PERCENTAGE OF DWELLINGS WITH RUNNING WATER AND ELECTRICITY IN RURAL AND URBAN AREAS

	Year	Running water		Electricity	
		Rural	Urban	Rural	Urban
		Percentage			
United States	1950	[1] 60 (57)	97 (95)	[2] 83	97
Canada	1951	(40)	(94)	66	99
Great Britain	1951	(80)	(98)	...	...
France	1954	35 (34)	80 (75)	89	95
Finland	1950	8	53	65	98
Germany, Western	1955	67	97	98	99
Netherlands	1947	(27)	(87)	72	95
Ireland	1946	9 (8)	92 (67)	...	...
Austria	1951	35 (21)	87 (45)	83	97
Portugal	1950	(3)	(43)	9	47
New Zealand	1945	[3] 39	95	79	98
Puerto Rico	1950	83 (16)	64 (59)	24	81
Chile	1952	(18)	(76)	15	77
Colombia	1951	7 (5)	66 (62)	4	64
Panama	1950	9	93	...	...
Brazil	1950	(1)	(40)	4	60
Honduras	1949	(2)	(29)	1	23
Cuba	1953	15 (7)	79 (58)	9	83
Dominican Republic	1950	3 (1)	57 (18)	2	46

SOURCE: United Nations, *Statistical Yearbook, 1958.*

NOTE: Figures in parentheses relate to piped water supply within dwellings; other figures to piped water supply inside or outside dwellings.

[1] On farms, 45 (42), rural nonfarm 70 (66). – [2] On farms 76, rural nonfarm 88. – [3] Excluding Maoris.

agricultural population compared with town dwellers.

Clothing

The share of the income spent on clothing shows smaller differences than housing, either between countries, or between rural and urban populations. Indeed, in a number of countries the share of the income spent on clothing is somewhat higher in rural households, and in colder climates at least this may not be unexpected in view of the greater need of the farm worker than most townsmen for protective clothing against rain and cold.

If countries are compared there appear to be no clear trends. Expenditure on clothing is lower in the United States and the United Kingdom in relation to total expenditure than in some countries with lower levels of per caput income. The highest figures indeed tend to fall toward the middle of the income range, though the relatively high figures for Ghana are an exception. Ghana is an exception also to the trend, which would seem reasonable, toward smaller proportionate expenditures on clothing in tropical climates. The customs and traditions of the particular country are probably an important factor. Even so the spread both between countries and between rural and urban workers is comparatively small.

Fuel and light

Expenditures on fuel and light vary even less in relation to total expenditures than those on clothing and in all countries range between 2 and 9 percent of the family budget. They are indeed proportionately high in some of the lower income and hotter countries (e.g., Thailand, India) where the reverse might have been expected. The explanation may lie in the cost of fuel and that a certain minimum amount is needed for cooking.

Other nonfood expenditures

The largest variation in expenditures from country to country comes in the miscellaneous group classed in Table III-10 as "Other nonfood" expenditures. If shelter, heating, and clothing are grouped together the share of the income spent on these three items is roughly twice as great in the highest as in the lowest income countries, both in rural and urban areas. For "other nonfood" expenditures, however, the corresponding disparity is from three to four times. Except in the United Kingdom, where it is equal, the share of the income spent on these miscellaneous items (often luxury and semiluxury goods and services) is always lower in rural than in urban households. Expenditures on these items in fact appear to show the greatest increases with rising incomes, and it is in the smaller amounts of money available for their purchase after essential living expenses have been met that the income disparities between urban and rural households are most clearly seen.

The high share of expenditure in India on these items stands out from the general downward trend. It may be partly explained by rather high expenditure on ceremonials (about 6 percent) and also on personal services, which in urban households account for some 8 percent of the family budget.

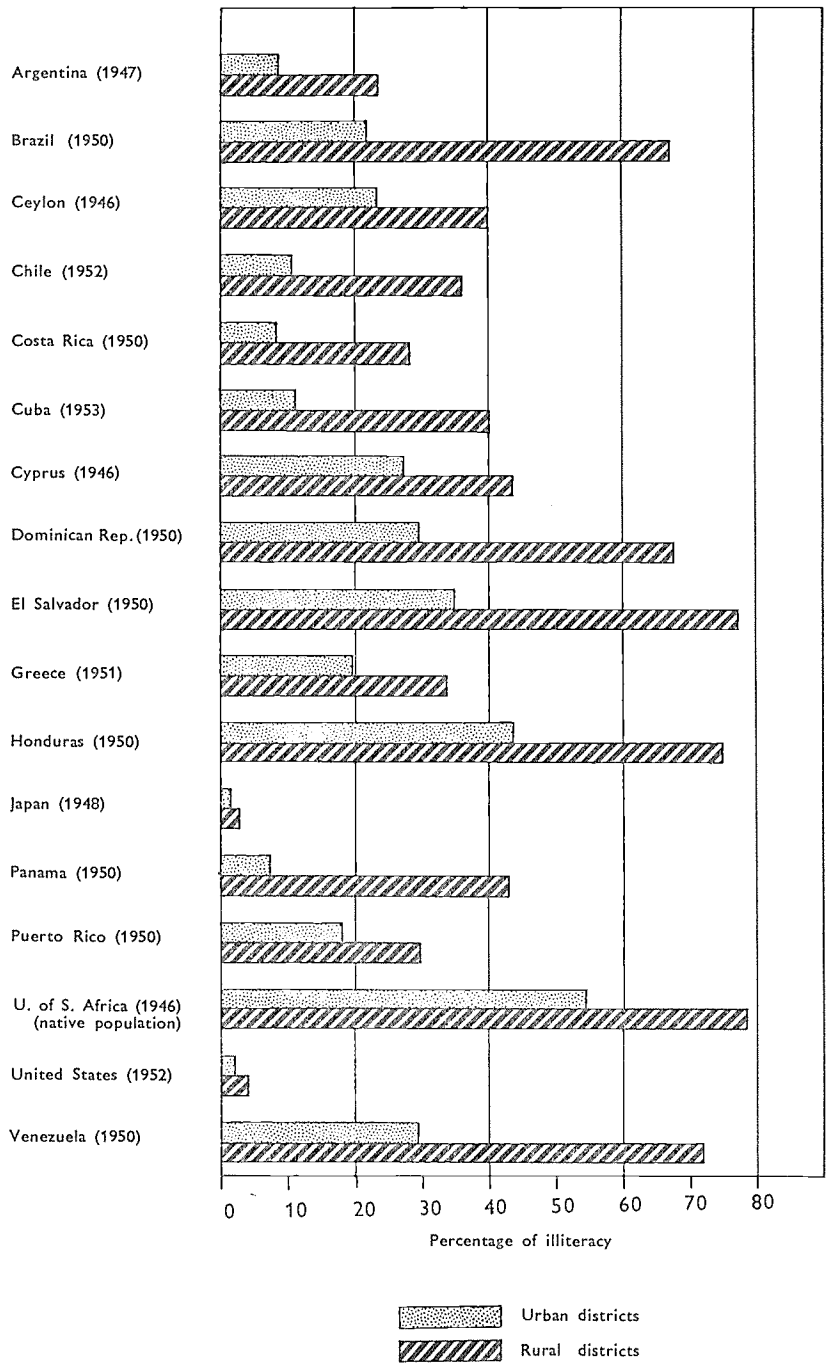
Differences of itemization between countries make it impossible to make more than a few more detailed comparisons. Transport accounts for some 13 percent of total expenditure in urban and 10 percent in rural households in the United States. In the United Kingdom the corresponding figures are 6 and 7 percent, respectively, so that in this country a higher share of the income is spent in rural households. In none of the other countries included in the table does transport exceed 2 percent of the total family expenditure (except in the Jamaican urban sample where it is 3 percent). In all cases the share of the income spent on transport was higher in urban than in rural households, in spite of the greater isolation of the latter. A good deal of the urban expenditure was presumably accounted for by travel to and from work, at least in the larger towns. Rural workers, however, also often live at a considerable distance from their work, or cover long distances in the course of their employment.

Another item which can be identified in most household surveys, household furniture and equipment, accounts for as little as 2 percent of expenditure in the rural households in, e.g., Ghana and Jamaica, and about 4 percent in Japan, ranging up to 6 and 8 percent in the United States, the United Kingdom, and Italy. As a rule the share of the income devoted to those goods was little higher in rural than in urban households.

Amenities not involving direct expenditures

In the foregoing sections attention has been given mainly to income and expenditure, for it is on these matters that the most exact information is available, and that rural levels of living between countries, particularly in relation to urban levels, can be measured. But obviously these are only some of the things to be considered when an attempt is made to appraise rural levels of living. And some of the more intangible things are precisely

FIGURE III-9. PERCENTAGE OF ILLITERACY IN RURAL AND URBAN POPULATIONS OF SELECTED COUNTRIES



those where rural people are most at a disadvantage. In nearly all countries they have less complete medical, educational, and cultural services, more restricted amusements, less opportunities for social contacts. They usually have longer hours of work, and fewer or no holidays. Their occupation is precarious in that it is especially subject to the unpredictable hazards of weather, as well as to the economic hazards by which townspeople are also affected. There are sometimes

compensating advantages in the greater peacefulness and seclusion of the country, but these advantages are by no means always there, especially at the lower income levels. Nor do they appeal to everyone.

There are few statistics which enable any measure to be made of the disabilities of the rural people in relation to town dwellers, especially in economically less-developed countries. Figures may be had of the degree of illiteracy in rural and urban areas, which reflect the less complete educational services in country districts in many areas and the greater distances of country children from schools (Annex Table 18 and Figure III-9).[5] As with all such figures, comparisons between the rural and urban groups are more valid than comparisons between countries, as the definition of illiteracy is not the same in all countries. The data presented, however, suggest that illiteracy is often twice as frequent and exceptionally up to four times as frequent, in rural districts as in towns.

Attempts have been made to throw light on differences in medical services by comparisons of the numbers of doctors and hospitals, or of the incidence of disease or mortality between rural and urban areas. Few countries, however, compile statistics of this kind in a way which facilitates comparisons between town and country, or between agricultural and urban occupations. A brief survey of the problem, together with a bibliography, is given in a recent WHO publication[6] from which the following may be quoted:

> ...within a given country there is frequently too high a disproportion between the medical density in the town and in the country. In France, there is approximately one physician per 1,000 inhabitants in the towns and one per 2,000 in the country. In the USA, in 1942 there were 120 physicians per 100,000 of the population for the country as a whole; this figure varied from 153 per 100,000 in " metropolitan " cities to 59 per 100,000 in areas classed as rural (less than 2,500 of a population) . . . This inequality in distribution would have been still greater in some countries, however, if special measures had not been taken . . . In some countries, no special measures are taken to keep doctors in country districts. In Turkey, they gravitate to Istanbul, Ankara, and the west-coast towns; in the east, the ratio up to a short time ago was as low as one doctor per 100,000 of the population. In Bengal, where there are 4,586 qualified physicians and 7,690 licenciates (assistant physicians), i.e., an average of one practitioner per 4,913 inhabitants, the medical density is probably three-and-a-half times higher in the towns than in the country. In Sind, there are reckoned to be 155 fully qualified practitioners and 323 licenciates, i.e., one per 9,487 of the population, but the ratio of density as between town and country is 49 : 1. It is estimated that three-quarters of the physicians practise in the towns, whereas the rural population is eight to nine times as great as the urban population.

The impact of health conditions on the life expectancy and death rate in rural and urban areas cannot always be compared directly, owing to differences in the age structure in itself, which may sometimes be a direct consequence of rapid urbanization. More conclusive are differences in infant mortality (deaths under 1 year of age per 1,000 live births) for which a few countries have separate rural and urban statistics. Infant mortality is more or less the same at about 26-30 per 1,000 in rural and urban areas in countries like the United States and the United Kingdom. In Japan, however, it is higher in rural areas at 47 per 1,000 than in urban areas where it has been reduced to 35 per 1,000 (both figures relate to 1956). In some other countries, among them Yugoslavia, Italy, and Colombia, it can be shown that at least certain large cities have appreciably lower infant mortality than the country average, which indicates that it is correspondingly higher in rural areas. Thus, comparing in each case the capital city with the country as a whole the figures were respectively: Italy (1958) 36 and 49 per 1,000; Yugoslavia (1957) 53 and 102 per 1,000; Colombia (1956) 81 and 104 per 1,000. On the other hand, the rural/urban contrast tends to be less important in countries where the infant mortality rate is particularly high, as in the United Arab Republic (Egypt) and India, and in some cities, e.g., Calcutta and Bombay, it is currently higher than for the countries as a whole. In this respect, too, the contrasts between countries at different levels of economic development are larger than those between rural and urban areas within the same country.

Although statistics on social and other noneconomic factors are scanty, the general thesis is not in doubt, that in addition to often considerable income disparities, agricultural and other rural workers do lack many of the amenities, services, and other facilities available in towns. These disabilities are no less real because they cannot be measured and must be taken into account in any assessment of rural levels of living.

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[5] *Facilities for education in rural areas.* (International Bureau of Education, Publication No. 192). UNESCO, Paris, 1958.

[6] R. F. Bridgman. *The rural hospital.* World Health Organization, Geneva, 1955, pp. 23-24.

The first sections of this chapter give some account of the levels of living of farm and rural people in countries at different stages of economic development and some indications of how their condition compares with that of people in towns. The somewhat limited data available refer in the main to the early and mid-1950's. They constitute as it were a cross section of the situation at that particular moment of time.

For an inquiry of this kind, however, it is equally important to consider trends in time; to see, for example, whether there is evidence of any general improvement in the well-being of farm people in the last few decades, and whether disparities between levels of living in the countryside and in towns seem to be widening or contracting. Such comparisons, especially when information is available over a fairly long period, may shed useful light on the trends and changes which may be expected in the future.

So far as is known, only one country (the United States) publishes an index aimed directly at measuring changes in the level of farm living. This index is based on a combination of the average value of farm sales and the percentage of farms having certain amenities, including electricity, telephones, and automobiles. This index and the related data indicate an appreciable improvement in the general level of rural well-being in recent years, not only in comparison with the period of depression in the 1930's but also in comparison with the prosperous postwar years.

Between 1940 and 1956, for instance, the number of farms having electricity rose from 33 to 94 percent, those having running water from 22 to 64 percent, those having telephones from 25 to 52 percent, and so on. Rural standards were thus in many respects approaching urban standards, despite the remaining disparity between rural and urban areas generally. This disparity is, however, smaller in each area than in the United States as a whole. There are also indications that differences in farm levels of living in different areas are tending to level out. Thus the level-of-living index is lowest in the South, but this is also the area where the relative improvement has been greatest, so that the disparity of farm incomes between areas is smaller in 1956 than in 1940. The pattern of spending also appears to have become more similar to that of urban areas and of the North.

Direct evidence of a distinct improvement in levels of rural living comes also from Japan, where an index of farm household consumption expenditure (in real terms) is available, not only for recent years but also in comparison with the immediate prewar years. The index of real wages in manufacturing industries, also included in Table III-13, while not strictly comparable, affords some evidence that in Japan rural levels of living have improved considerably more than that of industrial workers in comparison with the 1930's though since 1954 some of the relative gain appears to have been lost.

TABLE III-12. – INDICES OF LEVELS OF LIVING OF UNITED STATES FARM OPERATORS (U.S.A. AS A WHOLE, 1945 = 100)

	United States	Northeast	North Central	South	West
	Indices				
1930	75	102	104	44	93
1940	79	115	104	49	102
1945	100	138	128	65	127
1950	122	152	147	92	145
1954	140	167	161	113	163
1956	145	169	165	119	167

SOURCE: *Farm operator level of living indexes for counties of the United States, 1945, 1950, 1954*, U.S.D.A., Agricultural Marketing Service, Stat. Bull. 204, March 1957.

TABLE III-13. – JAPAN: INDICES OF FARM HOUSEHOLD EXPENDITURES (IN REAL TERMS) WITH, FOR COMPARISON, INDICES OF REAL WAGES IN MANUFACTURING INDUSTRY

	Indices 1934-36 = 100		Indices 1951 = 100	
	Farm household expenditure	Wages in manufacturing industry	Farm household expenditure	Wages in manufacturing industry
1951	109	92	100	100
1952	122	102	112	111
1953	128	107	117	117
1954	129	108	118	117
1955	131	115	120	124
1956	134	126	122	136

SOURCES: Statistical Abstracts, Ministry of Agriculture and Forestry, Japan, 1957. Japan Statistical Yearbook 1955-56.

The index of Japanese farm household expenditure includes a breakdown of expenditure during the postwar period, which also indicates an upward trend in the level of living. For example, from 1951 to 1956, in comparison with an increase in over-all expenditure of 22 percent, food expenditure increased by only 10 percent, while

TABLE III-14. – RELATIVE GROWTH OF THE AGRICULTURAL AND NONAGRICULTURAL DOMESTIC PRODUCT IN SELECTED COUNTRIES

	Period	Average annual growth index of agricultural product [1]		Average annual growth index of nonagricultural product [1]		Ratio of average annual rate of growth of agricultural and non-agricultural product	
		At current prices	At fixed prices	At current prices	At fixed prices	At current prices	At fixed prices
		Percentage				*Ratio*	
United States	1951–57	– 3.9	(– 0.6)	5.0	(4.0)	92	96
Canada	1951–57	– 5.0	(– 1.3)	8.3	(8.8)	88	91
Luxembourg	1950–57	3.6	0.6	10.2	4.5	94	96
Belgium	1951–57	1.5	1.6	4.6	3.1	97	99
United Kingdom	1950–57	3.3	(2.5)	8.2	(2.2)	95	100
Denmark	1950–57	3.7	2.6	6.6	2.3	97	100
Norway	1951–57	5.5	1.5	7.9	4.2	98	97
Finland	1951–57	2.1	0.2	9.1	4.6	94	96
Germany, Western	1950–57	8.0	3.2	12.0	8.6	96	95
Netherlands	1951–57	6.3	(6.0)	9.5	(9.6)	97	97
Israel	1952–57	23.9	....	23.6	....	100	...
Argentina	1951–57	20.6	2.8	17.2	1.8	103	101
Puerto Rico	1950–57	.5	...	8.9	...	92	....
Ireland	1950–57	5.1	(1.9)	5.2	(0)	100	102
Austria	1950–57	10.2	3.1	14.8	7.2	96	96
Chile	1951–57	47.6	1.0	51.5	3.4	97	98
Italy	1950–57	3.3	2.8	10.5	7.0	93	96
Union of South Africa	1950–56	5.3	...	8.4	...	97	...
Lebanon	1950–56	...	5.6	...	6.2	...	99
Yugoslavia	1952–55	27.6	(14.1)	14.9	(17.0)	111	98
Colombia	1950–57	10.0	...	11.7	...	98	...
Brazil	1951–57	22.9	4.6	30.6	11.1	94	94
Greece	1950–57	16.7	9.1	15.7	6.1	101	103
Turkey	1950–57	16.2	5.3	19.3	7.8	97	98
Portugal	1952–57	3.1	3.2	4.6	4.4	99	99
Japan	1950–57	8.6	(– 0.9)	15.4	(8.5)	94	91
Philippines	1950–57	4.2	...	7.1	...	97	...
Ecuador	1950–56	7.1	4.9	8.7	6.4	99	99
Honduras	1950–57	5.5	2.4	7.6	4.1	98	98
United Arab Republic. (Egypt)	1950–54	– 2.3	...	6.6	...	92	...
Peru	1951–56	1.9	...	14.9	...	89	...
Ceylon	1950–57	2.8	...	7.2	...	96	...
Thailand	1951–54	– 2.5	.4	12.3	6.2	87	95
Belgian Congo	1950–57	7.0	5.3	9.9	7.8	97	98
Korea, South	1953–57	44.8	4.6	41.4	6.4	102	98
Pakistan	1950–57	...	1.5	...	4.4	..	97
Kenya	1950–57	9.2	...	13.1	...	97	...
India	1950–56	3.4	3.3	3.5	4.0	100	99
Burma	1950–57	6.6	5.9	9.6	7.9	97	98

SOURCE: United Nations, *Yearbook of national accounts statistics, 1958.*
NOTE: Figures in parentheses are FAO estimates.
[1] Average percentage change from one year to the next.

expenditure on cereals and roots fell by 7 percent. By contrast, expenditure on clothing and "extraordinary expenses" rose by 61 percent and 57 percent, respectively. There was some fall in expenditure on lighting and heating, but expenditure on housing and miscellaneous items each rose more than the over-all average.

For some other countries conclusions may be inferred, although less precisely. In Italy, for example, comparison between an investigation of farm household expenditures in the 1930's with the recent farm family budget inquiry shows that the share of income spent on food has declined, though it is not clear by exactly how much, which in itself is indicative of a higher level of living. This conclusion is borne out by the lessening of the

disparity between urban and farm incomes (see below) at the same time that the over-all per caput income has increased. Improvement in comparison with the period of depression during the 1930's, however, would be expected and is likely to have occurred in most countries.

In most countries, direct evidence of changes and trends in levels of farm living during the postwar period is lacking and resort must be had to national income statistics and other indirect data, which are subject of course to the qualifications noted in the preceding sections.

Development of national income

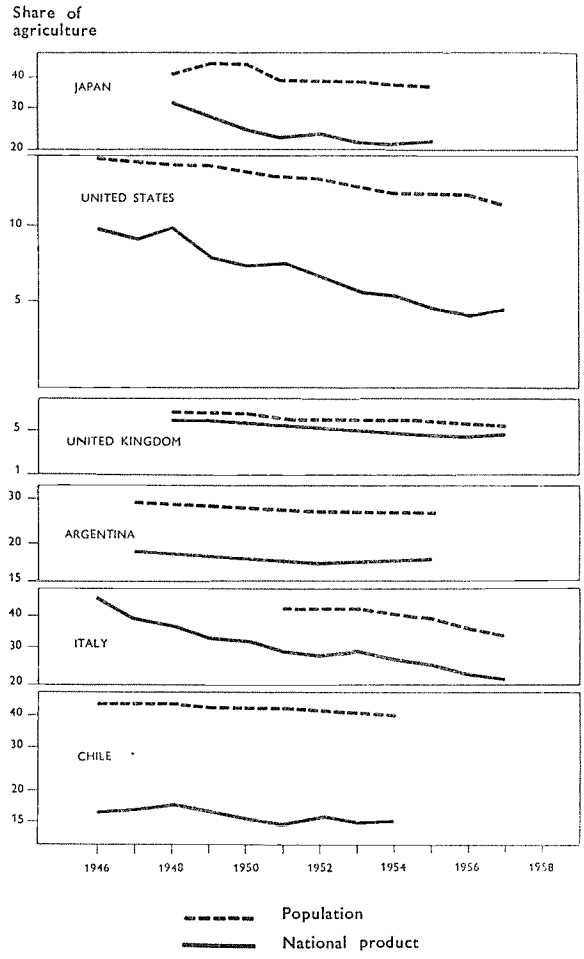
A comparison of the rate of growth of the national product in the agricultural [7] and nonagricultural sectors suggests that in a considerable majority of countries economic development has been faster outside agriculture (Table III-14). This would be expected and is even necessary for sustained economic growth. The growth differential is seldom large, however, the difference in the annual rate of growth exceeding 5 percent only in about one fourth of the countries listed if the comparison is made at current prices. In real terms, i.e., at fixed prices, the growth differentials are still smaller in most countries, indicating that price movements during the period were generally unfavorable to agriculture.

If there were no change in the distribution of the labor force and population between the agricultural and nonagricultural sectors, the slower pace of agricultural expansion would be reflected in a continuously widening gap between average farm incomes and incomes in other occupations. But in practice the percentage of the population depending on agriculture is falling in most countries. The faster this happens the fewer people there will be to divide the shrinking agricultural portion of the national income, and consequently the larger the share falling to each.

[7] The rates of growth in agriculture in Table III-14 are derived from national income statistics and correspond to the concept of "value added." They should not be confused with the indices of agricultural production in Chapter II of this report, which represent the increase in the net farm output of agricultural products, without any deduction for the cost of farm machinery, fertilizers, or any other input costs of nonagricultural origin.

Figure III-10. Recent Trends in Share of Agriculture in Population and National Product of Selected Countries

(Semi-logarithmic scale)



Sources: Data in Figures III-10 and III-11:

Argentina:	*El desarrollo económico de la Argentina*, Anexo, "Algunos estudios especiales y estadistica macroeconómicas" United Nations Economic Commission for Latin America, [E/CN. 12/429/Add.4, 30.6.1958.]
Chile:	*Cuentas nacionales de Chile 1940-1954*, Santiago de Chile, 1957.
Colombia:	United Nations, Analyses and Projections of Economic Development III, *The economic development of Colombia*, Geneva, 1957 [E/CN. 12/365/Rev.1], pp. 16-17.
Italy:	*Sommario de statistiche storiche italiane 1861-1955*, Rome, 1958, and current statistics.
Japan:	S. Tohobata and S. Kawano, *Economy and agriculture in Japan*, (in Japanese), Tokyo, 1956, and current statistics.
United Kingdom:	J. R. Bellerby, National income and agriculture *The Economic Journal*, March 1959; Ch. Booth, Occupations of the people of the United Kingdom, 1801-81, *J.R.S.S.*, 1886, and current statistics.
United States;	*Historical statistics of the United States 1789-1945*, 1949, and current statistics.

The interval between census dates is too long for the change in the percentage of the population engaged in agriculture during so short a period as 1950-56 to be accurately known. Estimates for a few countries, however, are shown in Figure

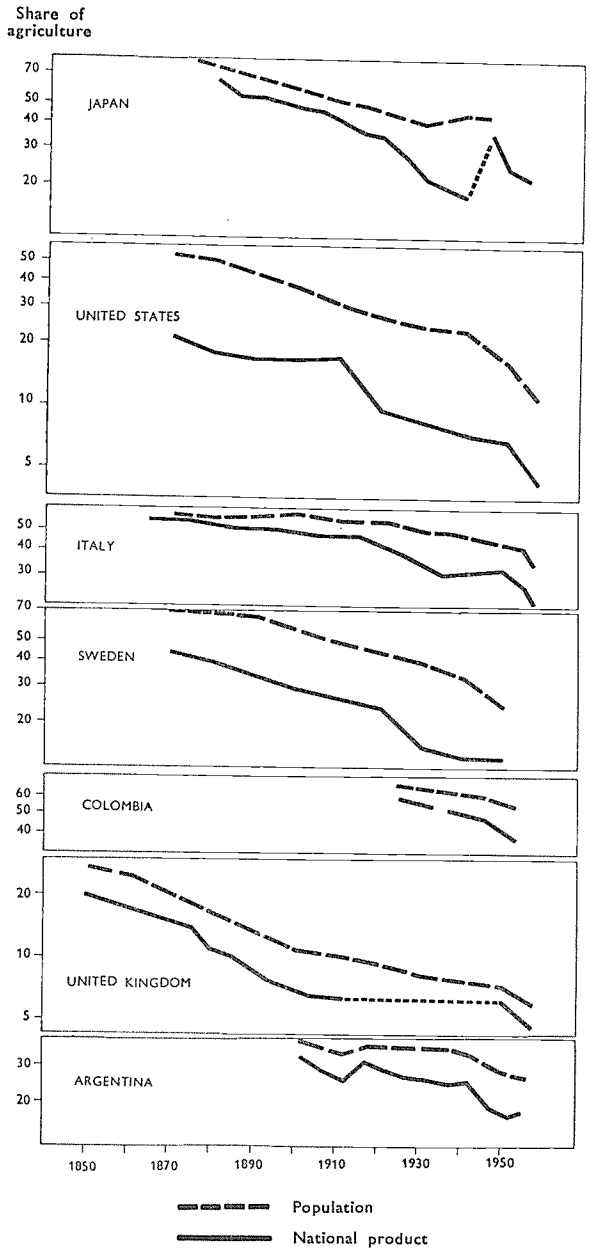
III-10. In most cases the curves showing the share of agriculture in the population and in the national income run fairly parallel, which suggests that in these countries agricultural incomes neither gained nor lost very much ground in relation to incomes of other occupations during the period covered. There appears to be some tendency for the disparity of incomes to widen in the United States and the United Kingdom, but this may well reflect some readjustment following the greater emphasis laid on agriculture during the war. A more marked postwar adjustment is evident in the curves for Japan and Italy, while those for Argentina suggest some recent narrowing of the gap.

These short-term trends can do no more than to throw light on recent developments in the countries concerned. For a few countries similar relationships have been worked out over a relatively long period, and these are of considerable interest in the light they throw on the mechanism of economic development and industrialization (Figure III-11).

The charts suggest that the rather wide disparities between farm and nonfarm incomes in the United States and Sweden date back well into the nineteenth century. In the other countries for which estimates are available (United Kingdom, Italy, Japan, Argentina, and Colombia) there appears to have been smaller income differences for most of the period covered. Some other points seem to be of interest. For example, the temporary narrowing of the income gap in the United States at the turn of the century may have been connected with the rapid colonization of the western parts of the country and the opening up of large export outlets in Europe. In the United Kingdom, Italy, and Japan the disparity seems to have been small in the mid or late nineteenth century when agriculture was still the leading industry, while in all three countries the disparity appears to have increased during the period of rapid industrialization. A similar tendency is visible in Sweden after 1920. In the United Kingdom at least, the greatly increased disparity in the late nineteenth century may also have reflected the same growth of international trade in agricultural products which reduced the income gap in the United States.

In the United Kingdom the gap has again become much narrower in the last decade or more, and the same trend is evident recently in the curves for Japan, Sweden, and Italy. To a large extent these more recent reductions in income disparities probably reflect price supports and other intentional economic and social measures to improve the relative situation of the farm population, including land reform in Japan. In Argentina, too, where there was a widening of the gap during the 1940's, largely as the outcome of policies to speed up industrialization, the gap has recently again tended to narrow.

FIGURE III-11. LONG- AND MEDIUM-TERM TRENDS IN SHARE OF AGRICULTURE IN POPULATION AND NATIONAL PRODUCT OF SELECTED COUNTRIES
(Semi-logarithmic scale)



SOURCES: See under Figure III-10.

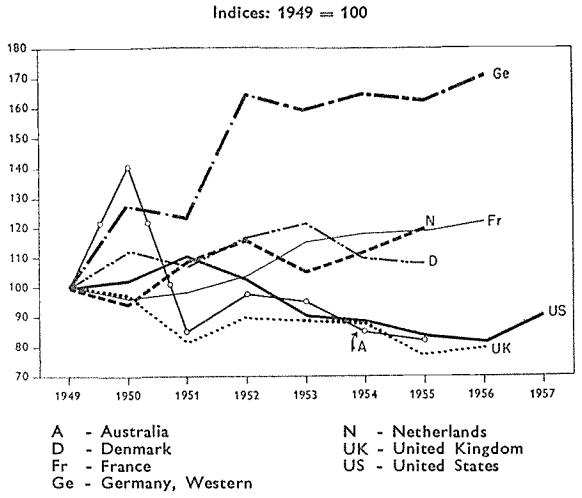
These observations seem to justify the earlier conclusion that there is no particular correlation between the degree of disparity and the actual level of farm income. If the data allow of any interpretation, it may be that when industries expand very fast and urban incomes rise, agricultural incomes usually fail fully to keep pace, even though such boom periods stimulate the demand for farm products. The income disparity thus widens. This situation arises partly because the agricultural population is less mobile than the nonagricultural strata. Income disparities may therefore tend to be greatest at times of particularly rapid industrial expansion, and perhaps especially when this occurs at an early stage of industrialization, though the charts also suggest that an exception must be made in time of war. However, it is difficult to reach any final conclusions on rural/urban income. For example, like all national income data, the data reproduced in Figure III-11 do not take into account nonagricultural earnings. It has proved almost impossible to obtain time series data on agricultural incomes from nonagricultural sources. If, however, agricultural workers were able to get part-time jobs outside agriculture at times of rapid industrialization, the real income disparities may have been narrower and less fluctuating than would be indicated by the charts.

Agricultural incomes

Apart from the regular national income statistics, some countries publish distinct estimates of agricultural incomes year by year. For some European countries estimates of net receipts by the farm sector are made periodically.[8] By adjusting such estimates for changes in the cost of living, an independent indication may be obtained of changes in the income in real terms (Figure III-12), though the estimates as they stand do not of course allow for the gradually declining share of agriculture in the national labor force. This would result in somewhat larger increases in per caput income in agriculture than the rise in the income of the "national farm" as a whole.

[8] FAO/ECE Agriculture Division, *Output and expenses of agriculture in some European countries, 1948-51, 1950-53, 1952-55*. Geneva, 1953, 1955, and 1958.

Figure III-12. Recent Trends in Total Agricultural Income of Selected Countries



Agricultural wages

Just as comparisons between current levels of wages in agriculture and in industry throw a sidelight on existing income disparities between the two sectors, so trends of agricultural wages give indications of a rising or falling level of living in agriculture. It is also of interest to compare these with the trends of wages in manufacturing industry and, more fundamentally, with changes in per caput productivity in manufacture.

The indices of wage rates in the first column of Table III-15 suggest that in most of the eight countries included there has been a considerable improvement in the real earnings of wage workers

Table III-15. – Trends of Wages in Agriculture and Their Relation to the Trends of Wages and Productivity in Industry

	Period	Index of agricultural wages in real terms [1]	Growth of agricultural wages in relation to industrial wages	Increased per caput output in agriculture compared with industry
		Indices: First year of period = 100		
Ireland	1950-56	127	108	122
Netherlands	1950-56	122	98	104
Canada	1950-56	116	92	106
Norway	1952-56	113	100	119
United States	1950-56	111	86	81
Japan	1950-56	111	76	86
United Kingdom	1950-56	102	93	87
Italy	1950-56	98	92	78

[1] Index of agricultural wages deflated by cost-of-living index (Source: International Labour Office, *Year book of labour statistics*).

in agriculture in recent years. The second column compares the rise of wages in agriculture and in industry. Agricultural wages appear to have increased more rapidly than industrial wages in Ireland, to have kept pace in Norway and the Netherlands, and to have fallen behind somewhat in the five other countries.

The final column compares changes in per caput productivity in agriculture and industry, as estimated from national income data at current price levels. The estimates allow for the relative decline in the agricultural labor force, but are of course no more than approximate. Similar estimates at fixed prices would give results rather more favorable to agriculture as in most countries price relationships moved against agriculture during the years under review.

There is perhaps some very rough correlation between the first two columns and the last column of the table. In the United States, the United Kingdom, and Italy agricultural wages seem to have risen to a rather greater extent in relation to industrial wages than would have been justified by the relative growth of per caput output at current prices. Had the growth of productivity been measured at constant prices, however, there would probably have been little or no wage disparity, at least in the two former countries. In the other five countries, on the other hand, agricultural wages appear not to have reflected fully the growth of per caput output in relation to the industrial sector. This lag would have been still greater if the growth of productivity had been measured in real terms, i.e., at constant prices.

Main factors influencing farm incomes and levels of living

The data presented earlier have shown, among other things, that in most countries there are considerable disparities between incomes and levels of living in agriculture and in other sectors. These disparities, however, are much smaller than the differences between agricultural incomes in economically developed and less-developed countries. It may be seen from Figure III-3, for example, that the differences between per caput incomes originating in agriculture in the highest income countries are some ten times those in the lowest income countries. They are thus much larger than the disparities between farm and nonfarm incomes, which in few countries exceed three times and are usually much less. For reasons already discussed, the national income estimates may appreciably overstate the income differences, both between countries and between the agricultural and nonagricultural sectors. Conversions from national currencies to dollar equivalents also tend to exaggerate income differences between countries because of price differences. Nevertheless, there is no doubt that the country differences in farm incomes are much greater than the occupational differences. In other words, the level of farm incomes depends in the first instance on the general income level of the country.

In this final section of the chapter an attempt is made to see how far income disparities between countries and between the farm and nonfarm sectors are influenced by such factors as price levels and price relationships, by productivity per hectare and per man, by differences in size of farms, volume of output, etc., and to find also how far they are keyed to the economic and social structure of the countries concerned. It is hoped that such an analysis may give some insight into the causes of rural poverty and indicate what action may or may not be feasible in the circumstances of a particular country.

Agricultural prices and price relationships

Farm prices are subject to wide fluctuations under free market conditions; agricultural production is highly seasonal and influenced unpredictably by the weather. These factors, together with the characteristically small scale of operations by large numbers of independent producers, make it exceedingly difficult to adjust the supply of farm products to demand. As many agricultural products have rather low price elasticities, a small over-supply is likely to lead to a disproportionate fall in price and *vice versa*. This applies especially to the more perishable products.

Farm incomes are also influenced by cyclical and longer-term price movements. In the past few decades there have been two periods of generally high agricultural prices, corresponding to the

two world wars, but these have been rather quickly followed by a fall in agricultural prices relative to other prices. In addition, the depression of the 1930's led to a price movement very unfavorable to agriculture, while the Korean war led to a marked, but short-lived, rise in agricultural prices during the postwar period. In general, however, the rise in agricultural prices during the Second World War and the subsequent decline were much less sharp than in the case of the First World War, largely because of the widespread adoption of measures of agricultural price control and price support.

Both the inherent variability of agricultural prices and the measures adopted to reduce such fluctuations and to stabilize farm prices and incomes operate unevenly between countries at different stages of economic development. They appear to increase the differences in income levels between the agriculture of different countries and to influence also (though not always in the same sense) the disparities between incomes in the agricultural and other sectors. But, although important, they are not, as is shown later, the most important factors.

The very poverty of most farmers in economically less-developed countries makes them more seriously affected by price fluctuations. Lack of cash, and often indebtedness (together with lack of storage facilities at their disposal) usually forces them to sell on a glutted market immediately after the harvest when prices are lowest. Farmers in economically more developed countries, on the other hand, more often have the financial resources to hold all or part of their output until the period of lowest prices is past. Indeed, the fact that they can do so reduces the magnitude of such fluctuations, and not infrequently further market stabilization results from co-operative marketing or the operation of producers' marketing boards. The financial weakness of farmers in economically less-developed countries thus tends to depress their income still further and to widen the gap between their income and farm income in more developed countries.

The general adoption of price control and price supports in the last two decades has probably done even more to increase price and income differences between economically less and more developed countries. In economically less-developed countries the main funds for investment in industry and other nonagricultural activities must come from agriculture, which in such countries is nearly always the largest sector of the economy. Land taxes and taxes on agricultural exports for general government revenue tend to reduce farm incomes. Moreover, consumers in towns are poor, even though not on average as poor as the agricultural population, and it is important to keep food prices within their reach. In economically less-developed countries, therefore, agricultural price policies have usually been aimed primarily at containing consumer prices and avoiding inflation, and only secondarily at stabilizing farm prices and incomes. In some cases the emphasis on the consumer side has gone so far that it appears to have hampered the badly-needed agricultural expansion and thus to have aggravated the inflationary pressures it was designed to combat. Such policies clearly tend to increase disparities between farm and nonfarm incomes.

The situation is quite different in the economically more developed countries. Since the postwar shortages were overcome, a main objective of policies in many of these countries has been to minimize the disparities between incomes in agriculture and in other occupations, sometimes for motives of social justice, sometimes to slow down the drift of manpower from agriculture for political, defense, social, or economic reasons, e.g., import savings. Domestic agricultural prices have therefore been stabilized by various measures at relatively high levels, often substantially above those ruling in world markets. In addition farm incomes have often been maintained or raised by various subsidies (often designed also to raise efficiency), by the provision of credit on favorable terms, or by the remission of taxation.

Such policies, which in effect constitute large-scale transfer payments to agriculture from other sectors of the economy, could be pursued only to a very limited degree in economically less-developed countries. In a country like India, for example, where some 70 percent of the population is engaged in farming and half the national income is generated in the agricultural sector, there is evidently not much financial capacity in the rest of the community for supporting the farmers. Nor can these measures be extensively applied in countries, even high income countries, which are heavily dependent on agricultural exports, since these must be sold at competitive prices on world markets.

Differences in average returns to farmers in different countries, largely the result of national policies, were shown for a few key commodities

in a number of charts in *The State of Food and Agriculture 1958* (Figures II-11 and 12). The estimates included returns from subsidies, in so far as these were tied to particular commodities, as well as market returns. In general, the highest returns per ton were received in economically more developed countries, particularly importing countries, and these often exceeded by 50 to 100 percent, and occasionally more, average returns to farmers in exporting countries. Few underdeveloped countries were included in the charts for lack of precise data, but for basic agricultural products their price levels are generally relatively low, sometimes so low that imported foods must be subsidized if they are to be sold at current domestic prices.

National price and support policies thus appear to be a factor tending to increase income differences between farmers in economically more and less-developed countries. They are also likely to increase the disparities between farm and nonfarm incomes in economically less-developed countries, and to reduce such disparities in economically more developed countries.

The magnitude of these effects is difficult to estimate with any certainty, though in some countries they must be considerable. In the United States, for example, the total cost of all programs for the stabilization of farm prices and farm incomes in 1958 was $ 2,666 million, to which must be added the subsidy on commodities sold abroad by the Commodity Credit Corporation at less than the domestic price. These figures do not, of course, take into account price support measures which operate by limiting imports or (except where subsidies are paid) by limiting production. They may be compared with total household living expenses of agricultural families in 1955 of $ 15,749 million. It has been estimated recently that, during the past quarter of a century, government programs have increased farmers' net income by 20 to 50 percent in years when price fluctuations would otherwise have hit hardest; and during the last six years, government action is believed to have kept net farm incomes one-third higher than they would otherwise have been. [9]

In the United Kingdom the cost to the Treasury of price and income support policies for the year 1957/58 are estimated at £ 290 million and at £ 240 million for 1956/57. Because of the system of price guarantees through deficiency payments this represents virtually the whole cost of agricultural supports. It may be compared with a net farm income, exclusive of wages to farm workers, of £ 360 million in 1957/58 and £ 314 million in 1956/57. [10]

In Italy, the main objective of agricultural price policy is to stabilize the market for the main farm products. Total disbursements by the Ministry of Agriculture have been of the order of 100,000 million lire annually, or some 4 percent of the contribution of agriculture to the country's national income, though by far the largest part goes into land reform projects and is in large measure in the nature of investment. In Italy, as in most other countries, however, government disbursements in no way measure the total aid received by farmers. Prices of important foods are maintained at a determined level by regulating the volume of imports, and by official intervention in markets. Thus, farm incomes are to some extent supported by means of higher prices to consumers.

At the other extreme may be mentioned some economically less-developed countries where domestic prices are kept relatively low and considerable sums are raised for general revenue through direct and indirect taxes on agricultural exports. In Burma, for example, a large share of the cost of government was for some years met from the profits of the State Agricultural Marketing Board. In Argentina a similar policy was formerly operated through IAPI (*Instituto Argentino para la Promoción del Intercambio*). Similarly, many other countries in Asia, Africa, and Latin America tax agricultural exports directly, or by various indirect means, including multiple and variable exchange rates.

Output per man

Price levels and price relationships thus constitute one main factor determining the level of farm incomes. A second, and even more important factor, is the volume of output per man. It has

[9] The place of government in agriculture. Address by Representative Harold D. Cooley, Committee on Agriculture, U.S. House of Representatives, before the National Farm Institute, Des Moines, Iowa, 21 February 1959; see *Congressional Record*, Appendix, 9 March 1959 - A 1848.

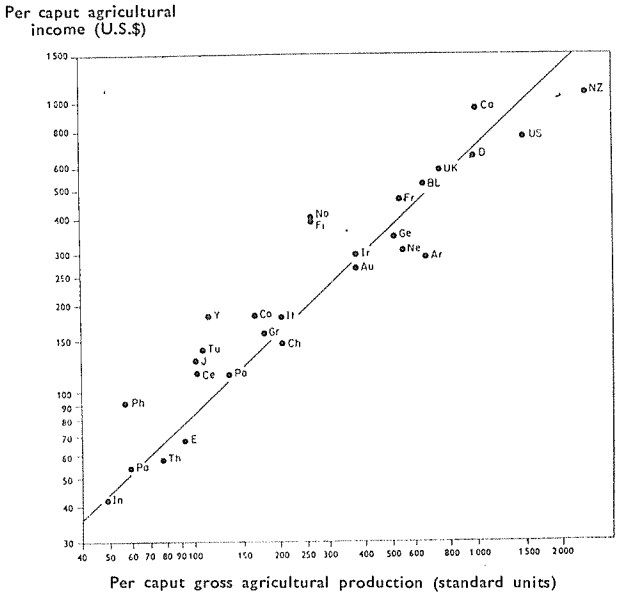
[10] Total agricultural income, including wages paid to hired workers, amounted to £ 611 million in 1956/57 and £ 669 million in 1957/58.

become axiomatic that the incomes of industries and nations depend largely on their productivity. The data in Figure III-13 make plain, should any evidence be needed, that the level of income in agriculture, no less than in other occupations, depends more than anything else on the level of production per person. Some qualifications and differences of concept should be noted about the data correlated on this chart,[11] but they do not impair the general correlation.

The chart shows not only the close relation between per caput production and income; it also brings out that the lower the "gross production" per caput the more closely it approximates to "net production" and income, because so little in the way of production requisites is purchased from other sectors of the economy. At the higher levels of per caput output, on the other hand, the cost of production requisites is high in relation to output. In other words, much more gross production is needed for each dollar of farm income. In the United States, nonagricultural inputs cost nearly half the value of the output (net of feed, seed, and interfarm sales) and nearly twice as much must be produced to provide one dollar of net farm incomes than in India, where such costs represent only a small fraction of the value of the agricultural output. Between these extremes there are all degrees of variation: in European countries, for example, nonagricultural production costs vary from about 10 to 30 percent of the value of the agricultural output. It seems evident that, where they occur, the additional production costs are, on average, profitable to producers. But evidently, too, additional production requisites cannot be used unless funds are available to buy them, and will not be profitable to use unless a market can be found for the additional quantities produced.

FIGURE III-13. PER CAPUT NATIONAL INCOME ORIGINATING IN AGRICULTURE IN SELECTED COUNTRIES IN RELATION TO PER CAPUT AGRICULTURAL OUTPUT

(Logarithmic scale)



Ar	- Argentina	Ir	- Ireland
Au	- Austria	It	- Italy
BL	- Belgium-Luxembourg	J	- Japan
Ca	- Canada	Ne	- Netherlands
Ce	- Ceylon	NZ	- New Zealand
Ch	- Chile	No	- Norway
Co	- Colombia	Pa	- Pakistan
D	- Denmark	Ph	- Philippines
E	- Egypt	Po	- Portugal
Fr	- France	Th	- Thailand
Fi	- Finland	Tu	- Turkey
Ge	- Germany, Western	UK	- United Kingdom
Gr	- Greece	US	- United States
In	- India	Y	- Yugoslavia

As shown later, both these conditions are frequently not met in countries in the early stages of economic development.

There appears to be rather little correlation between the level of agricultural incomes and the average size of the farm in the countries included in Figure III-13. It is true that some of the high income countries are sparsely settled, with a large area of agricultural land per man, and that the countries where farm incomes are lowest have congested agricultural populations and very small farms. But the contrasts between countries which have more or less the same area of agricultural land per man are so striking that not too much importance can be attached to the physical area. Average farm incomes in Japan, for example, are about twice as high as in Thailand, though Japanese farms tend to be smaller and the natural fertility of the soil is probably lower. Again, agricultural incomes in densely populated Belgium appear to average appreciably higher than in Argentina with

[11] The per caput incomes charted in Figure III-13 correspond to the per caput incomes estimated from national income data in Annex Table 14: they are no more than the dollar equivalent of a calculation in national prices. In the estimates of per caput production, on the other hand, the same price weightings have been used for all countries. Allowance has been made for any quantities used as raw material for further agricultural production (e. g., grain for seed or livestock feeding), but they are gross production estimates in the sense that no deduction has been made for the cost of nonagricultural inputs, such as machinery and fertilizers. This is in contrast to the income data, which in effect represent added value. Both income and output data relate to the average for the period 1952-54. They have been calculated on a per caput basis in relation to the estimated total agricultural population in 1953.

TABLE III-16. – AVERAGE LABOR TIME REQUIRED IN SELECTED COUNTRIES (A) PER AREA OF CROP OR PER MILK COW, AND (B) PER 100 KILOGRAMS OF PRODUCTION

	Period	Wheat	Rice	Potatoes	Cotton	Tobacco	Milk
A. AVERAGE NUMBER OF DAYS SPENT PER HECTARE OF CROP OR PER MILK COW [1]		*Labor days per hectare or per animal*					
United States	1950	1.1	3.6	17.0	17.5	115.4	12.5
	1910	3.8	13.6	18.8	28.7	88.0	14.6
United Kingdom	1948–49	7.1	—	43.2	—	...	15.2
Belgium	1950	13.6	—	50.4	—	220	20.8
Chile	1952	20	47	59	...	...	...
Greece	1939	26	113	132	118	328	30
Colombia	1953	34	65	86	55	318	...
Japan	1954–56 [2]	122	185	95	...	960	...
		Wheat	Rice	Potatoes	Sugar beet	Tobacco	Milk
B. AVERAGE HOURS OF WORK PER 100 KILOGRAMS OF OUTPUT		*Hours per 100 kilograms of output*					
United States	1950	1.0	1.3	1.0	0.5	81	5.3
	1910	4.1	5.8	2.8	1.3	96	8.4
United Kingdom	1948–49	2.8	—	2.3	...	...	5.9
Belgium	1950	4.2	—	1.7	0.9	97	6.1
U.S.S.R.							
State farms	1958	1.8	...	4.2	2.1	...	9.9
Collective farms		7.3	...	5.1	3.1	...	14.7
Chile	1952	17	14	6	...	...	...
Greece	1939	25	43	18	...	50	...
Colombia	1953	35	34	16	...	279	...
Japan	1954–56 [2]	54	49	7	4	600	...

SOURCES: United States : 1950, U.S.D.A., Agricultural Research Service, *Statistical Bulletin*, 144, 161. 1910, U. S. D. A., *Technical Bulletin* 1020 (1950).
United Kingdom: H. T. Williams, Changes in the productivity of labour in British agriculture, *Journal of Proceedings of the Agricultural Economics Society*, Vol. 10, No. 4, March 1954.
Belgium : A. G. Baptist and H. Waterschoot, *Etudes sur la petite exploitation agricole*, 2. *Le travail* (1950, processed).
Greece : Chr. Evelpides, *E georgia tes Ellados* (1944).
Chile : *The economic development of Colombia*, United Nations, p. 200 *sq.*
Colombia : Same as for Chile.
Japan : *Statistical Abstracts* of Ministry of Agriculture and Forestry, Japan, 1957; *Statistical Yearbook* of Ministry of Agriculture and Forestry, Japan, 1954.
U.S.S.R. : *Pravda*, 16 Dec. 1958 (article by N. S. Khrushchev).

[1] In the United States, United Kingdom, Belgium, Colombia, and Japan, data are given in hours; they have been here converted to days on the basis of 10 hours to a day. – [2] 1956 for wheat and rice, 1954 for other products.

its large areas of fertile land in relation to population.

It is of course obvious that in countries where farms are very small there is a limit to the extent to which farm incomes can be raised, and that where a rising farm population leads to an increasing subdivision of holdings the difficulties of raising farm incomes will be correspondingly increased. However, since production in most countries increases faster than the area of cultivated land, and, in some of the more industrialized countries, even in spite of a contraction of the agricultural area, there is certainly in all countries a considerable potentiality of increased agricultural production on the existing farm area, and one which constantly tends to become greater with the development of agricultural science, with better farm management, or with a more appropriate layout and structure of holdings. In most countries, too, additional land could be brought under cultivation or cultivated more intensively, e.g., by irrigation, and drainage, though how much cannot be estimated without detailed surveys of natural resources.

In view of the great differences of natural conditions of soil and climate between and within countries, international statistical comparisons of per caput income and the density of the rural population would be largely meaningless. Even within a country, a close subdivision by natural regions may be necessary to show any relationship between income and size of farm if there are great variations in the fertility of the soil or of rainfall, or if some areas are irrigated and others not.

More significant comparisons may be made of the efficiency of labor in different countries and the average output which results from each hour or day of work, though they present many intricate problems. Even though the input of work time per hectare under each crop and per head of each kind of domestic animal varies enormously within any country, on account of topography,

soil, and other factors, and the techniques are gradually improving in many countries, yet the contrast between countries are so huge that not all of the comparison is lost in the margins of error. Table III-16 shows the average labor time expended for selected branches of production, expressed as days' work per year per hectare under crop and per head of stock; data from countries in which they are expressed in hours have been converted into days, assuming 10 hours to a full day of farm work. As unit yields are different, output per man-hour, shown in the second half of the table, is even more important, and these data are also presented graphically in Figure III-14.

The figures are of course weighted averages of various practices which occur side by side in the countries. Thus, the hours of labor per hectare of cotton in the United States vary from 87 to 187, depending on whether mechanical or manual harvesting is used. The average of 175 for 1950 is now likely to have been considerably reduced. Similarly, the hours of labor per milk cow in the same country varied between 111 to 140 hours, according to whether milking was done mechanically or manually. The data from Europe are subject to similar qualifications. Those from the United Kingdom refer to 1948/49 and are likely to have been reduced with further mechanization. Those from Belgium may be taken as indicative of the level on partly-mechanized small farms in continental Europe. The estimates for Greece, although derived from studies made in the 1930's, are still largely used in the country where, however, mechanization has made some progress in cereal cultivation. The level in Greece and Colombia is also, in a general way, indicative of the efficiency of nonmechanized farming in several countries in the Mediterranean areas and in South America. From the U.S.S.R., several indications suggest that the "target" efficiency is less than the average in the United States, in some cases even below the United States level of 1910, while the efficiency actually achieved is far lower and in many cases even below what is achieved on small farms in Europe. [12]

By and large, the first part of the table underscores the fact that efficiency of work actually done is partly a response to the availability of land per man. The large area per man in the United States has been a challenge to increase efficiency, and the small area per man in Japan has been a challenge in the opposite direction: to find useful employment for as much labor as possible. A few more data can be quoted to support this point. For example, cotton cultivation in Egypt absorbs about 600 days per hectare under crop. [13] In India and Pakistan, between 100 and 200 days per year are spent per hectare under rice, and proportionately large numbers on other crops. [14]

The data from the United States for 1910 have a particular interest in that they show that tractors and mechanization are not the only way to reach high productivity in farming. There were about 1,000 tractors in the United States at that time, but mechanical harvesters and multiple hook-ups of plows were drawn by horses. Animal draft power, when sufficiently plentiful, can evidently provide a high level of productivity, as still evidenced on many Australian farms. Conversely, the slow impact of large-scale mechanization on labor efficiency on collective farms in the U.S.S.R. suggests that technical and managerial skill is as important for high productivity as the level of mechanical equipment.

The data in the second part of the table bring out the scope for gains in efficiency and productivity that must exist in most countries. Yet, the productivity levels shown are not only or always the *cause* for low production per man. When farm labor is plentiful and land scarce, there is likely to be more concern about maximizing production than productivity.

The enormous differences of productivity for certain crops, notably wheat, do not apply to the same degree to all enterprises on the farms. As seen from the data on milk cows, there may be much smaller differences between countries, even though New Zealand, for instance, has even lower work time requirements for livestock than the United States (about one half in respect of milk cows and sheep). [15] At the opposite extreme from

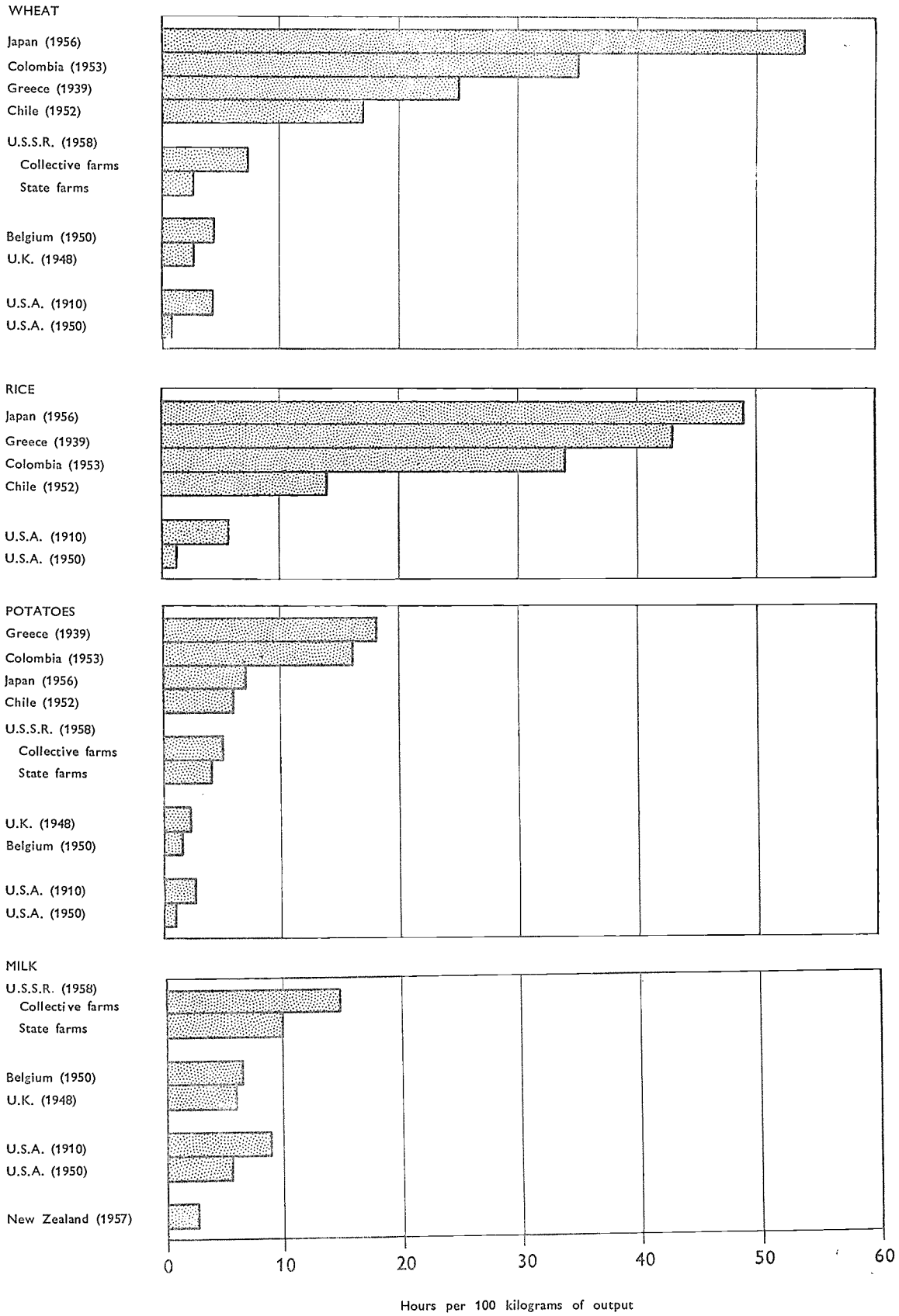
[12] *Puti snizheniia zatrat truda v sel'skom khoziaistve*, Moscow, 1956.

[13] R. P. Dunn, *Cotton in Egypt*, Memphis, Tenn., 1949.

[14] *Report on the investigation into the economics of jute growing* [with comparable data on rice], *season 1954/55*, by K. C. Basak and S.M. Ganguli, Indian Central Jute Committee. Calcutta, 1956. V. G. Panse, *Estimation on the cost of production of crops*, Indian Central Cotton Committee. New Delhi, 1954. *Report on the Survey of rural credit and unemployment in East Pakistan, 1956.* Dacca University Socio-Economic Survey Board. Dacca, 1958.

[15] Estimated from data supplied by the New Zealand Department of Agriculture and based on Government Statistician's sample survey of 1,500 farms. The result is in accordance with global estimates that can be made on the basis of current statistics on crops, livestock, and agricultural labor force.

FIGURE III-14. AVERAGE LABOR TIME EXPENDED PER 100 KILOGRAMS OF OUTPUT IN SELECTED COUNTRIES



wheat is tobacco, where American producers have increased rather than decreased the input of work time per acre. Despite some increase in yields, the productivity of a man-hour has remained almost constant. A nonsubstitutable crop in which quality is important, however, can rely on the price mechanism to raise returns to farmers.

Productivity per man for the agriculture of the country as a whole thus depends not only on the efficiency of operation for particular crops, but also on the share of different commodities in the country's national production. Moreover, the relative shares are subject to change in response to demand and price movements, and other factors. Such changes modify the scope for reducing labor input and enhancing the productivity of each work hour.

Some other factors which influence agricultural productivity may be noted. Employment in agriculture is seldom complete all round the year. To achieve full employment takes skillful management of the farm as an enterprise, and may not be possible at all in regions where the climate imposes long seasons of inactivity. Apart from seasonal unemployment, the work to be done is in many countries less than the agricultural labor force could cope with; this often leads to the adoption of work practices which are less efficient than would be possible given the degree of technical development of the country. If uniform work standards are applied to calculate the global sum of work to be done in agriculture in various countries, the result suggests that in most countries the same output could be achieved with more efficient practices with from three quarters to one third of the existing agricultural labor force. There are thus wide differences in the level and intensity of employment, and only a few of the most developed countries approach full or nearly full employment for their agricultural workers.

This does not mean that all of the redundant fraction could be removed from agricultural production as soon as employment became available to them elsewhere, unless this took the form of part-time employment without change of domicile. A rapid transfer of manpower on a large scale would often result in a fall in agricultural production, unless structural adjustments and technical improvements were made at the same time. For example, the small size and fragmentation of holdings may tie up more labor on farms than would be needed for the same production under a more rational layout. Again in many less-developed countries the whole labor force is fully stretched at the time of harvest, and in some instances appears to place a ceiling on the area of land which can be cultivated.

Pre-conditions for increased agricultural productivity

Enough has been said in the few preceding paragraphs to make it clear that the problem of rural poverty could not be solved simply by improving the technical knowledge and equipment of farmers in the less-developed countries to a point which would enable them to match the levels of productivity of farmers in advanced countries, even though this were combined with improvements in the systems of marketing and credit which would enable them to reap the full benefits of their labor. A high level of farm productivity, and with it farm incomes comparable with those in developed countries, can be reached only as part of a general economic advance in the less-developed countries.

Put in its simplest terms, the crux of the problem is this: in a country with a highly productive agriculture each farm family produces enough to feed itself and some 10 to 20 nonfarm families as well. But for this to be possible there must be 10 to 20 nonfarm families to feed. In a country in which half the population is engaged in agriculture there is clearly only one nonfarm family to provide a market for the farm family's output. Moreover, this nonfarm family, as has been shown earlier, is likely to have a much lower level of consumption than a nonfarm family in an industrialized country, so that the market for farm products is still further restricted.

These considerations indicate that the industrial structure of a country, by limiting demand, places an upper limit on output, but it by no means follows that this level of output is always reached. It is shown in Chapter IV that in a number of countries at the present time institutional factors or price regulations diminish incentive to farmers so that production does not reach the existing level of demand and increasing reliance has to be placed on imports. This in turn is likely to react back on the rate of industrial and other noneconomic development.

An exception to the limit placed by the level of

demand on the growth of productivity and production arises, of course, in the somewhat limited number of cases where a large and expanding export market can be found for the agricultural products of the less-developed country. It has been shown that in agricultural exporting countries higher levels of income are often enjoyed by farm producers than in nonexporting countries at a comparable level of economic development. But, for some decades, the volume of international trade in agricultural products has been expanding slowly, largely because of the increasing use of substitute raw materials, and because greater farming productivity enables industrialized countries to produce a bigger share of their own requirements of many commodities. Consequently, there are relatively few cases where an expanding export market makes possible a breakthrough from the restrictions of the limited domestic market in economically less-developed countries. Until their own urban markets become larger the agriculture of economically less-developed countries must perforce be largely subsistence agriculture.

There is yet another complication which emerges from a study of the relative rates of growth of farm and nonfarm population in the process of industrialization. For a considerable time to come it seems clear that most economically less-developed countries must look forward to an increase in the *absolute numbers* of persons dependent on agriculture, even though the *percentage* of the population dependent on agriculture continues to decline. The basis for this conclusion is considered below. The practical implications for most economically less-developed countries, and especially for those in Asia and in some parts of Central America where the density of the rural population is already high, are serious and disturbing. It means that for many years to come, in countries where the scope for an enlarged agricultural area is limited, the area of farm land available to each farm family will continue to contract. Much of the benefit resulting from higher yields will thus go to offset the shrinking area of land per farm family, and the opportunities for increasing farm incomes and levels of living will be to some extent reduced.

There appears, however, to be one way of breaking through this economic strait jacket, at least in some degree, and that lies through education. The point has been made earlier that in many cases the dietary levels of farm families are unnecessarily low because of ignorance, as with little or no cash expenditure they could produce many of the foods in which their diet is deficient. This applies especially to fresh fruit and vegetables, and to a scarcely less extent to livestock products. It often applies also to fuel which might be produced on small woodlots on waste land unsuitable for cropping.

Education, using the term in its broadest sense, can also be used to show farm people in economically less-developed countries how, by individual and co-operative effort, they can utilize much of their time at present unoccupied in farming to obtain many of the nonagricultural amenities which they lack, especially in the direction of housing, drainage and sanitation, roads, schools, and the like. This concept of self-help lies behind the efforts toward "community development" now being worked out in India and other economically less-developed countries. The possibilities are discussed more fully in Chapter IV. Community development and education in living constitute a new and promising approach to the problem of rural poverty which was never tried on any extensive scale in the earlier industrialized countries. It seems to offer a means of overcoming at least the worst disabilities of rural poverty at a more rapid rate than would be possible under the free-enterprise type of economic development of the past.

With this introduction, attention may now be given to a more detailed consideration of the process of the migration of labor from agriculture to other occupations, which is at the core of economic development in nearly all societies[16].

The transfer of labor from agriculture

To put the matter in perspective, it may be useful to start with the examples of some countries which have industrialized earlier. Figure III-15 shows long-term movements for the total, agricultural and nonagricultural, population (or labor force) in Denmark, the United States, the U.S.S.R., Japan, and in two less industrialized countries, Argentina and the United Arab Republic (Egyptian Province).

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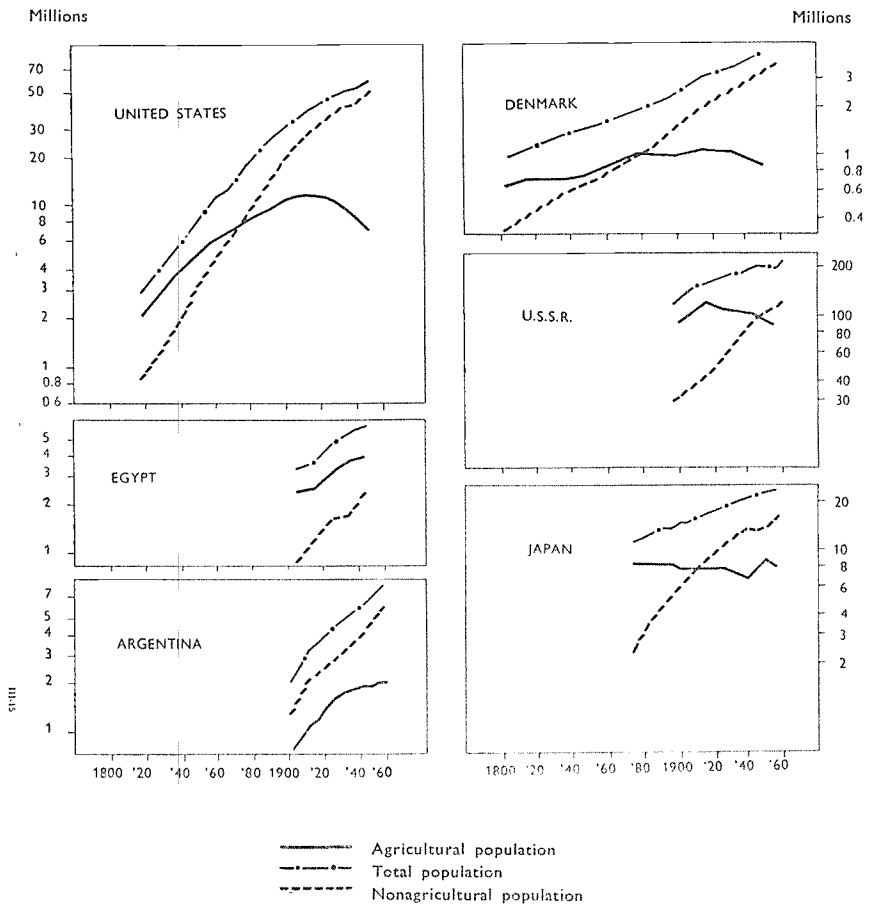
[16] Further detail and discussion in: Agriculture in a growing population, by F. Dovring, *Monthly Bulletin of Agricultural Economics and Statistics*, FAO, Aug.-Sept. 1959.

FIGURE III-15. LONG- AND MEDIUM-TERM MOVEMENTS OF TOTAL, AGRICULTURAL, AND NONAGRICULTURAL POPULATION IN SELECTED COUNTRIES

(Semi-logarithmic scale)



For Denmark data are available since 1800 for the total population dependent on agriculture and on other industries, and the curves may be taken as representative of a rather fully-settled country with a moderate growth of population. Until about 1880 the farm population continued to rise, but at that date it was overtaken by the nonfarm population which had grown considerably more quickly. Since 1880 the nonfarm population has continued to rise at an undiminished pace, but the farm population showed practically no further growth and since 1920 has started to fall. This is now the general situation in Western Europe. The Organization for European Economic Co-operation (OEEC) recently published estimates which showed that in nearly all countries of that region the volume of agricultural employment had fallen, on average, by about 20 percent between 1947/48 and 1956. During the same period the output of the same countries had increased by about 30 percent. Productivity per man had thus risen by some 60 percent as a result of increased mechanization and improved agricultural methods.

For the remaining countries shown in Figure III-15, except the U.S.S.R., the data relate not to the total population, but to the labor force. The curves for the U.S.S.R. closely resemble those for Denmark, except that the nonagricultural population appears to have caught up with the numbers in agricultural employment, and the latter to have begun to decline only since the Second World War. In the United States, where population growth aided by immigration was much faster, the curves are steeper, but as in Denmark nonagricultural labor overtook the numbers engaged in agriculture about 1880. For another 20 to 30 years, the numbers engaged in agriculture continued to rise (though more slowly than nonagricultural employment) as the western part of the country was still being opened up. Since 1920, however, there has been a

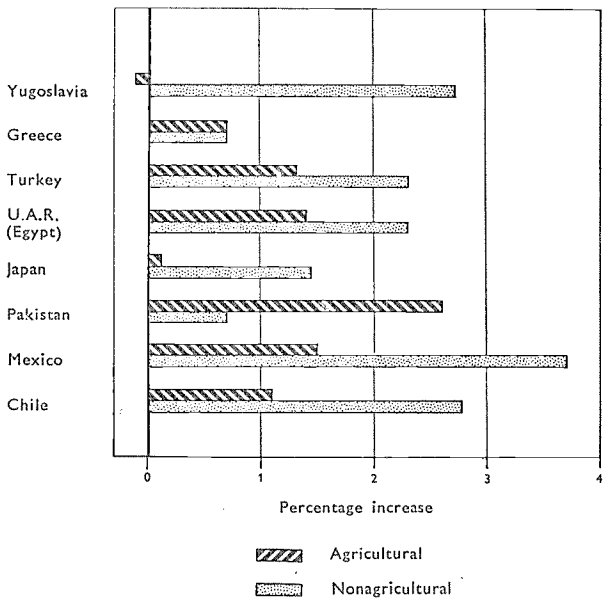
continuous fall in the agricultural sector. Finally, in Japan, the only example to date of the industrialization of a densely-populated Asian country, the characteristic steep rise in nonagricultural employment was interrupted temporarily by postwar difficulties, but has since been resumed. The farm population, however, has declined very slowly. In spite of industrialization the pressure on the land appears to be little less intense than in 1880, when these estimates begin.

The data for the two less-industrialized countries take on a greater significance against this background. Thus, the curves for Argentina since 1900 closely resemble those for the United States of some 20 to 30 years earlier. Nonfarm labor was already more numerous than the farm labor force in 1900, but it is only recently that the employment in agriculture shows signs of falling. The curves for Egypt show a still earlier stage of economic development. The numbers engaged both in agriculture and nonagricultural employment rose up to 1947, the latest available figures, but although agriculture was still predominant the rate of growth of the farm population was perceptibly slowing down.

Since the war the situation in most of the economically less-developed countries has been considerably affected by the general speeding up of population growth as a result of improved health services. In most countries, this seems likely to delay the time when nonagricultural employment overtakes agricultural employment and when the farm population begins to decline. In general, statistics for these countries are available only for relatively short periods; but the data for representative less-developed countries in Table III-15 and Figure III-16 suggest that in all instances (except Yugoslavia) the farm labor force continues to increase. The increase, however, is always at a considerably slower rate than nonfarm employment (except in Greece and in Pakistan, where the reverse is the case, perhaps partly as a result of partition). Thus, the density of the rural population and the pressure on the land continue to increase, even though the percentage of the population engaged in agriculture is declining. The problem of raising farm incomes is correspondingly greater.

Differences between the growth of the total population and the male labor force (columns 1 and 2 of Table III-17) reflect mainly changes in the age composition of the populations as the

FIGURE III-16. RECENT AVERAGE ANNUAL PERCENTAGE CHANGE IN AGRICULTURAL AND NONAGRICULTURAL LABOR FORCE IN SELECTED COUNTRIES



result of changing birth and death rates. Of more significance for the present inquiry are the differences between the annual growth of the nonfarm labor force and the total labor force (column 5) or the total population (column 6). These differences reflect the rate of change from agricultural to nonagricultural employment. Large differences of 2 percent or more, as in, e.g., Yugoslavia, and in the short-term in Mexico, Brazil, and Venezuela, indicate a rapid rate of industrialization. Differences of under 1 percent represent a relatively slow rate of industrialization. Short-term trends are naturally more subject to incidental influences. For instance, the censuses in Egypt show a rather speedy shift between 1917 and 1927, while the trend between 1927 and 1937 appears slightly negative (slightly increasing percentage in agriculture). Medium-term trends may therefore be more indicative of what can be anticipated for the future.

Further information on economic growth in underdeveloped countries may be had from data on urban and rural population; some long-term and medium-term trends in urbanization are shown in Figure III-17. Urban populations tend to grow more consistently with general population increase than do nonagricultural populations. Both in India and Iraq, as in many other countries in Asia and Africa (and to a less extent in Latin America and even southern Europe), cities tend to grow faster than urban occupations, because with a rapid

TABLE III-17. – DIFFERENTIAL RATES OF GROWTH IN AGRICULTURE AND OTHER INDUSTRIES

	Period	Percent annual rate of growth				Differences		Percent of population in agriculture at end of period
		Total population	Total male manpower	Agricultural male manpower	Nonagricultural male manpower	Column (4) minus column (2)	Column (4) minus column (1)	
		(1)	(2)	(3)	(4)	(5)	(6)	(7)
		Percentage						
MEDIUM-TERM TRENDS								
Yugoslavia	1931–53	0.9	0.7	– 0.1	2.7	2.0	1.8	60
Greece	1928–51	0.9	0.7	0.7	0.7	0.0	– 0 2	49
Turkey	1935–55	2.0	2.0	1.3	2.3	0.3	0.3	64
United Arab Republic (Egypt)	1917–47	1.3	[1] 1.6	1.4	2.3	0.7	1.0	63
Morocco	1936–52	1.6	1.2	0.2	3.7	2.5	2.1	65
Union of South Africa	1936–51	1.9	1.0	0.0	1.95	0.95	0 05	47
Japan	1930–55	1.3	1.0	0.1	1.45	0.45	0.15	35
Pakistan [2]	1931–51	1.2	2.0	2.6	0.7	– 1.3	– 0.5	76
Mexico [2]	1930–50	2.2	2.2	1.5	3.7	1.5	1.5	58
Chile	1930–52	1.5	2.0	1.1	2.8	0.8	1.3	37
Colombia [2]	1925–53	2.2	1.8	1.0	3.2	1.4	1.0	54
SHORT-TERM TRENDS								
United Arab Republic (Egypt)	1937–47	1.7	[1] 2.2	0.1	3.7	1.5	2.0	63
Philippines	1939–50	1.9	2.0	1.4	3.7	1.7	1.8	69
Thailand	1937–47	1.9	2.6	2.4	3.8	1.2	1.9	82
Mexico [2]	1940–50	2.7	3.6	2.4	5.5	1.9	2.8	58
Brazil	1940–50	2.4	2 2	1.2	4.2	2.0	1.8	63
Venezuela	1941–50	3.0	4 3	1.5	7.5	3.2	4.5	48

[1] In employment. – [2] Manpower figures relating to both sexes.

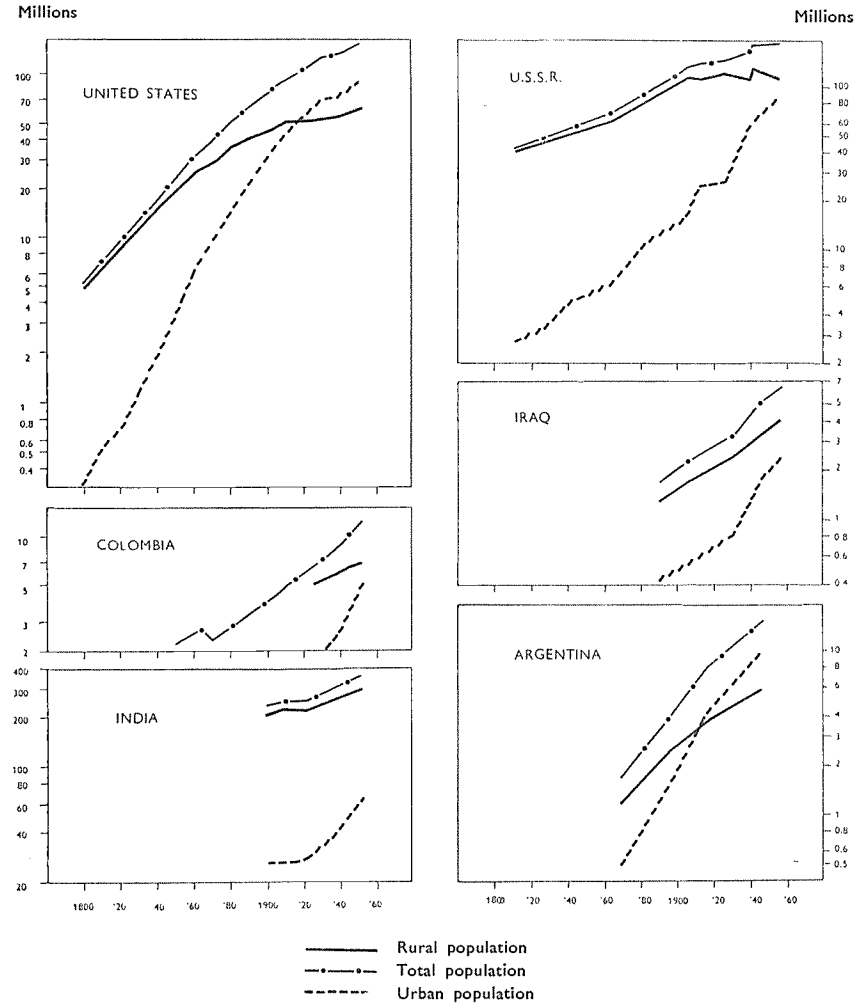
population increase in the rural areas, people are squeezed out of farming. They cannot find enough seasonal occupation in agriculture to sustain themselves, and even odd jobs in the cities may be more favorable despite their irregular character. The data for "nonagricultural employment" discussed above should be read with this point in mind; an increase in city slums is clearly not a basis for higher income in general.

The urbanization trend in the United States and Argentina has been very similar, based partly, in both cases, on immigration of urban people from Europe. The trend in Colombia (1925-53) also shows a remarkable resemblance to that of the United States between, say, 1870 and 1900. The remaining charts are not influenced by immigration, although that for Iraq reflects the rapid resettling (through high natural increase) of a once densely-settled country which thereafter for centuries was in a state of devastation. Unstable conditions in a countryside, crowded in relation to its far from developed resources, have forced large numbers to the cities, where, however, many of them cannot be put to productive work. Although the period covered in Figure III-17 was not a very prosperous one for India, it is interesting to note that the urbanization trend resembles that of Russia between 1880 and 1920. If this urbanization (or equivalent rural industrialization) can be backed up by useful employment, as seems to be indicated by recent data on industrial employment, the country may be on the verge of a major shift in the occupational structure of its population.

INCOME DISPARITIES AND ECONOMIC GROWTH

The long- and medium-term perspectives discussed in the preceding paragraphs suggest that, looked at in the round, income disparities between the agricultural and nonagricultural sectors may be an essential motivating force in economic development and industrialization. In a country in the course of economic development, nonagricultural industries with higher levels of productivity will attract at least part of the surplus farm population by offering higher incomes as well as a more varied kind of life. Although the rural exodus will ease the pressure on the land, the gap between rural and urban incomes may continue to widen. In extreme cases, the movement away from the land will be larger than the capacity for employment

FIGURE III-17 LONG- AND MEDIUM-TERM MOVEMENTS OF TOTAL, URBAN, AND RURAL POPULATION IN SELECTED COUNTRIES
(Semi-logarithmic scale)



in other industries, and the towns will be congested with unemployed or underemployed unskilled labor. As shown above, experience in countries already industrialized indicates that there is seldom any rapid fall in the farm population until non-agricultural employment represents considerably more than half the total.

Within the agricultural population of most countries, differences in income are often wide, on the whole wider than between various groups of factory workers. The general income disparity does not therefore mean that all farmers or farm workers have less income than urban people. Many already have more or less parity of income, and for these the urban "pull" is not felt at all, at least not for economic reasons. On the other hand, those who cultivate holdings very much below average, and even more the landless farmhands, are likely increasingly to feel that "pull" the farther down they are on the income scale. This is probably why there can be a considerable migration from farms into urban industries even in a country like Japan, where the general income disparity is small when measured by the yardstick of consumption surveys. In any circumstances, however, there is likely to be some time lag in the movement of labor out of agriculture relative to income incentives, especially in the older generations; for this reason income disparities unfavorable to the agricultural population are likely to persist in most countries.

THE EFFECT OF AN EXPANDING MARKET FOR AGRICULTURAL PRODUCTS

Emphasis has been placed in the foregoing discussion on the importance of a gradually declin-

ing proportion of the population in the agricultural sector as a means of raising agricultural productivity closer to that in other occupations and thus reducing income disparities with the rest of the economy. Historically, this appears to be the more important factor, but there is another which may also contribute powerfully to the same end. The growth of outlets for agricultural commodities, which makes economically feasible the major increases in productivity, depends not only on the size of the nonagricultural sector, but also on its income level. Higher incomes lead to an increased demand, especially for livestock products, fruit and vegetables. These products are not only more expensive, but also more labor intensive, than cereals and other traditional products of arable farming, their cultivation being on the whole less easily mechanized. The milking machine has not yet had the impact of the tractor and the combine-harvester. Mechanization of the harvesting of leafy and root vegetables came late and so far has had relatively little effect on labor requirements. Fruit crops of all kinds are rather resistant to radical reductions in the labor requirements.

The more "mechanization resistant" an item remains, the more it is likely to continue to command a high unit price, and one tending to rise with the income level of the community as a whole. The case of tobacco in the United States, where the volume of output per man-hour has not increased, was noted earlier. In most countries, there is still a long way to go before the population has satisfied its desire for the products of labor-intensive farm enterprises. Even in Western Europe the price trend for animal products, other than milk products on export markets, has remained reasonably steady in recent years, and there has been little threat to this part of farm employment.

The growing demand for more labor-intensive and relatively "mechanization-resistant" branches of production in agriculture is likely to be of increasing importance for many less-developed countries, first for their export products, and later for their own expanding domestic demand for the same products, when urban industries expand and income levels become higher. In the Mediterranean region, economic development is likely to favor first an expansion of fruit and vegetable production for export to markets in Western Europe, and later, when the Mediterranean countries themselves have become more industrialized, a growing domestic demand within each country, both for fruit and vegetables and for livestock products. In tropical countries, similar trends may develop toward more emphasis on, e.g., tropical tree crops. Such factors are likely to become a powerful counterbalance to the opposite trend of cutting down labor requirements through more mechanical and rational means of production. Even the overseas countries of recent settlement, which have so far specialized in labor-extensive forms of production, may have to shift to a more intensive pattern in the future as their populations increase. Whether this will mean more or less manpower in agriculture than at present cannot be forecast, but it will certainly mean more than if there were no change in the pattern of demand.

There is thus no means of telling beforehand just how large an agricultural population will ultimately prove rational in each country, when it becomes developed to the point of spending less than half the household budget on food. That the agricultural population will decrease in relative terms is clear enough, but whether this means larger or smaller absolute numbers than before will depend largely on the circumstances of the particular country. Countries where natural conditions favor, e.g., cereal production or extensive grazing, are likely to end with a smaller farm population, and those largely specializing in horticultural or other intensive forms of production with a larger farm population in relation to the total. But in the long run the price mechanism is likely to bring some rough equality of earnings between those engaged in extensive and intensive forms of production, and (looking still further ahead) perhaps ultimately with earnings of people in nonagricultural employment.

Chapter IV - SOME GENERAL PROBLEMS OF AGRICULTURAL DEVELOPMENT IN LESS-DEVELOPED COUNTRIES IN THE LIGHT OF POSTWAR EXPERIENCE

Introduction

Enough has already been said in Chapter III to bring out the underlying inter-relationship between general economic and agricultural development. It was stressed that to a large extent economic development consists in the gradual transfer of labor resources from agriculture to other occupations. But for this to be possible there must be a gradual increase in agricultural productivity per man so that the growing urban population can be fed. Conversely, the growth of agricultural productivity and production is largely conditioned by the growth of the market outside agriculture. Unless it can be absorbed by the market at a reasonable price, additional production may be more harmful than beneficial to farm incomes. At the present time, however, it is more common in economically less-developed countries for agricultural production to lag behind than to exceed the growth of consumer demand, especially on domestic markets, for reasons which are analyzed below.

In this chapter the underlying relationship between agricultural and general economic development is taken for granted, and against this background are considered the practical policies and measures which make possible agricultural expansion in harmony with the growth of the economy as a whole, neither falling too far behind nor running too far ahead. No attempt has been made to go into detail. Books could be and have been written on some topics which are here considered in a few paragraphs. The aim has been rather to try to bring out the inter-relationship between the different approaches to this problem – economic, social, and technical – and to show agricultural development in perspective as part of a campaign for economic and social progress. Such a broad over-all appraisal can be of help in bringing out the main lines of strategy, even though the tactical details are necessarily lightly sketched in.

Three main factors have led to the greatly increased interest in agricultural development in recent years. The first, of a somewhat temporary nature, was the general scarcity of food and other agricultural products during and after the Second World War. The second, and one which each year seems to be of greater significance, has been the upsurge in the rate of growth of the world's population, chiefly as a result of improved medical services and falling death rates. The third, and in some ways the most important of all, has been the emphasis on economic development and on improving the living conditions of the peoples of the economically less-developed countries which has been so characteristic a feature of the postwar world.

There is no need here to discuss how postwar food shortages were overcome, or to consider in detail the implications of population growth which has received much attention in United Nations' and other publications. Its importance is now widely recognized. So far as the economically less-developed countries of the world are concerned, it is perhaps enough to note that from 1936 to 1958 the combined population of Asia, Africa, and Latin America is estimated to have increased by 500 to 600 millions, or nearly 40 percent, and that recent United Nations estimates foreshadow a further increase of the order of 1,000 millions (medium estimate), or some 50 percent, between 1958 and 1980 (Table IV-1). Evidently, the rate of growth is accelerating. From 1936 to 1958 it has been estimated at some 1.5 percent annually. From 1958 to 1980 it may well reach 2.1 percent annually. There must be at least a parallel growth in the food supplies of these regions if their generally unsatisfactory diets are not to deteriorate further.

TABLE IV-1 – POPULATION GROWTH IN ECONOMICALLY LESS-DEVELOPED REGIONS

	Estimated population			Percentage increase		Annual rate of growth	
	1936	1958	1980	1936 to 1958	1958 to 1980	1936 to 1958	1958 to 1980
	Millions			Percentage			
Asia	1 155	1 580	2 470	37	56	1.45	2.00
Africa	165	227	333	38	47	1.48	1.80
Latin America	121	197	349	63	77	2.25	2.60
Three regions	1 441	2 004	3 152	39	57	1.50	2.10

SOURCE: 1958 and 1980, Population Branch, Bureau of Social Affairs, United Nations. 1936, FAO, based on United Nations *Demographic yearbooks*.

The new emphasis on economic development and higher incomes, however, makes it necessary in practice for a considerably more rapid growth of agricultural production than of population to be achieved in order to reduce the gap between the consumption levels in more- and less-developed countries. At first, the main emphasis in most countries embarking on schemes of economic development was placed on industrialization. It was seen that the economic strength of the more advanced countries lay in their industrial base. It was recognized that, broadly speaking, a nation's wealth was inversely proportional to the percentage of its population engaged in agriculture. It was natural, therefore, that in most of the less-developed countries the way to a better life seemed to lie in devoting all available resources to the rapid building up of industry.

But with experience has come the gradual realization that economic development necessitates a more or less balanced growth of the nonagricultural and agricultural sectors. If industry develops and agriculture fails to keep pace, the result is likely to be urban food shortages and inflationary pressures. Alternatively, there will be a scaling down of food exports at the cost of badly needed earnings of foreign exchange, or the diversion of scarce resources for food imports. If, though recently this has been infrequent in most of the less-developed countries, agricultural production seriously outruns the growth of demand in urban markets, farm prices and incomes will fall precipitously. The resultant decline in farm purchases of industrial goods will in turn hamper industrial growth and may even bring about a recession. Because of the greater awareness of these relationships, there has been a renewed interest among planners in the less-developed countries in the factors governing the growth of agricultural production.

CHARACTERISTICS OF AGRICULTURE IN ECONOMICALLY LESS-DEVELOPED COUNTRIES

The diversity of natural, economic, and social conditions to be found in the agricultures of economically less-developed countries is so great that at first sight it may be questioned whether any general discussion can be meaningful. Natural conditions range from the hot, wet lands of the tropical zone, with a poverty and fragility of humus and a large area under forests, to the arid zones of, e.g., the Near East and Central Asia, with hard, dry soils, vast deserts, steppes and mountain areas, and strong contrasts of winter and summer temperatures. Soil types, topography, and natural vegetation extend over an equally wide range.

Problems of agricultural development are also greatly influenced by the great differences in the density of the rural population, ranging from the crowded river basins of India, Pakistan, and Viet-Nam and some of the densely populated Caribbean islands, to the sparsely inhabited areas of Central Africa and Brazil. Great disparities may even occur within a single country, as in Indonesia, where about two thirds of the population is concentrated on the islands of Java and Madura, which contain only 9 percent of the total area of the country. Many economically less-developed countries suffer from rural overpopulation in the sense that " with given techniques and natural

resources, real income per head would be substantially higher if the population were smaller."[1]

Social and institutional conditions as well vary widely among less-developed countries. There are great differences in educational levels and degrees of literacy, in political institutions, consumption habits, systems of religious belief, land tenure systems, etc., which have a considerable bearing on agricultural development.

All these differences are reflected in the varying forms of agriculture. Almost purely subsistence farming is still to be found in some isolated areas, e.g., in parts of Laos and Nepal, in some areas of the Andes and the Amazon basin, and in many parts of Africa. The most common type of agriculture, however, is a smallholding worked primarily to feed the farmer's family, but producing also a small surplus to be sold or traded in order to pay taxes and other cash expenses and to obtain a few things which the farmer himself cannot produce. In some countries, such as Thailand, most of the holdings are owned by their cultivators, but more often they are held on a tenancy basis, e.g., fixed rents or sharecropping. Such peasant-cultivated smallholdings using primitive methods of cultivation are sometimes found side by side with large and efficiently managed plantations with advanced techniques and high levels of productivity. These plantations, however, usually produce specialized crops for export and as a rule exercise relatively little influence on the methods of farming practiced on smallholdings in their immediate neighborhood. Some other variants may be mentioned. Large farms or estates cultivated by hired labor, usually of low productivity, occasionally occur in some areas, especially in Latin America, though more often such estates are divided among small tenant farmers. Nomadic herdsmen are still predominant in some arid areas of Asia and Africa.

In spite of these diversities there are many common factors which make possible some generalized discussion of the problem. By definition, less-developed countries are those where per caput productivity and hence incomes are low. Agriculture is the main occupation and, as shown in the previous chapter, average farm incomes are nearly always even lower than those in other occupations. Transportation, communications, and marketing systems are usually poor. The primitive methods of farming result not only in low productivity, but frequently also in the deterioration of soils and other natural resources. Limited agricultural resources and knowledge, together with concentration on a few basic commodities, often result in lack of productive employment for fairly long periods between the seasons when work on crops is required. There is therefore chronic underemployment or (for the landless agricultural worker) unemployment in rural areas. Credit at reasonable rates of interest, if available at all, usually meets only a small fraction of the needs for funds to finance improvement of agricultural holdings or agricultural practices, or to provide essential consumption loans in times of adversity.

These conditions give rise to the "circle of poverty" characteristic of such agricultures. Low productivity and low incomes result in small savings and consequently small possibilities of investment to improve the productivity of the holdings. The incentive to invest is diminished by the instability of agricultural prices and by land tenure and marketing systems which return to the farmer only a part of the market value of any increased production that extra efforts and an investment on his part might bring about. In any case, most farmers know little about the methods which would improve productivity. Even when known there is often much resistance to adopting them, partly because of a liking for traditional ways, partly because of an understandable reluctance to risk new and (to them) unproved methods, which if unsuccessful would reduce further their already inadequate incomes and perhaps increase further an intolerable burden of debt. This distrust is not entirely unfounded since, e.g., improper application of chemical fertilizers or use of seed ill-adapted to local conditions can lead to disastrous results. Finally, in the very poorest communities the poverty and inadequate diets of many farm families reduces their capacity to work and gives rise to an apathy which in itself is a formidable obstacle to progress.

This circular process of poverty engendering poverty is common to nearly all less-developed countries, if not to the whole agriculture then to large backward areas. It represents the hard core of the situation around which a general discussion may be oriented. While there is general recognition of the problem posed by this "circle of pov-

[1] P.T. Bauer and B.S. Yamey, *The economics of underdeveloped countries*, London, 1957.

erty," no consensus exists as to the decisive factors which enabled the so-called "developed" countries to break through that same vicious circle. The end phase of urbanization in Western Europe and North America, with the creation of markets for farm products outside agriculture, the absorption of surplus rural manpower by industrialization, and the increase of productivity in agriculture, stretched over centuries, though the tempo became dramatically faster from the mid-eighteenth century onward. This leisurely development, however, is no longer acceptable. Improved communications have made the people of the less-developed countries much more aware of the gap that separates their levels of living from those in more industrialized countries, and they are increasingly impatient to share in the well-being made possible by technical development.

However, less-developed countries now have some advantages that the countries which industrialized earlier did not have. The science of agriculture has developed immensely, and programs of international, technical, and financial assistance give some help, even if not always enough, in applying this knowledge to the agricultures of less-developed countries. Finally, governments now take a more active part than ever before in efforts toward economic and social progress.

Basic conditions for agricultural development

The preceding paragraphs already point to some of the basic conditions for agricultural development. It is axiomatic today that increased production must come primarily from improved methods and a better use of existing resources. The methods of farming in general use in the more developed countries, if properly applied in the natural conditions of the economically less-developed countries, could lead to immense increases in output. Nor do the resources of agricultural research show any sign of coming to an end.

But improved technology is only part of the answer. It is evident that in the last analysis a better use of resources will occur only when the producers themselves make the extra effort required, e.g., to improve the land they work and undertake the risks involved (including as a rule some cash outlay) in trying new and more intensive methods of farming. Clearly, they will do so only if they expect to benefit thereby. While adequate incentives at the farm level will not guarantee that all or even a substantial majority of farmers will make the additional efforts needed to increase production, their absence will certainly mean that such efforts are unlikely to be made. Until the economic climate is favorable, the teachings of extension workers are likely to fall on stony ground, while the leadership provided, e.g., under community development, will be unlikely to break through the prevailing apathy.

Among the basic economic conditions needed for the growing market demand to exercise its full effect on production, three appear to be of special importance:

1. *Reasonably stable prices for agricultural products at a remunerative level.* Unless they have some confidence that prices will bear a minimum relationship to costs, farmers will be hesitant to incur additional work or expense to increase their output.
2. *Adequate marketing facilities.* Marketing conditions should ensure that the incentive effects of growing urban demand and of stabilized prices reach the producer and are not absorbed by distributors or speculators.
3. *A satisfactory system of land tenure.* Market incentives to increased production will be greatly reduced if the system of land tenure results in a large share of the value of any increased production accruing to landlords. Moreover, farmers will not incur the expense and effort needed to improve their holdings unless they have reasonable security of tenure.

In the absence of these basic conditions, other efforts to increase production may prove fruitless, or at best yield only a fraction of their potential benefits. A first step by governments anxious to encourage agricultural expansion may thus lie in providing by such measures a reasonably stable and favorable economic climate, in order to give farmers confidence that they will reap some tangible benefit from any additional effort or investment. If economic and social conditions are generally favorable, however, there are a number of more positive measures which governments may take to stimulate production further, e.g.:

4. The provision of credit on reasonable terms, especially to small farmers, for improved methods of production.

5. The provision of production requisites (fertilizers, pesticides, improved seeds, etc.) at reasonable prices.

6. The provision of education, research, and extension services to spread the knowledge of improved methods of farming and to encourage local co-operative action to improve production, marketing, and other facilities.

7. The development of resources which are beyond the powers of individual farmers or groups of farmers, such as large-scale irrigation, land reclamation, or resettlement projects.

The remaining sections of this chapter are concerned primarily with the ways that have been followed and the problems which have arisen in economically less-developed countries in their attempts to provide an economic and social environment favorable to agricultural development, and the means used directly or indirectly to improve methods of cultivation by investment and education. A final section deals specifically with the role of governments in fostering and guiding the development of agriculture.

Attention is given not only to ways of increasing production, but (no less important in developing economies) also to ensuring an increasing and regular flow of supplies to urban markets. However, it is clear that for a long time to come much of the agriculture of economically less-developed countries will remain on a largely subsistence basis, especially in remote areas. Some ways of improving the level of living of subsistence farmers were mentioned briefly in Chapter III, and are discussed somewhat more fully in some of the sections which follow, particularly in connexion with extension services, including home economics, and with community development.

The role of price stabilization

The reasons for the inherent tendency to price instability of agricultural products were discussed briefly in Chapter III, e.g., the seasonal nature of production, the impossibility of adjusting production at all closely to demand in view of the uncertainties of weather and yields, and the relatively low price elasticities of many farm products. It was pointed out that price fluctuations are particularly severe in economically less-developed countries, where they have a damaging effect on the incomes of farmers. In these countries the weak economic position of most producers forces them to sell immediately after the harvest to meet essential living expenses or to repay debts, so that the post-harvest glut is more marked than in "developed" countries. When, as is frequently the case, sales are made to a merchant or landlord to whom he is indebted, the farmer is in a poor bargaining position and must accept the price offered. Later in the season when prices recover few farmers have much of their output left to sell. Their average returns are therefore very little above the price level during the post-harvest glut, and they hardly profit from the substantially higher prices that consumers must pay later in the season. In some countries speculative activities tend to magnify these price fluctuations, which moreover do not only affect farmers. They also lead to considerable hardship for the poorer groups of consumers, who usually do not have the means to stock up basic non-perishable foods during the period of low prices at harvest time for use later in the year.

Price instability seems to be increased by the largely subsistence character of agricultural production in less-developed countries. When the needs of their families for food are inadequately met, farmers are likely to consume rather more of their output when prices are high and to sell less, thus increasing the shortage on urban markets and forcing prices still higher. On the other hand, when prices are low they may have to sell more in order to satisfy their minimum needs for cash, and so intensify the downward pressure on prices. Reliable data are scarce on the proportion of the total output which enters the market in economically less-developed countries — the so-called "marketable surplus." It has been estimated that in India it constitutes about one third of the total production of rice and wheat[2]; in Ceylon and Taiwan only about one half the rice

[2] Ford Foundation Agricultural Production Team, *Report on India's food crisis and steps to meet it*, New Delhi, 1959

produced is estimated to be sold off farms; while in Southern Korea the proportion is reckoned at only about 30 percent of the crop.[3]

The dependence of many less-developed countries on agricultural exports is yet another factor making for instability, both to individual farm receipts and to government revenues, since prices on export markets are notoriously liable to wide fluctuations. Moreover, when prices of an important export product are high, inflationary pressures may be exerted throughout the whole economy, and *vice versa*.

While most of the underdeveloped countries have taken at least some steps to stabilize agricultural prices, price fluctuations in many are still considerable. Such measures cannot always be fully implemented for lack of the necessary administrative machinery, operating funds, and marketing and storage facilities. The large areas and inadequate systems of marketing and transport in many of the less-developed countries add to the difficulty. It is not easy to measure the extent of the price fluctuations because of the scarcity of reliable farm price data in most of the less-developed countries. Nor is it easy to disentangle the effects of general price movements within a country, or of price fluctuations in international markets, from those due to seasonal and year-to-year variations in supplies. It has been reported, however, that in Cambodia prices of paddy in January and February are in general barely half those prevailing in July and August, while in Colombia the immediate post-harvest price of potatoes is often no more than one third of the prices realized later in the season. A few illustrative examples of wholesale prices in India are shown in Figure IV-1 and give some indication of the wide variations in market prices which farmers experience. Thus, the price index for rice fell from the high level of 112 in July 1953 to 72 in April 1955, rising again to 111 in August 1958. The fluctuations in the price indices for wheat, jowar, and groundnuts are even more striking than for rice. Similarly, the average annual wholesale price for rice in Dacca, Pakistan, fell from 25.75 rupees per maund in 1952/53 to 14.4 rupees in 1954/55 and recovered to 21.37 rupees in 1956/57. The annual average price of wheat in Lyallpur, Pakistan, rose from 8.12 rupees per maund in 1950/51 to 14.01 rupees in 1952/53, but fell to 9.56 rupees in 1955/56.[4]

Such price fluctuations are clearly the result of much more than seasonal and year-to-year variations in supply, although these are of primary importance. But while they persist, producers can hardly feel encouraged to risk additional expenditures or to make additional efforts to increase their production. So long as most of the risks associated with programs to increase food production are borne by cultivators, it is not reasonable to expect them to adopt improved, but usually more costly, production methods unless they have some protection against unduly low prices, which may not even be sufficient to cover their out-of-pocket expenses. Price stabilization measures, reasonably effective at the farm level, thus seem to be a necessary prerequisite if the potential from other programs to increase agricultural production is to be realized.

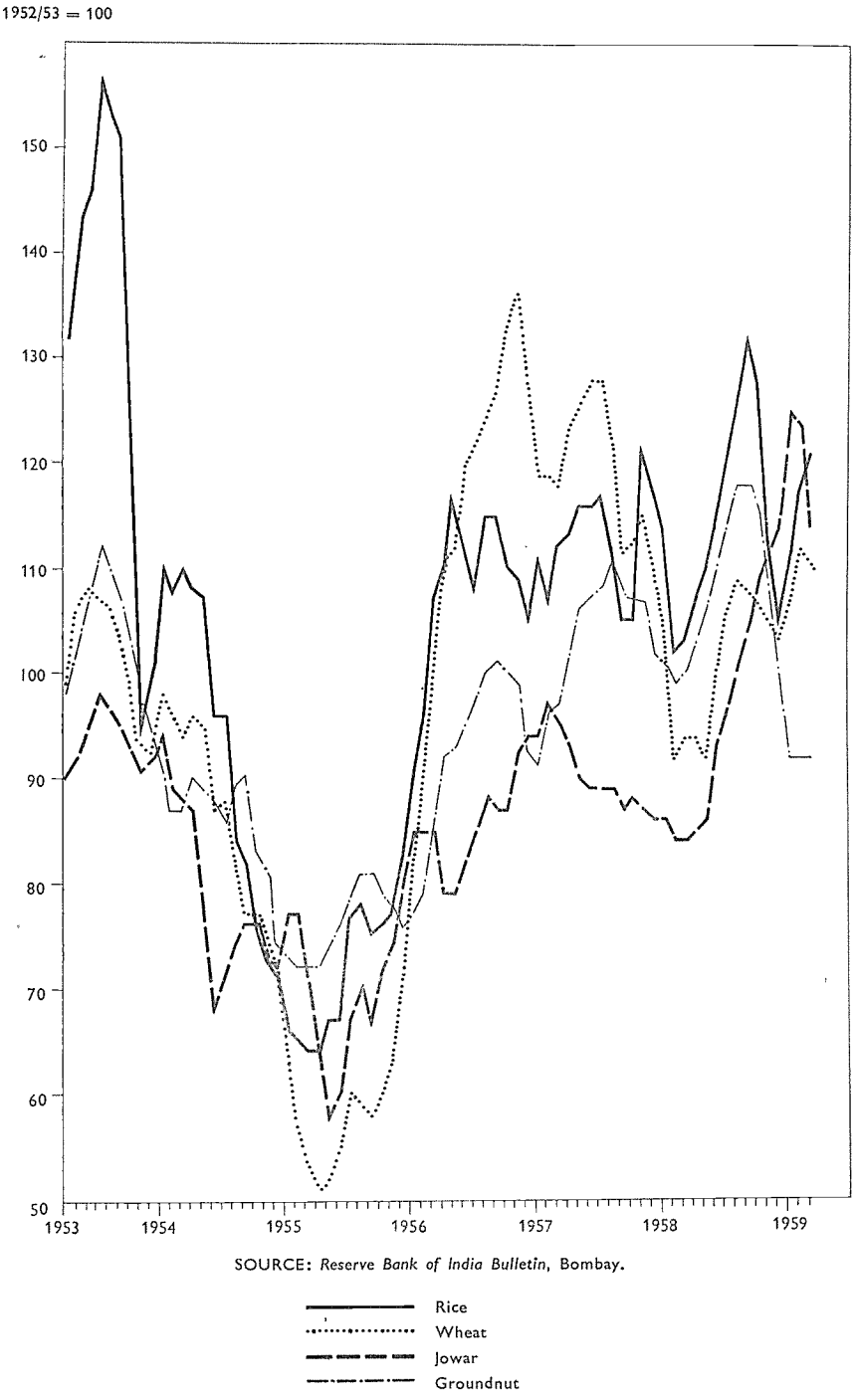
Most underdeveloped countries have made efforts in a variety of ways to reduce price fluctuations of basic foodstuffs, but rather few have consistently used prices at incentive levels to induce cultivators to increase production or to support farm incomes, except sometimes for a few key crops of special significance. As emphasized in Chapter III, large sustained transfer payments from the other sectors of the economy to agriculture, of the kind common in industrialized countries, are ruled out by the small size of the non-agricultural sectors, as well as by the general low levels of incomes. On the contrary, the financing of economic development in most countries depends to a considerable extent upon capital accumulation from the agricultural sector. Consequently, government funds available for agricultural price stabilization operations and other measures to assist agriculture are severely limited.

Current government price measures for basic food crops in less-developed countries can in most cases be traced back to the period of food shortages during and after the Second World War. Primary emphasis was placed not so much on providing incentives for greater production, as on the control of prices for the protection of consumers. This emphasis has continued in many countries in order to counteract inflationary tendencies, stemming in some cases from increasing expenditures and incomes under general economic de-

[3] United Nations/FAO, *Food and agricultural price policies in Asia and the Far East*, Bangkok, 1958.

[4] United Nations/FAO, *op. cit.*

FIGURE IV-1. INDIA: INDICES OF WHOLESALE PRICES OF CERTAIN GRAINS AND OF GROUNDNUTS, 1953 TO 1958



SOURCE: *Reserve Bank of India Bulletin*, Bombay.

velopment programs. These price policies have been implemented in a number of ways, e.g., by control of foreign trade, government procurement and distribution, buffer stock schemes, price control, rationing, selective credit control, etc.[5] Some of these schemes have made for some greater degree of price stability for cultivators but frequently at such low levels as to offer little incentive to

[5] Fuller details can be found in *Report of the FAO/ECAFE Centre on policies to support and stabilize agricultural prices and incomes in Asia and the Far East*, FAO/ETAP Report No. 887, Rome, 1958; FAO, *Report of the Latin American Centre on food and agricultural price stabilization and support policies*, Rome, 1959 (mimeo.); and United Nations/FAO *op. cit.*

producers to increase their output. In many cases, as is shown later, inadequacies of marketing, land tenure, and credit systems often resulted in the cultivator receiving less than the procurement or guaranteed price that governments may have announced.

In the last few years this orientation of government price measures toward the consumer has come in for increased criticism, largely on the grounds that such policies have retarded a needed expansion of agricultural production and have thus tended to perpetuate the inflationary pressures which they were meant to combat. They have also been criticized on social grounds as laying a disproportionate burden on agricultural producers for the benefit primarily of urban industry and of urban consumers, who on the average are often better off than the general run farmers.

Increasing attention is therefore being given in a number of less-developed countries, especially in Latin America, to government measures designed to minimize price fluctuations (though not necessarily to obviate them entirely), at price levels which do not involve large and sustained income transfers in either direction between the agricultural sector and the rest of the economy. Such price stabilization policies nevertheless seem likely to give substantial incentives to agricultural expansion. For price stability in itself, and in particular stability relative to prices of the things farmers buy, is a powerful incentive. The poverty of consumers, no less than the lack of government funds for price supports, rules out the general adoption of relatively high incentive prices, as well as of high prices aimed at raising farm incomes characteristic of some industrialized countries. But even if farm prices were effectively stabilized at no higher level than would correspond to the average price currently paid by consumers (including allowance for reasonable distribution costs), farmers in most less-developed countries would gain considerably and would have much more confidence to expand production than at present. Such price stabilization measures which, if efficiently administered, need involve neither substantial expense to governments nor transfer payments from the rest of the economy to agriculture, were endorsed by recent FAO meetings on the subject in Latin America and in Asia and the Far East. They offer some protection both to agricultural producers and to consumers, and relieve the economy as a whole from the stresses arising from periodic shortages and inflationary pressures.

Several countries have been working toward this end by means of government procurement and buffer stock operations, designed to remove supplies from the market in periods of low prices and release supplies later when prices rise, coupled with regulation of imports and exports. In, for example, Colombia, Venezuela, Panama, Burma, and Ceylon, this is accomplished by setting up a network of government-sponsored buying stations to which producers may bring their produce for sale at a guaranteed minimum price if private traders offer less. In Southern Korea, the same result is sought by granting farmers low interest loans on the security of grain stored at harvest time in approved warehouses located throughout the country. A variant of such schemes has been successfully operated for certain cash crops which normally move to processing plants, e.g., for sugar cane in India and Taiwan, whereby the plants pay a guaranteed price for the produce delivered to them. If effectively managed, such schemes can be financially self-supporting, although several countries have suffered substantial losses in the initial stages until sufficient experience in management and administration has been gained and adequate warehouse facilities established. Evidently, they impinge on, and are closely related to, some of the improvements in the marketing system discussed in the next section.

Price stabilization for agricultural commodities produced primarily for export is an altogether more difficult problem than price stabilization on domestic markets, and in general is possible only through international commodity agreements; but these are difficult to negotiate and have not been uniformly successful. In a few instances, less-developed countries with a major share of the world market for a particular commodity have attempted unilaterally to stabilize international price levels by regulating supplies, e.g., Brazil for coffee, Pakistan for jute. However, the opportunities for such unilateral action are few, and such schemes are in any case risky. As a rule, therefore, national efforts have been directed not so much toward stabilizing international price levels as to cushioning the effects of world price fluctuations on the domestic market.

A few of the less-developed countries, particularly in Africa, have sought to reduce fluctuations in prices to their producers by equalization

(or stabilization) funds, setting aside part of the export proceeds in times of high prices in order to augment returns to growers when prices are low. Such schemes have been undertaken with success, for example, for cocoa in Ghana and Nigeria. A larger number of countries, especially in Latin America, have sought to stabilize returns to producers of export products, and also the impact on the domestic economy generally of price fluctuations on international markets, by means of variable export taxes, such as variable export duties, variable and multiple exchange rates, with variants such as the *aforo* system, or by the centralized marketing of exports through a state agency. Thus, it has been possible to insulate producers to a greater or lesser extent from price fluctuations on world markets by having government revenues partially absorb these fluctuations. Variable and multiple exchange rate systems and state export agencies may also be used to subsidize exports, though, for obvious reasons, less-developed countries cannot as a rule afford any sustained and substantial subsidization of agricultural exports. [6]

It is difficult to evaluate the success of agricultural price stabilization and support measures, in less-developed countries as elsewhere, because of the numerous other factors at work. However, the New Delhi Center on Policies to Support and Stabilize Agricultural Prices and Incomes in Asia and the Far East concluded that:

> In most countries (of the Far East) price policies for food grains have been aimed primarily at protecting the consumer and limiting the effects of inflation, sometimes at the expense of the producer. They cannot be expected to have acted as an incentive to production and may sometimes have had the opposite effect. In the few countries where incentive price policies have been tried, there are indications of a positive response, though other complicating factors obscure the result. For cash crops there was general agreement that production responded markedly to price assurances and to changes in price levels.

The Latin American Centre on Food and Agricultural Price Stabilization and Support Policies expressed the view that:

> The recent tendency in many countries to stabilize farm prices at a somewhat higher level than before was necessary in order to encourage increased investment in agriculture and to correct imbalances of supply and demand which had developed during the years when farm prices were held at a relatively low level. As a rule these policies have not been long enough in operation for their results to be appraised. In a few countries, however, they have already led to a steady expansion of production and occasionally to the emergence of small surpluses in formerly importing countries.

While price stabilization and support measures have helped to damp fluctuations in retail and wholesale market prices in many less-developed countries, there is more doubt, for reasons discussed below, as to the extent to which they have been effective in assuring producers a minimum price for their produce. Rather clearly, price guarantees can exercise their effects on production only to the extent that the producer actually receives them, a condition which is not yet always fulfilled.

The role of marketing

Economic development and urbanization call for greater movements of agricultural products from rural areas to towns. In addition, rising incomes usually imply some diversification and increase in the demand for foodstuffs, of which many, e.g., meat, fish, milk, fruit and vegetables, are perishable commodities. The production of these more valuable foods is indeed one of the ways in which farmers can raise their incomes and also spread their farm work over the year. Among the problems that economic development raises are therefore those of adapting and improving marketing structures and organization to allow an increased flow of agricultural products to markets, including an increased proportion of perishable commodities. Unless these problems are solved economic development as a whole may be

[6] Sometimes, however, export subsidies are granted to assist exports of marginal quantities of a commodity primarily produced for domestic consumption, e.g., for some staple crops in Costa Rica, or to farmers depending on one product for their entire money income (sugar in Brazil and Argentina, rice in Guatemala). In exceptional cases a country may subsidize some traditional major export product with a view to increasing foreign exchange earnings, for example, wheat in Uruguay. In such cases, however, the subsidies are financed by taxes on the exports of some other major agricultural export commodity (wool in the case of Uruguay).

hampered, since nonagricultural development will be hindered by food shortages and inflationary pressures in towns. Equally, the agricultural sector will not expand at the rate made possible by growing nonfarm demand and the impact of any economic incentives to greater production will be weakened.

Again, in less-developed countries weaknesses in marketing methods and organization often constitute a serious impediment to better farm returns and increased output, not only of higher quality produce but also of staple commodities. The relatively small proportion of the retail price for food that may be received by producers is a common grievance and may blunt the edge of an incentive policy to stimulate production. Indeed, if the price stabilization measures outlined above are to be successful, modification of existing marketing systems is usually essential in order to ensure that small farmers actually receive the minimum prices guaranteed.

Though calculations of marketing margins are notoriously deceptive, some examples from less-developed regions may be quoted to give a rough idea of the impact of marketing costs on farmers' shares of the prices paid by consumers. In Pakistan, according to recent government marketing reports, the grower obtains 32 to 37 percent of the price paid by the consumer for tobacco and 25 to 50 percent of that paid for dates. In the case of Malta oranges, the producer's receipts have been only 16 or 17 percent of the consumer's price. An investigation of rice marketing in Indonesia indicated that out of a consumer price of 390 rupiahs for the rice equivalent of 100 kilograms of paddy, 199 rupiahs (a little over 50 percent) went in marketing costs. Services of value to both producers and consumers make up part of the difference, but wasteful and inefficient handling and distribution methods, very high interest payments, etc., may widen the gap considerably. Greater efficiency of marketing thus offers possibilities both of lowering prices to consumers, thereby increasing the volume of sales, and of increasing returns to producers.

In the broader view, good marketing facilities can help cultivators to specialize in the commodities they can produce most advantageously. In this way they can contribute to raising the farmers' level of living and add to the economic wealth of the community. The sections that follow examine some of the more common problems which arise in improving the efficiency of marketing.

Marketing and rural credit

Farm credit is discussed more fully in a later section, but it is convenient to note here some aspects which impinge on marketing problems. Because of the lack of alternative sources of credit, many small producers are forced to seek loans from dealers and merchants in times of scarcity and need, especially prior to the harvest, and may become heavily in debt to them. The farmers are then often obliged to sell their products year after year to the same merchant, at prices substantially below those ruling in the free market, as a condition of maintaining the loan. They cannot, because of their indebtedness, switch to other sales agents and in many cases receive net returns well below the average farm prices reported by statistical agencies. As a result, improved wholesale prices and quality differentials do not bring forth the production response that would otherwise be expected, while the adoption of dishonest and wasteful practices by borrower and lender alike may be encouraged.

The actual rate of interest, when calculated on an annual basis, is often prohibitive by commercial standards. Often, the effective rate is concealed when loans are made to the farmer in kind at a high price period and repaid in produce assessed at a low price when delivered to his creditor. In some instances part of the crop may be committed to creditors for delivery after harvest under a loan agreement concluded earlier in the year, the extension of which would involve still higher interest payments. But even when farmers retain control over their produce they must often sell immediately after the harvest to meet current expenses. Even if they have storage facilities at their disposal, credit against goods retained in the farmers' hands is frequently difficult to obtain and expensive because of the risk that the goods may be disposed of independently.

These difficulties might be eased by a wider extension of the warehouse receipt system, as has been applied, e.g., for grains in Southern Korea, in the sugar trade in the Philippines, and is now being applied more generally in India as the new National Warehousing Corporation proceeds with its development program. To be fully effective, however, a sufficiently large network of warehouses is needed to ensure that there is one within reach of each farm. Otherwise, the main users are likely to be merchants and large farmers.

Usually such programs can be carried out only with government assistance because of the heavy capital costs involved.

The need on the lender's part to obtain a lien on some marketable security when the loan is made and to see that it does not leave the possession of the borrower except in repayment of the loan makes a close link between the source of credit and the sale of the product essential. This need probably lies behind the development of the merchant-moneylender system. Where the amounts lent are small and the borrowers numerous and scattered, it is difficult to see how trading and lending activities can be separated without some considerable increase in cost, and the integrated credit and trading agency seems the most practical.

The replacement of the merchant-moneylender by an equally efficient, but less costly and more sympathetic, alternative has been the subject of many investigations and proposals. A recent study by the Rice Committee of the Federation of Malaya (1956) reported that co-operative credit societies could not be expected to compete successfully with village shops, which supply farmers with their daily necessities as well as buying their produce and offering credit. Co-operatives usually face certain inherent handicaps – dependence on salaried labor and management, lack of adequate capital and trained personnel, a high rate of illiteracy and ignorance among the farmers with which they must deal, and a low standard of general integrity in the conduct of financial matters that lie outside established social codes. From the farmers' point of view, however, such an agency is preferable since it would be operated by a sympathetic management rather than one seeking primarily to obtain the maximum profit.

Co-operatives combining both credit and marketing have long been established in Ceylon. In Sierra Leone, just over 25 percent of all cocoa produced is marketed by co-operative societies, which are also active in providing members with short-term credit to be recovered from the proceeds of the current crop after sale by the society. [7] Cyprus, too, has many examples of successful blending of marketing and credit in co-operative societies. Thus the marketing of carobs developed when credit societies pooled members' carobs for collective sale to local merchants. Then co-operative unions were formed, which eventually contracted loans to members, built processing plants, and became sufficiently important to operate on the export market.

[7] Longer-term loans (8 years) are also issued to cover half the cost of bringing new land into production under supervision by the Department of Agriculture. In the first year the limit was 2 acres, thus giving real encouragement to the small farmer, and over 400 acres were brought into production.

Storage

Inadequate storage facilities are the cause of heavy losses in many parts of the world. At an FAO meeting on rice, held in the Philippines in 1948, it was estimated that more than 10 million tons of rice would be lost in the world in 1947/48 because of inadequate storage. Although the situation has since improved, much remains to be done to reduce the losses incurred when agricultural commodities are stored in unfavorable climates, especially by wider application of knowledge already available. Some progress has been made in economically less-developed countries, notably in Latin America, where national development institutes and banks have often been made responsible for constructing strategically located storage and drying and fumigating facilities. Plans for large-scale construction of scientifically designed storage plants are now under way in Iraq, the United Arab Republic, and India, to quote only a few examples from other parts of the world.

Owing to their scarcity, the ownership of storage facilities is sometimes an issue in less-developed countries. Merchants able to store essential commodities are said to have profited unduly from speculative operations and many countries are turning increasingly to public ownership.

Market information

Inadequate information on current market conditions is another characteristic weakness in developing countries. It arises mainly from the large number of small enterprises involved, weak communication systems, and frequent illiteracy. It is an important safeguard if a farmer can compare the prices offered by one trader with those paid by others. More complete market information also reduces the business risks of whole-

salers, with potential benefits to producers and consumers. When up-to-date accurate information is lacking, local buyers seek wider margins as a hedge against price changes in distant markets which they may not know about. Again, inadequate market information is a frequent cause of physical waste, e.g., when perishable fruit and vegetables from distant points are unloaded on an already satiated market. The wide price discrepancies characteristic of economically less-developed countries often reflect inaccurate price reporting and comparison of different varieties or grades as well as transport and other difficulties.

Transportation

Inadequate transport is often responsible both for high marketing margins, and for the continuance of subsistence farming in many areas. Many producers in the less-developed countries must continue to be restricted to local village markets until low cost transport facilities make other outlets accessible. [8] Many important agricultural areas are linked with the outside world only during the dry season of the year. Through lack of farm-to-market roads or because of high freight charges resulting from inadequate roads, producers in many countries have to concentrate on crops which are not necessarily the most needed or the most economic. In parts of the Philippines, for example, subsistence crops like rice and maize are often grown in place of more suitable crops, such as Manila hemp, because of the difficulty of bringing the product to the market. The growing of perishable crops, in particular, is subject to these difficulties.

Large areas of cultivable land may lie practically idle because of the lack of access roads. For example, 3,000 miles of farm-to-market roads built in Mexico since 1950, out of a planned total of 80,000, have already brought about a striking increase in grain and fruit production in some areas. Another important aspect is the better adaptation of existing transport facilities to the special demands of agricultural products, particularly perishable products such as meat, fresh fruit and vegetables, and milk.

Grading and handling

Frequently quality improvement is hampered by the system of pricing employed at the farm level. A grading system which secures to the producer appropriate price differentials is a potent means of guiding production into the qualities wanted on the market and of raising farm incomes. Conversely, when no price differential is allowed for improved quality there is no incentive for better handling and grading. Deductions for impurities and shrinkage are applied indiscriminately on rice moved through certain markets in India, hence discouraging the proper cleaning and drying of the product at the farm.

Serious losses often result from careless treatment in picking, transport, and market handling of fruit and vegetables. This applies especially when fruit is sold on the tree and the picking is undertaken by a contractor, who may let it out to a third party, with no direct interest in the price obtained for the crop. Much damage could be avoided by more careful packing and loading. A typically unsatisfactory handling method is the pack carrier commonly used in the Near East. It is deep, with a wide top narrowing toward the bottom, and in consequence the lower levels of such produce as grapes and tomatoes are badly bruised and crushed.

Livestock and meat of different types and qualities are often sold at uniform prices regardless of consumer preferences. In some areas of Central America cattle are sold on the basis of height, an attribute valuable in traveling long distances on foot but often inversely related to meat quality. Sales practices of this type frequently continue in use after the conditions which first led to their adoption no longer apply. Poor market preparation and handling of livestock in transit is another source of low quality and prices, as well as much unnecessary suffering. Shrinkage in weight and losses from death and crippling in some countries of Latin America are far in excess of those customary in some other areas where animals are shipped over comparable distances. Many of these

[8] In Bolivia, for instance, transportation costs of oranges to La Paz have been estimated as some 75 percent of prices received by farmers. In 1957 it was estimated in the Syrian Province of the United Arab Republic that transport costs amounted to about 40 percent of the export price for wheat and 50 percent for barley. In Thailand, the average distance from a farm holding to a railway station is 70 km., to a navigable waterway 30 km., to a road usable during most of the year, 10 km.

losses could be avoided by better equipment and more care.

Export marketing

Better marketing can greatly strengthen the competitive position of countries where exports of agricultural products are a main source of foreign exchange. Many sales may hinge upon efficient marketing organization, improved grading and handling practices, speedy adaptation to changes in demand, and the use of transport, packing, and presentation methods which minimize waste and bring produce to the consumer in an attractive form. Where a buyer and seller are separated by long distances, as in much export marketing, standardized grade specifications enable experienced traders to buy by grade description alone. Measures taken by governments, such as that of India for the compulsory grading of exports of, e.g., wool, Virginia tobacco, sunn hemp, and essential oils, have resulted in developing foreign markets. Other examples could be quoted. In the Egyptian Province of the United Arab Republic, improved marketing techniques for fruit and vegetables have been adopted and modern packing stations established. The recently established Organization for the Development of Exports is in charge of promoting and co-ordinating export activities for horticultural products and other foods and agricultural products. In the Syrian Province, a projected network of grain storage and cleaning facilities and a wheat grading system will open the way to more advantageous sale of Syrian wheat on international markets. Libya, too, has given much attention to improved marketing facilities as a means of expanding agricultural exports, notably of olive oil and citrus. Terminal port facilities for handling, processing, and storing products for export are now being constructed. The introduction of standard grades for barley in Iraq and the establishment of a marketing information service have helped to maintain existing markets and secure new outlets.

The role of land tenure

Perhaps the most important way in which land tenure systems influence agricultural production is through their effect on the farmer's incentives and motivations. Security of occupancy, an equitable division of farm income between landlords and cultivators, the expectation of reasonable reward for the farmer's labor, the pride of ownership – these are powerful stimulants for land improvement and for other investment to increase output, and for a wise use and conservation of resources. They also affect the "receptivity" of the farmer to technical advice and other farm services designed to aid him and his willingness to apply them.

The significance of many tenure changes lies mainly in such catalytic effects, permitting greater results to be obtained from other agricultural development programs, e.g., price stabilization measures, marketing improvements, extension programs, provision of subsidies for agricultural requisites, etc. While defective land tenure systems may hamper or even nullify the effectiveness of other measures and stultify the farmer's initiative, it is equally true that land tenure changes by themselves can seldom achieve spectacular increases in productive efficiency. Rather, they contribute to establishing the economic and social climate in which other development measures can become effective.

Land tenure systems may also have important effects on capital investment in agriculture. If the tenure system is such that a large proportion of agriculture's earnings are diverted into unproductive expenditure (as in the case of some feudal types of land holding), a change in land tenure may bring about increased productive investment. Furthermore, the agricultural credit system is often so tightly interwoven with the tenure system that the operation of one may either limit or facilitate the functioning and development of the other. Similarly, taxation policies are strongly influenced by land tenure arrangements and, conversely, many of the maladjustments in tenure are hard to resolve without a revision in tax policy.

Finally, land tenure has an important implication for agricultural production through its effects on farm size and layout. While farm size is affected by many factors in addition to the land tenure system, it has been noted that any tenure

system usually operates in an agricultural region through a characteristic pattern of farm sizes. Often these tenure-connected farm sizes are either too large or too small for greatest efficiency. Similarly, poor layout and fragmentation of the production unit are frequently caused by the prevailing tenure system, particularly inheritance customs. To the extent that tenure reforms can bring farm sizes and farm layout closer to the requirements for optimum efficiency, they can have a significant effect on productivity.

The following paragraphs give some examples of land tenure improvement measures which have been initiated in less-developed countries, and the ways in which they may facilitate agricultural development.

Tenancy reform

Although under certain conditions systems of leasing and sharecropping are associated with high agricultural productivity, in most underdeveloped countries their results are usually inefficient economically and unsatisfactory from a social viewpoint. Their principal defects include excessive rents, insecurity of occupancy, subletting with the subsequent development of multiple tenancies, the extraction of personal services by landlords and other abridgements of the freedom of the cultivators, including a denial of access to markets and credit. The result has frequently been a situation which left very little incentive for cultivators to improve the land, since without security of tenure the benefits stemming from any land improvements they make might well accrue to others, while high rents and lack of credit on reasonable terms offer poor prospects for tenants to secure any sizable share of increases in output that their efforts and investment might bring forth. Unsatisfactory tenancy conditions are being tackled in several ways, of which two of the more important may be mentioned: the improvement of the contractual relationship between landlord and tenant, and the transformation of tenants into owners.

Several countries have introduced regulations to limit rents that tenants may be charged (Iraq, Taiwan, the United Arab Republic), to restrict subletting (India), to require compensation for improvements made by tenants if they subsequently leave the land holding, to set a minimum period of contracts for leasing land, and similar measures. In a number of countries, land reform measures have been introduced to convert tenants into owners and thus do away with tenancy altogether. In Japan land reform has been recognized as the "release mechanism" for the great agricultural progress made in postwar years; it has helped create the conditions for the diffusion of democratic concepts and for a change in the status of the farmer's wife. Another approach, as in the Sudan, involves replacement of private tenancy arrangements by state regulated leases, which in some cases have such a long-term and even hereditary character that they approach freehold tenures in security and permanence.

The greatest problem raised by measures to improve unsatisfactory leasing and sharecropping systems is usually that of effective enforcement of the reform without which legislation in favor of tenants is obviously largely futile. Even where implementation machinery exists, local interests are often able to prevent even the best conceived measures from being carried out. For example, an investigation of the implementation of the 1948 Bombay (India) Tenancy Act concluded that regulation of rents had been largely ineffective.[9]

The example of some of the more developed countries in working out satisfactory tenancy systems, in which landlords and tenants share proportionally in the contributions to production as well as in the returns, has often proved to have little relevance to the situation in less-developed countries. This seems to indicate that tenancy reform legislation can succeed only if it is complemented by appropriate measures to strengthen the tenants' economic position, e.g., by provision of adequate agricultural credit on reasonable terms, by improvement of marketing and storage facilities, and by effective extension and educational services. The establishment of voluntary tenants' associations has also been suggested as an aid to improving the operation of tenancy systems. Finally, efficient administrative machinery at the local level may prove to be the decisive factor in ensuring successful implementation of tenancy legislation.

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[9] V.M. Dandekar and G.J. Khudanpur, *Working of Bombay Tenancy Act 1948: Report of investigation*. Gokhale Institute of Politics and Economics, Poona, 1957.

Promoting efficient cultivation of large holdings

In some of the less-developed countries, large land holdings in estates or plantations are noted for their high productivity in comparison with nearby peasant agriculture, e.g., rubber plantations in Ceylon and the Federation of Malaya, tea plantations in Ceylon and India. On the other hand, in many areas, particularly in Latin America, large underutilized farms often leave great scope for improvements in productivity. Such farms are predominantly extensively cultivated estates held by absentee landlords. Land is still the principal source of wealth in many underdeveloped countries and landownership remains associated with prestige and social status. Furthermore, the purchase of land is often considered the best investment for private funds, *inter alia* as a safeguard against inflation. As a result, landownership may not be accompanied by the intention to make the most efficient use of its resources. This attitude may be facilitated by nonexistent or negligible land taxes and by other institutional advantages in favor of the landowners. The worst features of this system are exemplified by the *latifundia* found in some Latin American countries, where very large holdings on level fertile land are often cultivated superficially or used for livestock grazing, while side by side subsistence farmers raise basic food crops on small, steep, and erodable plots.

There are, however, indications that as industries expand in these countries land is losing some of its attractiveness as an investment. Some governments, too, are making efforts to reduce the proportion of large, extensively farmed estates. Reform measures of the more drastic type include expropriation of large estates and subdivision into smaller and more intensively farmed holdings, as, e.g., in Iraq and the United Arab Republic. This was done also in Mexico before the Second World War. In Italy, to take an example from a more developed country, distribution of land of relatively unproductive estates is being accompanied by an intensive development effort involving irrigation, reclamation, road building, and a whole network of services for the new farmers. The provision of adequate credit, marketing, and extension services to the new owners are usually regarded as essential to the success of such land reform measures.

Other countries are attempting to deal with this problem through differential taxation, in which tax rates vary directly with the size of the property and with its degree of underdevelopment. In some cases opportunities are given at the same time for state assistance to owners desiring to develop their large properties. For example, an "indirect" type of land reform was introduced in Colombia in 1957 by establishing a system of tax incentives and penalties to promote intensified use of good agricultural lands. Owners of 50 or more hectares are required to devote between 15 and 25 percent of their lands to agricultural crops (including forest plantations, cultivated pastures, and improved pasture lands). Those who do not comply with this requirement are liable to additional annual taxes ranging from 2 to 10 percent of the value of the lands. In areas where the government has sponsored irrigation or drainage projects, the compulsory cultivation margins may be doubled. As direct incentives, various tax exemptions are offered, e.g., for the amounts spent for agricultural machinery and for animal shelters, fences, and other buildings useful in improving the operation and management of the holding.

Public land policy

A relatively neglected aspect of land tenure improvement has been the field of public land policy. Publicly-held lands are notoriously underutilized in many less-developed countries, although by no means all of such lands could be used economically for agriculture. Furthermore, some public lands may be used best in connection with watershed land protection or flood control measures, or for recreation purposes. However, land speculation and great destruction of natural resources along the so-called "agricultural frontier" are a frequent occurrence in countries with defective or nonexistent public land policies.

A great deal of this "public domain" could be made to yield increasing benefits in less-developed countries by systematic land development and settlement. One of the important prerequisites for a successful public land policy is a cadastral survey, and various countries interested in carrying out agrarian reform and settlement programs have been active in this field in recent years, e.g., India and Thailand.

A comprehensive public land policy has been

adopted in Costa Rica, involving the establishment of a National Land Institute to take charge of public lands. This Institute will advise the government on unused lands suitable for colonization purposes and on those best utilized for the conservation of forest and water resources. Public lands will be transferred to the Institute for administration and management, and the Institute will have the power to transfer suitable parcels to settlers. The Institute will also have the power to buy, and even to expropriate, private lands which are considered useful for colonization programs. In Indonesia a bill is under consideration which would provide that all land belongs to the government and is to be utilized in accordance with the economic and social interests of the nation. This formulation would replace traditional communal land tenure systems by establishing a priority for the nation as a whole, at the expense if necessary of local customs. There is also a long established program in this country of resettling cultivators from Java to the less-densely populated islands.

In Iraq, some public lands are being improved and divided into units of 12 to 40 hectares for free distribution to farmers, who can obtain title to the land in 10 years if they fulfil certain conditions. In Tanganyika the Agricultural Corporation has taken control of some tenant lands originally alienated for the Groundnut Scheme, which undertook bush clearance, contour ridging, and provision of water in the area. The system under which tenants are being settled on these lands provides *inter alia* that the Corporation will furnish tenants with machinery and technical guidance, while the tenants contract to follow prescribed agricultural practices, including suitable crop rotations, and to deliver their produce for sale through the Corporation.[10]

Experience indicates that settlement schemes are not likely to be successful unless the new colonists are provided with adequate services, including credit, marketing, agricultural production requisites, and advice on cultivation practices. Thus, the Gal Oya Scheme in Ceylon requires that settlers join a general service co-operative society, one of which has been established in each village, as a condition to receiving allotments of land.[11] Credit, selected seed and planting material, tools and implements, working animals, and general consumer supplies are made available through these societies, which also market their members' paddy crops. In addition, an agricultural extension service including demonstration plots operates as part of the scheme.

Modifying tribal tenures

Another group of tenure problems is associated with a tribal agrarian structure. In large parts of Africa and the arid Near East there are types of migratory agriculture based on shifting livestock grazing, which have their origin in the natural arid conditions, but are also tied to cultural factors. Increasing conflicts are developing, however, between the nomadic and the more settled sectors of agriculture, especially in the Near East, where there is a great pressure from the surrounding permanent cultivators to restrict the movements of tribal herdsmen who, on their side, feel they have traditional grazing rights. Moreover, the scarcity of water in the areas still available for nomadic grazing often leads to overgrazing of the available pastures.

Prior to the invasion of the tribal areas by settled cultivation, the migratory agriculture of the nomadic regions had usually established a rough balance with the natural environment, which provided a reasonable living at a subsistence level and a considerable degree of security, as long as sufficient land was available. In many areas this precarious balance has been upset in recent years by a great increase in population and a corresponding increase in livestock numbers. Some tribesmen have now abandoned livestock grazing and shifting cultivation in favor of settled cultivation, and this has resulted in individualization of land rights as a break with the communal ownership of tribal lands.

When this process has led to the establishment of freehold tenures in tribal areas, it has caused many social and cultural problems. Attempts are now being made to devise a type of tenure that would preserve the values and advantages of the essentially communal economy, while accelerating the inevitable transformation toward a settled and market-oriented agriculture. One interesting recent example may be found in certain aspects

[10] A. Gaitskell, *Report on land tenure and land use problems in the Trust Territories of Tanganyika and Ruanda-Urundi*, FAO, Rome, 1959 (mimeo).

[11] FAO, *Report of the Centre on principles and policies of land settlement for Asia and the Far East*, Rome, 1959 (mimeo).

of the scheme in Tanganyika mentioned above, which aim toward developing the capacities of the farmers by a series of simple steps which are to lead to a full-fledged commercial co-operative. A novel feature of this experiment is the judicious mixture of individual and joint features in agricultural practices, the latter providing the link with the old tribal social pattern.

Another example of recent progress in the transformation of tribal tenures is reported from Southern Rhodesia. Regulations concerning rotational grazing have been introduced, including strict observance of grazing boundaries and general protection for communal pastures. Such measures tend to transform the formerly haphazard livestock production methods into better systematic management practices within the framework of a communal system of tenure.

Stabilizing shifting cultivation

Shifting cultivation is prevalent over large areas of Latin America, Africa, and the Far East, especially in the tropical regions. Normally this involves indiscriminate burning of forest and grass cover to clear land, which is cultivated for a few seasons and then abandoned when the soil loses its fertility. It may be practiced by squatters who have no title to the land and whose only interest is to cultivate rapidly as much land as they can clear. The system is destructive of natural resources and seriously impoverishes the soil. In some cases shifting cultivation is carried out on government lands and is consequently a problem of public land policy; in other cases it is practiced on large private tracts held by absentee owners for speculative purposes. Some governments are making efforts to regularize the situation either by giving permanent tenure status to the squatters or by relocating them in other suitable areas.

Shifting cultivation may also be practiced by aboriginal tribes who have been pushed away from lands where stabilized agriculture is practicable. A successful attempt is under way in the Belgian Congo to regulate such shifting cultivation and improve the condition of the tribes. Under the "corridor settlement scheme" the principle of forest fallow is preserved in a regular pattern which allows for a return to cultivation of the same areas after a number of years. In general, the crop lands are laid out in strips, or corridors, each cultivated corridor alternating with one of forest. This system allows a modified form of shifting cultivation while maintaining a forest cover. There are also more intricate and flexible patterns, in which a cash crop may be introduced into the cultivation cycle. In other countries, the so-called "taungya system" provides not only for regulation of shifting cultivation, but also for raising valuable forest species of relatively rapid growth during the fallow period.

Consolidation of holdings

Another problem of agrarian structure is the excessive fragmentation of holdings into small uneconomic parcels, which hinders the introduction of many rational methods of cultivation. Such fragmentation is a feature of a good deal of European agriculture, but is also found in many less-developed countries with a considerable population pressure on land resources. While many of the basic causes of excessive fragmentation are not amenable to direct remedies, progress has been made in some countries in consolidating fragmented holdings. The most successful programs have been those which link land consolidation with other development measures, such as the construction of roads, changes in land utilization, soil improvement, regulation of the water supply, etc. When land consolidation is thus combined with other activities, it can successfully solve many of the fundamental problems of the agrarian structure. As with other types of land tenure improvement, land consolidation operations appear to be most successful when combined with the provision of adequate extension services and other measures to develop the initiative of farmers. Land consolidation programs have been carried out in Pakistan (Punjab), Japan, and Kenya. Similar approaches appear to be needed in other regions, particularly in some Islamic countries where the strict observation of inheritance rules has led to extensive land fragmentation. Land consolidation programs may, however, provide no more than temporary relief unless inheritance customs and laws are changed to prevent the renewed fragmentation of holdings in the course of years.

* * *

The aspects of agricultural development discussed above – price stabilization and the improvement of marketing facilities and conditions of land

tenure – are concerned principally with creating a favorable economic and social climate which will give the farmer a direct interest in improving his methods of cultivation and increasing his output. We may turn now to some of the more positive and direct measures for furthering agricultural development, in particular the provision of additional funds for investment, including current production expenses, and the methods of improving the technical level of cultivation through education, research, and extension services. It may be re-emphasized, however, that neither group of measures can be fully effective in the absence of the other.

The role of investment

Additional investment is usually necessary to expand substantially the output of any industry, agricultural or nonagricultural, irrespective of the form of social or economic organization. The figures in Annex Table 13, for example, show how large a financial investment was needed for the recent expansion of agricultural production in the U.S.S.R. Agricultural investment is unique, however, in that it nearly always includes, besides a financial investment, a substantial component of nonfinancial investment for which there is no direct cash outlay. Quite frequently in small projects almost the whole "investment" is of this character, e.g., the work carried out by individual farmers in leveling their fields or improving the buildings on their holdings. Sometimes a group of farmers may work together on a voluntary basis, for example to improve an access road. Even a large government irrigation project, implying a substantial financial investment, however, will probably involve the digging of field channels by the cultivators themselves to bring the water from distributory canals to their own holdings, so that here too there is also a nonfinancial component in unpaid labor. While financial and nonfinancial investments are considered below separately, in practice agricultural investment in less-developed countries nearly always involves both types in varying proportions.

Financial investment

Some types of investment for agricultural development fit closely the usual definition of "investment" – e.g., the construction of large irrigation projects, of farm buildings, or of warehouses for storing agricultural products. In other cases, governmental expenditures on, e.g., subsidies on agricultural requisites or the provision of the funds for farm credit, do not fit so closely the usual definition of "investment." Many monetary expenditures that cultivators may make to increase their own production, e.g., for fertilizers or improved seeds, are more of the character of production costs. However, all such expenditures are likely to be an important part of any over-all effort to improve productivity and all require some mobilization of monetary resources. In the paragraphs that follow they are therefore all considered as forms of "investment" for agricultural expansion.

As is well known, capital for investment is one of the least plentiful of resources in less-developed countries since incomes are so low that only a small margin can be spared for capital formation.[12] The shortage of capital in these countries bears particularly heavily on the agricultural sector as it is usually the largest and is called upon, in one way or another, to provide much of the capital needed to develop other sectors.

The transfer of funds from agriculture takes place in many ways. In Japan, for instance, industrialization was quite largely financed from land taxes, which in the early years of industrialization yielded about 80 percent of the central govern-

[12] The ratio of gross domestic capital formation to gross domestic product in many of the underdeveloped countries seldom exceeds 10 percent. Net investments are still smaller, because a large proportion of the total gross investment is offset by depreciation and replacement charges. Thus, in Burma (1953-56) these were estimated at about 30 percent of total gross fixed capital formation. In Japan (1953-57) the proportion was 35 percent; in India (1950-53) 40 percent; in the Philippines (1953-57) nearly 65 percent. For the Latin American region as a whole, estimates for the period 1946-55 reach an average depreciation figure of around 37 percent. Sources: United Nations, *Economic survey of Asia and the Far East, 1958*. Special tables O and P, pages 178-179. United Nations, *Economic survey for Latin America, 1955*, Tables 8 and 9, page 9.

ment's revenue, although a substantial share was also reinvested in agriculture for irrigation, flood control, and land improvement and reclamation. More recently, Mainland China appears to have developed a similar transfer of funds from agriculture by fiscal measures.[13] Another common method is by export taxes on agricultural commodities and occasionally by the profits of state agencies engaged in agricultural exports, as in Argentina and Burma. In Argentina, for example, the export agency accumulated large funds during the period 1946–55, made up of the differences between the prices paid to the farmers and those in world markets. Only a small part of these funds was reinvested in agriculture and the major share was used to finance industrialization or to subsidize food to urban consumers, which however contributed directly to the same end. Agricultural price policies devised to protect consumers by holding farm prices below their "natural" level similarly tend to operate as a means of transferring funds from agriculture to the nonagricultural sector.

Some institutional factors also contribute to the channeling of funds from agriculture to other sectors of the economy. Relatively high rents on agricultural land, high rates of interest to moneylenders, and large distribution margins all tend to divert funds from agriculture, and sometimes depress cultivators' incomes to levels which leave little margin for saving or investment. A rough estimate for India for 1950–51 places rent on land and interest on cultivators' debts at from one fourth to one third of the income originating in agriculture,[14] most of which is probably not reinvested in agriculture. In the Egyptian Province of the United Arab Republic it has been estimated that the rent of agricultural land (before land reform) amounted to no less than 50 percent of the total value of the agricultural output, and nearly a fifth of total national income.[15]

Again, as pointed out earlier, instability of farm prices and insecurity of land tenure in less-developed countries combine to make agriculture a relatively unattractive field of private investment, usually with smaller returns, a slower turnover, and greater risks than investment in industry or trade. Further, the inflationary conditions characteristic of many less-developed countries attract funds to the construction of urban buildings and to nonproductive investment, such as the bidding up of the prices of land rather than land improvement.

While some net flow of funds out of agriculture is inevitable in less-developed countries in the process of economic growth, it is equally important that sufficient investment funds should be retained in (or returned to) agriculture for a balanced development of the economy as a whole. The relatively slow growth of agriculture in many less-developed countries and the stresses which this imbalance has set up in their economies suggest strongly that this condition has not always been fulfilled.

Where an imbalance has developed, policies of the kind discussed earlier to create a more favorable economic and social environment may do much to correct the situation. Measures which may be taken for the increased mobilization of private funds for agricultural investment, for better facilities for agricultural credit, and for the optimum use of government resources are considered below. For some schemes involving substantial financial investment, especially where this implies expenditures of foreign exchange, assistance from international financing institutions may sometimes be called upon. Much attention has also been given recently to ways in which agricultural surpluses in some of the developed countries could be used for increasing agricultural and other investment in less-developed countries.[16]

Private foreign capital has seldom been a major source of investment funds in the agriculture of less-developed countries, though it has contributed more largely to the infrastructure which has made agricultural development possible. The role of private foreign capital was briefly reviewed in *The State of Food and Agriculture 1953*, and the situation does not appear to have changed materially since that time. It was pointed out then that its contribution was rather modest, except in a few sectors. Thus, at the end of 1951 total United States investment in foreign capital was $694 million. More than 80 percent was

[13] United Nations/FAO, Economic Development and Planning in Asia and the Far East: The Agricultural Sector, *Economic Bulletin for Asia and the Far East*. Bangkok, November 1957.

[14] United Nations/FAO, *op. cit.*

[15] M.A. Anis, A study of the national income of Egypt, quoted by Alfred Bonné in *Studies on economic development*. London, 1957.

[16] FAO, *Uses of agricultural surpluses to finance economic development in under-developed countries*. Rome, 1955.

invested in Latin America, mainly in sugar and fruit undertakings; about 45 percent was in Cuban sugar alone. This compared with a net investment in domestic United States agriculture of the order of $1,500 million annually. The share of agriculture in United Kingdom overseas private investments cannot be separated precisely, but in 1950 (the latest year for which data were then available) share and loan capital of companies registered in the United Kingdom and British companies registered abroad included £77.8 million for rubber and £40.9 million for tea and coffee as the only recognizably agricultural undertakings, though these figures are certainly not complete. The conclusion seems to be, however, that in general the less-developed countries, as in the past, are likely to have to rely primarily on their own resources for agricultural investment.

Mobilization of private funds for investment in agriculture

Despite the rather discouraging picture presented above, private investment in agriculture in at least some of the less-developed countries is at present substantial. For example, it was tentatively estimated that private investment in agriculture and village and small-scale industries in the second five-year plan for India would amount to Rs. 3,000 million, compared with a planned public investment of Rs. 10,540 million for agriculture, community development, irrigation and flood control, and with a total estimated private investment of some Rs. 24,000 million. In the Philippines' five-year development program (1957-61) the total estimate of private investment in agriculture was 611 million pesos, as compared with 307 million pesos for public investment in agriculture.[17]

There seems little doubt, moreover, that increased private investment in agriculture would be forthcoming if measures for greater price stability and to improve marketing and land tenure systems increased the returns and reduced some of the risks. In such circumstances producers would be likely to increase their expenditures on, e.g., fertilizers, better seeds and livestock, insect and disease control, though part also of any increase in farm incomes would certainly be spent on badly needed foods and consumer goods or hoarded.

[17] United Nations/FAO, *op. cit.*

The tendency in less-developed countries to hoard gold, jewelry, or cash reflects in part the lack of banks or co-operative credit societies where savings can be safely deposited while remaining readily accessible. If small savings could be mobilized by such means they could be used to augment the supplies of institutional credit to small farmers or for other forms of investment. The establishment of savings banks in rural areas appears to be one of the best ways to attract small savings, giving the depositor a sense both of security and liquidity, while the payment of interest on deposits gives an additional incentive for saving.

Agricultural credit[18]

In the majority of less-developed countries small farmers have little or no access to institutional credit, and can obtain private credit only from relatives or from merchants and moneylenders, often at usurious rates of interest. The sources of farm credit in a number of countries, as disclosed by recent surveys, are analyzed in Table IV-2, where the minor role of institutional credit in Ceylon, India, Pakistan, and Thailand is in sharp contrast to the situation in Turkey and Morocco. In Morocco, in particular, government institutions and commercial banks appear to provide more than four fifths of the total supply of farm credit. Lebanon, where the study covers only one district, appears to be in an intermediate position. The small share of credit contributed in many countries by public and co-operative institutions reflects partly their lack of loan funds, partly the inability of many small farmers to provide land or other security for loans, and partly the reluctance of institutions to grant loans for current consumption needs.

In most less-developed countries, the interest rates charged by private moneylenders are extremely high. In Cambodia, for instance, the interest rates may range between 7 and 10 percent per month (80-120 percent per annum). In Indonesia the usual rates appear to be between 50 and 100 percent per year. In India, as much as 70 percent of the money borrowed from private

[18] Much of the material in this section has been obtained from United Nations/FAO, *Credit problems of small farmers in Asia and the Far East.* Bangkok, 1957.

TABLE IV-2 – SOURCES OF AGRICULTURAL CREDIT (PERCENTAGES OF TOTAL BORROWINGS)

	Ceylon 1957	India [1] 1951/52	Pakistan (Punjab) 1951	Thailand 1953	Lebanon (South Baka's) 1953	Turkey 1952	Morocco 1957
	Percentage						
Government and government-owned institutions	2.6	3.3	3	0.2	11.5	50	47.5
Commercial banks	1.1	0.9	—	—	—	2.5	37.4
Co-operatives	4.1	3.1	13	14.0	40.0		[2] ...
Landlords	8.0	1.5	17	2.0	3.7		[3] ...
Agricultural moneylenders	[4] ...	24.9	[3] ...				[3] ...
Professional moneylenders	15.5	44.8	1	27.3	43.1	47.5	[3] ...
Traders and commission agents	11.5	5.5	3		[3] ...		6.3
Relatives and friends	44.2	14.2	63	55.4	1.7		[3] ...
Others (incl. unspecified sources)	13.0	1.8	—	1.1			8.8

SOURCES: Ceylon: Department of Census and Statistics, *Survey of rural indebtedness-Ceylon 1957*. Colombo, 1959.
India: Reserve Bank of India, *All-India rural credit survey*, vol. II, p. 167. Bombay, 1954.
Pakistan: The Board of Economic Inquiry, Punjab, *Report on the need and supply of credit in the rural areas of the Punjab*. Lahore, 1951.
Thailand: Ministry of Agriculture, *Thailand farm economic survey*, 1953.
Lebanon: *Agenda, Working materials and proceedings* of the Agricultural Credit Conference, held in Beirut, Lebanon, October 1953, sponsored by the Ford Foundation and the Economic Research Institute. (South Baka'a district only, not representative of the whole country).
Turkey: V. Webster Johnson and Edwin C. Johnson, *Farm credit activities in selected countries with reference to credit programs for underdeveloped areas*. Harvard, 1954.
Morocco: *Bulletin de statistiques et de documentation financière*, No.61, 1958.
[1] Includes fishing societies. – [2] Included under "Government." – [3] Unreported. – [4] Included under "Others."

sources was in some areas at annual rates of interest of 25 percent or more, while interest rates exceeding 50 percent or more are not uncommon in many areas.[19] In the Philippines rates of interest paid by small tenant farmers may range from 25 to 400 percent per annum. These rates of interest reflect in part the lack of alternative sources of credit; they reflect also, however, the heavy risks and high cost of providing agricultural credit. The small size of the holdings, the great dependence of agriculture on weather, and the absence in many less-developed countries of ownership or occupancy rights in land all contribute to these difficulties. Thus, absence of legal proof of land ownership means that in many countries the majority of small producers can borrow only on their personal security. Recent investigations in India showed that in some areas small cultivators had obtained over 70 percent of their loans on this basis. Even in areas where small farmers own their land, however, short-term loans are frequently obtained on personal security. Such loans often carry an explicit or implied understanding that the cultivator will sell his surplus produce to the lender, who is often a merchant as well. This aspect was discussed in the section on marketing.

The difficulties of supplying credit on reasonable terms to large numbers of small farmers has frequently led, both in more and in less-developed countries, to the establishment of special institutions for this purpose, rather than to reliance on commercial banks. At the present time action of this kind is being taken in many countries to create or to augment the supply of agricultural credit at reasonable rates of interest, sometimes through government agencies, and sometimes through co-operative institutions. An interesting development in some countries is the provision of loans in kind. Thus, in Taiwan fertilizers are supplied on credit to cultivators by the "Food Bureau," while repayment can be made in the form of rice. In Chile the Agricultural Department of the State Bank supplies fertilizers, seeds, pesticides, and other requisites on loan to farmers at low rates of interest. Under the 1956-60 development plan in the Federation of Malaya, government assistance for the replanting of rubber on smallholdings is given partly in kind, i.e., by the supply of selected planting materials, fertilizers, fencing, etc., and partly in cash.

Hitherto, in spite of official encouragment, the co-operative movement has seldom had any significant impact on the provision of agricultural credit in less-developed countries. Thus, the All-India Rural Credit Survey noted that "the weakest link of all, in a chain which is weak at almost all points, is the primary co-operative credit society. It satisfies none of the requisites of either good co-operation or sound credit. Its failure to promote thrift and savings is followed at not too great

[19] *All-India Rural Credit Survey*, Vol. II, p. 173.

a distance by its failure to provide in the village a system of credit which is at once adequate, prompt and productive."

Some of the weakness of co-operatives in this field has been due to the shortage of trained staff having the high standards of integrity necessary. Some has come from a certain rigidity in their loan conditions: e.g., insistence on land ownership as a criterion for credit worthiness. Recently, however, there has been a good deal of new thinking in this direction. One reason has been the realization that, while the co-operative framework provides the best means of placing agricultural credit on a sound footing, in the early stages at least governments must take primary responsibility for the provision of funds, organization, and general supervision. A second is a greater realization of the close relationship between agricultural credit and the marketing of agricultural produce, and of the need for an integrated approach to these questions if the co-operative movement is to compete successfully with private moneylenders and traders. A third point is a greater appreciation that judiciously supervised agricultural credit can be granted against the personal integrity and productive capacity of the borrower as well as on the security of land, and indeed must be if institutional credit is to be provided to the majority of small cultivators, particularly tenants and sharecroppers.

In Japan, the well-established co-operative movement has, in the course of its evolution, acquired most of the features referred to above. It has adopted an integrated approach to credit and marketing, and its system of granting crop production loans on the security of crops (rice, wheat, and barley) meets in a substantial measure the short-term credit needs of farmers. However, the situation is simpler in Japan, where most farmers now own their land. In the Philippines, however, a new approach along these lines is being developed by the Agricultural Credit and Co-operative Financing Administration. Similar trends are apparent in, e.g., India and Ceylon, in the sense that farm credit is being provided increasingly by co-operatives, which also market their members' produce. Recent regulations in Iraq and the United Arab Republic make it compulsory for the beneficiaries of land reform to join co-operatives through which they may receive the necessary credit facilities.

The provision of credit does not of course in itself ensure that the funds will be used for improved production. Systems of supervised credit have therefore been established in many countries, especially in Latin America, and are operating with considerable success. Under these systems the provision of loans is coupled with the planning of improved farm operations in co-operation with the extension services and with marketing and other ancillary services. Emphasis in granting loans is placed on the prospective repayment capacity of the borrower as it results from the combination of credit, extension, and other operations. Supervised credit, by its very nature, however, is a costly service financially and also in its requirements of skilled and trained personnel. Its educational aspects, however, are important. It may indeed be questioned whether the educational costs should be charged against the loan or whether they should be covered by special government allocations, as are other public education and extension services.

The technical and social supervision may be provided more economically if supervised credit is organized through the co-operative movement, or if there is already an adequate and efficient extension service with which it can be linked. Because of its cost, supervised credit cannot entirely replace normal credit operations. It is, however, well adapted to improving methods of cultivation in selected areas, and may be transferred to other critical areas when this has been achieved, leaving the supply of credit in the first area to be maintained through less expensive channels.

Public investment in agriculture

The much more prominent part taken by public investment in postwar economic development than formerly is less of an innovation in agriculture than in some other sectors of the economy. Because it offered little attraction for private investment, institutional farm credit has long been provided largely from public funds in many countries. For the same reason, and because of the need to deal comprehensively with large areas, big irrigation, drainage, and land reclamation projects have traditionally fallen into the field of state investment.

Some new developments may, however, be noted. One is the emphasis on "multipurpose projects," especially in combining the construction of dams for irrigation with power projects,

transportation services, flood control, and the whole gamut of activities now included in "river basin development." Another is the use of public funds to assist in small-scale projects which formerly would have been left entirely to private enterprise, such as minor irrigation works, the construction of warehouses, silos, etc. A third is the use of government funds to provide production requisites and improved planting material to farmers at low cost. The results of the increased government expenditures since the war on agricultural education, extension, and research are discussed in a later section.

In some countries the tendency, especially in the initial stages of economic development, has been to concentrate a large part of the public investment in all sectors, including agriculture, on a few large-scale projects. More than half of the public investment proposed in Pakistan's five-year plan, for instance, is in power, irrigation, railways, and large-scale industry. Similarly, in the first five-year plan of India, roughly two thirds of new public investment was for multipurpose schemes. [20] However, in the second Indian five-year plan the irrigation program underwent a change. While in the first plan there were about nine schemes (including power projects), each costing Rs. 30 crores and over, in the second plan there is not a single new scheme in this category. The emphasis has shifted from multipurpose to single-purpose schemes and from major to medium-scale projects. This is expected to result in achievements approaching more closely the targets laid down. [21] A trend from major to minor irrigation projects has also occurred in Mexico, a country where provision of additional irrigation facilities in the last two decades has been remarkably rapid. Forty percent of the area brought under irrigation in the decade 1946-55 resulted from minor projects, whereas prior to 1946 around 95 percent of all irrigated land had been served by large-scale projects.

Although large projects often offer scope for introducing more advanced farming methods, their construction alone will not ensure their efficient use. For example, a peasant accustomed to dry farming has to learn the techniques of wet farming. Reductions in the cost of irrigation water, or even its free supply, are sometimes necessary in the initial stages to induce farmers to take full advantage of it, e.g., by raising a second crop. Moreover, additional costs to farmers are involved for, e.g., fertilizers, soil preparation, implements, and farm buildings if the full potential of the project is to be realized. Improved transportation and marketing facilities will often be required to handle the increased production. The initial investment for construction is thus seldom the total cost of a large-scale irrigation project.

This is not the place to discuss the relative merits of large- and smaller-scale development projects. Both certainly have a part to play, and in some circumstances large-scale reclamation or irrigation projects may represent the best, or indeed the only, solution. Nonetheless, large-scale development projects involving substantial capital investment are obviously a serious commitment for the resources of less-developed countries. They sometimes have to be abandoned temporarily at times of financial stringency, while the inevitable delay, even in favorable circumstances, before there is any return in increased production means that for a long time they tend to increase inflationary pressures. It appears also that the attractiveness of spectacular large-scale projects sometimes leads to an inadequate allocation of funds for less dramatic tasks, such as the construction, maintenance, or replacement of smaller works.

Public investment funds are often used fruitfully as a method of stimulating private investment which might not otherwise be made, e.g., by assisting farmers financially in minor irrigation works such as tanks and wells. Several Asian countries have adopted this practice. In India, for example, minor irrigation works are eligible for a subsidy of 25 to 50 percent of the total cost. In Pakistan subsidies on the installation of wells are given in the form of 50 percent grant and 50 percent loan. In South Korea, too, a subsidy amounting to one half of the cost of irrigation works is given. The same method is used in some Asian countries to encourage land development. In Burma, acreage expansion subsidies were given for increases of area under paddy up to 1953/54, and such subsidies are still in effect for groundnuts and jute. Similar subsidies are given in Ceylon for bringing new land under paddy and some minor crops.

The subsidized distribution of agricultural requisites, such as fertilizers, improved planting ma-

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[20] D.K. Rangnekar, *Poverty and capital development in India*. Oxford, 1958.

[21] *Studies in Indian agricultural economics*, Chapter IV, p. 167. Presented to the Tenth International Conference of Agricultural Economists, Mysore, India, 1958.

terial, etc., found in many less-developed countries is also in essence a means of using public funds to encourage additional private investment or expenditure to improve the level of cultivation and to increase output. To cite only a few examples, in both the Federation of Malaya and Pakistan there is a 50 percent subsidy on the price of fertilizers; in Ceylon fertilizers for paddy are distributed at two thirds of their cost price; in India, ammonium sulphate, made in government factories, is supplied on a "no profit no loss" basis, while a subsidy of 25 percent is given for superphosphate. The response of farmers to the subsidization of fertilizers has been considerable, as also in Norway, the United Kingdom, and other more developed countries, where the same system is followed. The present demand for fertilizers appears indeed to exceed the supply in a number of countries, including India and South Korea.

Improved planting material is also subsidized in many countries. For example, in India the purchase and distribution of improved seeds are eligible for a subsidy of 2 rupees per maund (about 37 kg.). In Ceylon improved coconut seedlings are subsidized to the extent of nearly half the total cost. As planting material generally accounts for only a small proportion of the total cost of production, the main benefit from such subsidies accrues primarily from increased productivity. The greater use of improved varieties of seed is one of the effective ways of increasing crop yields, and large-scale seed farms to multiply suitable varieties are being established in India and Pakistan. Experience with, e.g., hybrid maize in Pakistan and many Latin American countries, and with improved types of sugar cane in Cuba, Puerto Rico, Indonesia, and other countries indicates that farmers in less-developed countries are quick to adopt new planting material once they are convinced that it leads to substantially higher yields.

Similar methods are being used to encourage afforestation. Many governments, for example, provide forest seeds or seedlings, free or on nominal payment, and technical advice to private owners who are willing to plant new forests, windbreaks, or shelter-belts.

Nonfinancial investment

While financial resources for agricultural and other development are almost always scarce in less-developed countries, manpower is often abundant. This applies particularly to the densely populated countries of Asia. Much attention has therefore been given in recent years to finding ways of utilizing these reserves of labor for more rapid economic progress.

It is not easy to estimate the reserve of manpower latent in the permanent or seasonal unemployment and underemployment in the rural areas of the less-developed countries, though it is certainly very large. One of the few authoritative estimates is to be found in the Indian second five-year plan:

> ... with present techniques of agriculture being continued, if cultivating units were to approach what might be described as family holdings affording possibility of fairly full-time work in agriculture for a family of average size, agricultural production could be maintained with about 65 to 75 percent of the number of workers now engaged in it.

Similar assumptions of the possibilities of making better use of existing agricultural manpower, though as a rule without any quantitative estimate, are made in the plans or basic reports on economic development of Pakistan, Burma, South Korea, South Viet-Nam, and the Philippines. In Mainland China, where the most spectacular efforts to date have been made for the fuller utilization of rural manpower through the "communes," first established on a large scale in 1958, it has been claimed that the average number of days per year spent working in the fields as recently as 1955 was 125, but that in many communes it had now risen to over 300 days.[22] The development of these communes, which engage in rural industries as well as agriculture, is discussed briefly in Chapter II, but it is manifestly too early to form any valid judgment of their success.

Some of the qualifications which apply to the concept of surplus manpower were noted in Chapter III. By no means all manpower in the agriculture of less-developed countries is surplus in the sense that there would be no fall in production in the short run if labor could be moved to other occupations. At some times of the year, especially at harvest, the entire labor resources of a rural community may be fully stretched. In these circumstances a condition for reducing the labor force in agriculture (assuming that it could be productively absorbed elsewhere) might be the provision of im-

[22] René Dumont, L'extraordinaire développement de l'agriculture chinoise, *Le Monde*, 12 octobre 1958.

proved cultivating or harvesting equipment, not necessarily mechanized. Alternatively, the only way of turning to more productive use many days now idle or underutilized may be the organization of part-time occupations in rural areas.

The simplest way in which underemployed rural labor could be used profitably would be of course in agriculture itself. In most less-developed countries there is much scope for work by the farmer and his family, with little cash outlay, in the improvement of his holding, e.g., by the leveling of fields, terracing against erosion, the construction of bunds, fences, animal shelters, barns, and so forth. Measures taken by governments to create a favorable economic climate for agricultural expansion of the kind discussed earlier, e.g., by measures to reduce price fluctuations, to improve marketing facilities, and to provide suitable conditions of land tenure, might well act as a trigger mechanism to encourage much work of this kind by putting the farmer into a position to profit from them. Work to improve the cultivator's own holding could be further stimulated by appropriate advice from extension workers and farmers' clubs, who could often suggest better methods of carrying them out than those in common use in the locality. In some countries efforts are being made to stimulate such activities further, e.g., by some government contribution in the form of grants, credits, or materials. In Taiwan, for example, the government provides the cement to cultivators who undertake to construct drying grounds for their own farms and furnishes pumps on a part-credit part-grant basis to those who dig wells on their own property according to approved specifications.

A second way of utilizing rural underemployed labor in agricultural and ancillary development, to which increasing attention is being devoted, lies in the undertaking on a voluntary, communal, or collective basis of small projects such as the contruction or improvement of feeder roads, small water reservoirs, small irrigation canals to link with the main canals, wells, etc.[23] As is well known, this method of capital formation is an important feature of the community development programs which have been established in many of the less-developed countries, especially in Asia and the Far East where there are the largest reserves of manpower. Ceylon, India, Pakistan, and the Philippines all have ministries or departments in charge of extensive community development programs, and other Asian countries are considering their introduction.

The essence of community development is that self-help village groups mobilize their natural and human resources "in efforts to improve their level of living, with as much reliance as possible on their own initiative," and that governments will provide financial aid and technical services "in ways which encourage self-help and mutual help."[24] The rapid evolution of this movement can be illustrated from the progress that has been made in India, where special emphasis has been placed on this approach. The Indian Community Development Program was inaugurated in 1952 with 55 community projects, each project area comprising about 300 villages. By the end of the first five-year plan, 553 Community Development blocks had been created, bringing 157,000 villages, or nearly one out of every three villages, into the orbit of the program. The second five-year plan proposed to bring every village in India under this scheme, though this target has since had to be somewhat modified.

Activities undertaken by Community Development projects in India have been classified into the following major categories:

1. Constructional programs, such as the building of roads, culverts, drains, schools, community centers, dispensaries, and drinking water sources.
2. Irrigation programs, including wells, pumping sets, tube wells and tanks.
3. Other agricultural programs, such as land reclamation, soil conservation, consolidation of holdings, use of improved seeds, manures and fertilizers, and pesticides, improved methods of cultivation and improved tools.
4. Institutional and other programs, including the establishment of youth clubs, women's organizations, community centers, co-operative so-

[23] The creation of community forests where there are none, or even the abandonment of parts of existing state forests under sufficient control, to nearby communities, is also of great interest. It provides employment for plantation, maintenance, and exploitation, a possible source of raw material for rural industries, and a source of capital which can be drawn upon, when necessary, for community investments.

[24] United Nations *Twentieth Report of the Administrative Committee to the Economic and Social Council*, E/2931, Annex III, p. 2, October 1956.

cieties, distribution stores, adult literacy centers, primary schools, cottage industries, etc.

It is difficult to evaluate how much more effectively than in the past the agricultural labor force has been utilized so far through the Indian Community Development Program. Over-all data on the Program's achievements appear not to have been published. In any case it would not be easy to separate the achievements of Community Development from those brought about by other agencies. The frankly voiced conclusions of the two latest Community Development Evaluation Reports of the Indian Government, based on sample surveys, are, however, of great interest. It was stated that "the objective of inducing public participation and positive support has been comparatively successful in the case of constructional programs, but not in the case of institutional programs," designed to bring different social groups closer together.[25] It was further considered that "the objective of stimulating continuing and positive efforts based on self-help for promoting economic and social development has been comparatively unsuccessful. Too much dependence on government initiative and assistance is still being exhibited by the vast majority of the rural population affected by the program." [26] The interest in participation shown by different occupational and social groups of villagers appears to have varied according to the type of project. The lower income groups participated most willingly in projects which they regarded as being of immediate benefit to them, such as well-digging, but less in projects such as drainage and in road-building, the benefit of which is more obvious to owners of land or of bullocks and carts.[27]

A good many observers have felt that a major difficulty hampering the program has been the inadequacy of the workers at the village level, both in numbers and in quality and training.[28] This would not be unexpected in the early stages of so vast a scheme. The Indian Government is in any case making strenuous efforts to provide much larger numbers of fully trained personnel to provide leadership to the village communities.

Rather full consideration has been given to Community Development in India, partly because of the great attention given to such programs in that country, and partly because of the unusual objectivity with which the Indian Government has endeavored to assess their results. But it would be unfortunate if the impression were given that community development was not being pressed in the other countries of Asia or (though sometimes under other names) in countries in other continents. Similar programs are under way in Mexico, Puerto Rico, British Guiana, Ghana, and Tanganyika, to cite only a few countries outside Asia.

In Ghana, for example, the Department of Social Welfare and Community Development attached to the Ministry of Labor and Co-operatives, has been carrying out for some years intensive work in village projects, mass literacy, the improvement of women's working conditions, and agricultural extension campaigns. For village projects the Department provides technical advice and plans, tools and machines. Assistance has also been provided by institutions with funds available for rural development, such as the Cocoa Marketing Board. The village people provide unskilled labor and sometimes funds from voluntary contributions of the villagers themselves. In the five-year period 1953-57 nearly 5,000 separate village projects were completed, including latrines, street drains, water supplies, feeder roads, schools, clinics, the planting of trees to provide shade and avoid erosion, and so forth.[29]

Again, in Puerto Rico, the Social Programs Administration of the Ministry of Agriculture administers most of the programs of the Land Reform Policy, instituted more than 25 years ago, along the general lines of community development. About 200 communities have been established in which are located nearly 25,000 smallholders. The government provides the land free of cost; lays out the roads and streets, but does not grade them; sets aside a definite area for a community center, but leaves it to the settlers to provide their own homes, to develop their own plots of land and, as a community, to develop streets, roads, schools,

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[25] Government of India, Planning Commission, *The fourth evaluation report on the working of Community Projects and NES blocks*, New Delhi, 1957, p. 19; *The fifth evaluation report on the working of Community Development Projects...*, Summary. New Delhi, 1958, p. 30.

[26] *Fourth evaluation report*, p. 19.

[27] Government of India, Committee on Plan Projects. *Report of the team for the study of community projects and national extension service*. New Delhi, 1957, Vol. II.

[28] Albert Mayer and Associates, *Pilot Project India*. Berkeley and Los Angeles, 1958, p. 320.

[29] P. du Sautoy, *Community development in Ghana*. Oxford, 1958.

churches, co-operatives, etc. The Social Programs Administration, however, gives technical assistance to help and guide these activities, some material assistance such as machinery for road-building and well-drilling, and some financial assistance in the form of credit. Technically-aided self-help groups were constructing latrines at a cost of U.S.$ 15 each, which had previously cost the government $ 60, and building cement-block houses at a cost of $ 300 as against $ 1,000 paid by the government when built under contract. Of projects valued at approximately U.S.$ 250,000, nearly 60 percent was provided by the settlers themselves, about one third of it in money and two thirds in work. The remainder was provided by the government of the Island and units of local government.[30]

Rural industries and handicrafts

Apart from the fuller use of underemployed rural labor in agriculture itself, or in related community projects, the development of rural industries also offers scope for more productive work without migration to towns. Such work is often undertaken on a part-time basis to augment earnings in agriculture, so that the farm labor force is not reduced at harvest time or other seasonal labor peaks. Many rural industries imply fairly substantial financial investment and appear sometimes to be more highly capitalized than large-scale industries in relation to their output and to the employment they provide.[31]

Several types of industry tend to grow up in rural areas in a wide range of countries. Some are concerned with the first processing of farm and forest products, e.g., the drying or canning of fruit and vegetables, the crushing of oilseeds and sugar cane, dairies, tanneries, saw mills, etc. Somewhat more complex are the traditional forms of home spinning and weaving of yarn and textiles, utilizing locally-produced fibers. The development of the carpet industry in Iran and Baluchistan is a good example of the fuller utilization of local fibers, in this case wool. Another type is the manufacture and maintenance of simple tools and agricultural equipment, and (closely related) the production of farm requisites, e.g., bricks, tiles, and pottery from local materials. All these types of industry tend in the course of economic development to enlarge in scale, and often to develop into typical urban manufactures. Yet another type, often related from the outset with larger-scale operations, is the out-contracting of work to be done in the home for subsequent assembly in factories. This list is by no means exhaustive. The proximity of mineral deposits or of hydro-electric power, for example, gives rise to various forms of large - and small-scale rural industry. Low labor costs in themselves are an attraction to the establishment of industries in some densely populated rural areas.

Industries based on the processing of agricultural products have a dual significance in that, in addition to the employment which they provide, they often lead also to an increased demand for certain farm products and so act as a stimulus to farm production. In many Latin American countries, for example, milk production has increased remarkably after the establishment of milk processing plants because of the regular market these offer to milk producers. In other cases such processing industries are established for export crops to make possible the export in a more finished form. This has been the case notably for oilseeds and rubber. Again in many tropical countries of Africa and Latin America the development of cotton growing has been followed by the establishment of ginneries in rural areas to supply both the export trade and the new mills being established in urban areas.

It is a short step from local ginneries and tanneries to the establishment of textile plants and factories producing footwear and other leather goods. However, at this stage the problem arises of whether it is economic to establish such small-scale industries, or whether it is better to encourage larger-scale units centrally situated in towns. The answer may hinge on the attitude toward employment and the general development objectives of the country concerned.

For example, the Indian second five-year plan accepts the absorption of labor as an objective in itself and considers that attention should be concentrated "on the mobilization of effort rath-

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[30] United Nations, *Report of the Mission on Rural Community Organization and Development in the Caribbean area and Mexico*, March 1953.

[31] For a fuller discussion, see International Labour Office, *Labour and social problems of small-scale and handicraft industries in Asian countries*. Geneva, 1957 and V.V. Bhatt, Capital output ratios of certain industries: A comparative study of certain countries, *The Review of Economics and Statistics*.

er than on the gains and returns arising therefrom." Consequently, quite substantial financial resources have been devoted to the promotion of rural small-scale industries, especially textiles, channeled in part through the Community Development Program; to aid them certain marketing restrictions and taxes have been imposed on competing large-scale urban industries. A Small Industries Corporation was set up in 1955 to establish pilot projects, secure orders and provide credit facilities and instruction in production techniques. In the case of *khadi* (homespun and woven textiles), large government orders have been placed with small industry, e.g., for uniforms, and subsidies on production and rebates on sales are given from the proceeds of special excise taxes levied on the production of cotton mills. At the same time, organized efforts are being made to reduce the cost disparity between the *khadi* industry and the cotton mills by helping the rural families to obtain improved spinning wheels and, wherever possible, power looms.

A similar approach is followed in some other Asian countries, e.g., Cambodia, Ceylon, and Pakistan. In order to assist any enterprise which either employs less than 20 persons or uses no power, the Pakistan Government has set up the Small Industries Corporation, which began providing financial and administrative aid in 1956. Training and development centers for the handloom industry and for sericulture, as well as a number of marketing schemes for rural industrial products, have been set up in both parts of the country.

The type of small undertakings manufacturing accessories or acting as subcontractors to large firms may under certain circumstances flourish in rural areas. The highly-developed watch and precision instrument industry in Switzerland started in this way, with certain parts being manufactured in small family or cottage industries by rural workers in their off-season, for assembly in larger urban plants. Similarly in Japan the production of special types of paper, toys, specialized weaving, cutlery, and even engineering products is undertaken in small establishments in the Japanese countryside, in the vicinity of the larger "parent" firms located in towns. In India's plans, particular stages in the manufacture of bicycle and sewing machine parts, electrical goods, cutlery, pottery, and agricultural implements have been allocated to small-scale production. Its location, however, is at present mainly urban or semi-urban. With increasing electrification of villages in India as a long-term aim, a pattern of industrial units would converge on their natural industrial and urban center and form a unit, or, in the words of the Karve Committee Report, "a pyramid of industry broad-based on a progressive rural economy." [32]

The role of education, extension, and research

The greatly increased agricultural production which could be achieved in economically less-developed countries through improved methods of farming are likely to be realized only as a result of research, often of a simple type, to establish the most suitable methods for each type of environment; of educational, including extension, services to disseminate this knowledge to farmers; and finally of its effective application by millions of small producers. This last condition implies not only the creation of an economic and social environment which will provide farmers with the incentives and means to improve production; it implies also a rural population willing to absorb and put into practice new ideas, skills, and techniques, and to adjust itself to a way of life which in time may depart widely from the accustomed pattern. Many of the presently accepted concepts of production, distribution, and consumption of goods and services have arisen from the slow accumulation of experience and tradition. They have become part of a cultural heritage, embodying many values, attitudes, sentiments, and even superstitions which are so deeply rooted that they can be changed only slowly and with difficulty.

To be effective, therefore, agricultural education must take full account of the social and cultural background. Improvements of a kind which can be incorporated into the existing patterns of liv-

[32] India, Planning Commission. *Report of the village and small scale industry committee (Karve Committee)*. New Delhi, 1955. *The first five year plan*, 1952, Ch. XXV, para. 18. *The second five year plan*, 1956.

ing are of particular value in that they are more easily accepted. This approach is especially relevant for subsistence farmers whose very existence has been based on strict adherence to traditional practices and who are, therefore, reluctant to take chances by experimenting with new approaches. Radical changes are certainly necessary, however, if farmers in less-developed countries are to participate in and benefit from agricultural development, but with care these may be carried through without upsetting the rhythm and balance of life in ways which would hinder the adoption of better methods of farming and ways of living.

Agricultural education, including extension, will be the more effective to the extent that it is backed by general education tending to widen the farmer's horizon and make him more receptive to new ideas. Unfortunately, as shown in Chapter III, illiteracy is usually high in the rural areas of less-developed countries, where educational facilities are even less adequate than in towns. Although it is much easier to deal with a literate population, illiteracy does not preclude the teaching of better farming methods. In such circumstances, however, educational and extension services will be most meaningful if they are directed toward the immediate needs of cultivators, and toward such wider issues as are of direct concern to them, their families, and their communities, e.g., the conservation of soil or woodland, the combatting of floods and droughts, the control of pests and diseases, human and animal nutrition.

In many less-developed countries, therefore, an immense task of education has to be carried through with very slender resources if effective agricultural services are to be established. In countries where illiteracy is rife, a first essential is likely to be the training of the field and village workers who will be in direct contact with the farmers. Necessarily, the training of these workers may have to be of a relatively simple character, at least in the early stages. More advanced agricultural training facilities will also be necessary for the higher levels of the extension service, and for the staffing of training and research centers.

Education through extension services

Extension or farm advisory work is an informal and highly functional type of education for the farmer and his family, carried out primarily on the farm itself and in the home. Its aim is to teach improved methods of production and marketing leading to higher farm incomes and also ways of establishing a better home and community life. While it may be advisable for practical purposes to concentrate on a few things at a time, an important underlying objective will also be to make farmers more receptive to new ideas so that they seek on their own initiative ways of improving their farm operations.

The organization of extension services naturally varies a good deal from country to country. Of particular interest is the comprehensive service in Japan, as the conditions of dense rural population and small farms resemble those obtaining in many other countries in Asia and in some less-developed areas elsewhere.

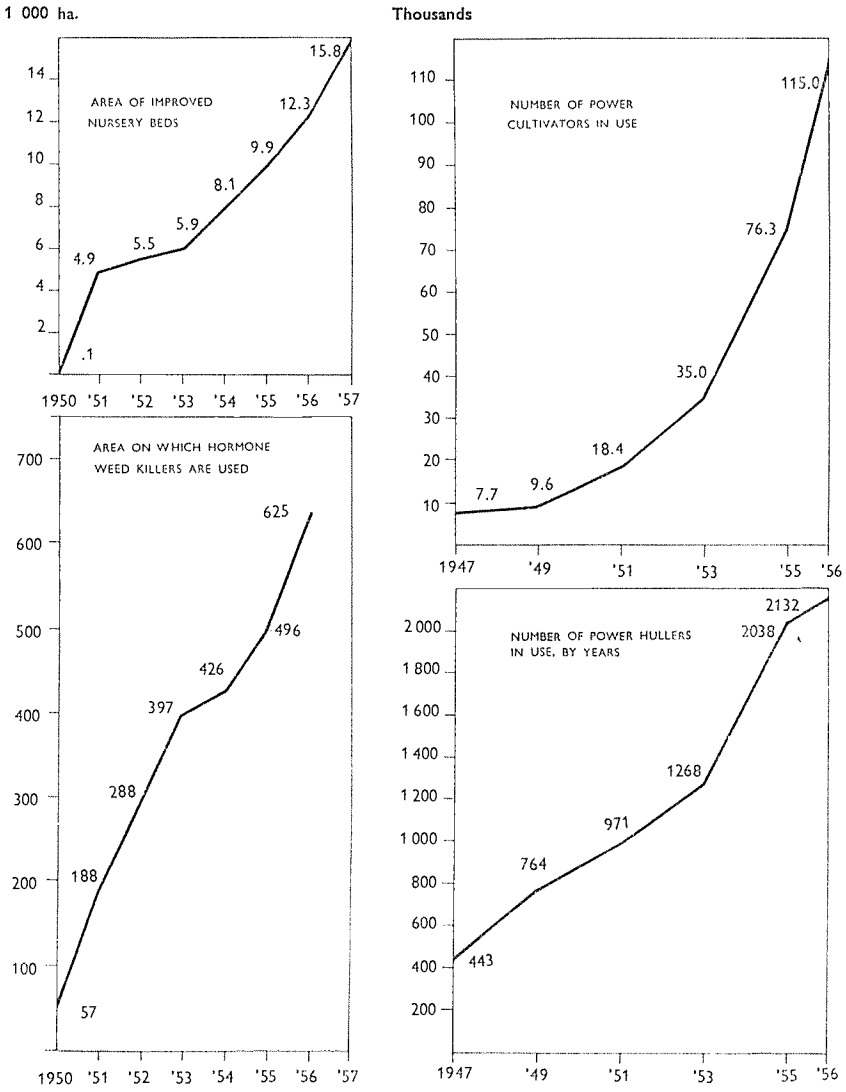
General supervision of the service is exercised through the Extension Division of the Japanese Ministry of Agriculture and Forestry.[33] Each prefecture has an extension office staffed with both subject matter specialists and extension advisers, while each prefecture is divided into sub-areas of varying size. An average area contains 2.4 towns or villages and about 4,000 farms, and 7 to 8 field extension advisers are stationed in the area extension office.

All subject matter specialists are stationed at prefectural government headquarters or at prefectural agricultural experiment stations. The latter arrangement is especially suitable for maintaining close contact between the experiment stations and the field extension advisers. In 1958, there were 579 subject matter specialists in various fields of agriculture and, in addition, 92 in home economics. Most of the agricultural specialists dealt with rice production, animal husbandry, and farm management, but some were concerned with vegetables and potatoes, soils and fertilizers, plant diseases and pests. In all, 23 categories of subject matter were covered.

Field extension advisers numbered about 11,000 in 1958. About four fifths were junior college or high school graduates, and many had received training at the prefectural extension stations. These advisers give on-the-spot assistance to groups such as farmers' settlements or agricultural study clubs, as well as to individual farmers, though the

[33] For a fuller discussion see: Ministry of Agriculture and Forestry, *Agricultural extension work in Japan*, Tokyo, 1957; and *Agricultural extension in Japan*, 1958.

FIGURE IV-2. JAPAN: DEVELOPMENT OF IMPROVED CULTURAL PRACTICES AND THE USE OF MECHANIZED IMPLEMENTS



SOURCE: *Agricultural Extension Work in Japan*, Extension Division, Development Bureau, Ministry of Agriculture and Forestry, Oct. 1957.

former method is preferred as it makes better use of the staff available.

The extension methods used include round table talks, training courses, field trips to progressive farms, competitions, agricultural fairs, etc. About 50,000 demonstration plots are set up each year throughout the country, including some 4,000 experimental fields in which several methods are compared side by side. As in most countries, the main difficulties of extension work spring from the great variety of natural conditions, from traditionalism, and from the great variation of ability from farmer to farmer. In each extension office the agricultural improvement extension program is established annually, based on the extension advisers' assessment of the main local problems in each area. It has been found that it is necessary to repeat certain advice each year at the appropriate season, to which about half of the adviser's time in personal contacts with farmers is devoted. Other kinds of work include seed collection, agricultural village establishment work, agricultural municipal commissions, co-operative associations, research and surveys, etc.

Because farm efficiency is influenced by many factors as well as by extension advice, it is difficult to evaluate the results of extension work alone. However, the rapid increase in the use of improved methods in postwar Japan is undoubtedly due in large measure to extension work. A few specific examples are shown in Figure IV-2.

Although it is easier to deal with the largely

literate agricultural population found in Japan, widespread illiteracy does not preclude effective extension work, though for best results the methods used must be adapted accordingly. In some countries, e. g., India and Pakistan, broad community development programs are important in providing informal education to farm families. Improvement in levels of living of the rural population is believed possible only if the problems of illiteracy, poor health, low production in agriculture, etc., are attacked simultaneously. Such programs focus on helping the village community as a whole, including the stimulation of local leadership and initiative to cope with the community's problems. Since agriculture is the main economic basis for better home and community life, agricultural extension activities are prominent in community development programs. Often, simple instruction in all of these problems is given through a single village worker who has received relatively simple training in special schools set up for the purpose. Where the general level of education of farmers is low and trained personnel is scarce, the community development approach enables a few trained agriculturalists and other technicians, utilizing the services of multipurpose village level workers, to spread their influence to a much greater number of farmers than would be possible by direct contact.

It is a truism that extension work will not make its full impact unless the extension worker wins and retains the confidence of farmers. If he is to accomplish this, he needs training adapted to the conditions in which he will work. Best results will be obtained if he takes fully into account existing agricultural, economic, social, and cultural conditions in the community in which he works, and understands the farmers' daily problems. In this way he will be more readily accepted in their society. This will be easier if he himself has a rural background. When, as in many countries, extension workers are largely recruited from urban areas where educational facilities are better, they often find it hard to mix easily in the rural community and tend to spend much of their time in their offices, with occasional visits to the holdings of larger farmers. Lack of direct and regular contact with farmers, owing to insufficient extension personnel as well as to differences of outlook or deficiencies of training, is often a major weakness of the extension services in many less-developed countries, and can be made worse if the extension worker lacks transport facilities. It is, however, becoming more common to provide means of transport to extension workers, e.g., bicycles as in Japan, motorcycles as in the Egyptian Province of the United Arab Republic, or even horses.

The general scarcity of trained personnel has also led many less-developed countries to include among the duties of their limited field staffs such things as regulatory work, production and distribution of seed, distribution of fertilizer, collection of statistics, the operation of credit schemes and, in some cases, even the collection of taxes. Many of these direct services are of importance. For example, it is of little use to persuade farmers to use improved seed, fertilizers, etc. if supplies are not available. However, to the extent that extension workers devote their time to such activities, their time for educational work with farmers is reduced. Furthermore, some of these activities, e.g., tax collection and regulatory work, are incompatible with the maintenance of confidence between extension workers and farmers, and are detrimental to the main objective of extension work. Recognizing this problem, a number of countries, e. g., Afghanistan, have recently taken steps to separate the educational and non-educational activities of their field staffs, devoting the extension services solely to education.

In countries where the extension service is of recent origin, inexperienced, and understaffed, difficulties have arisen in making an appreciable impact upon agricultural producers unless activities are concentrated in a limited number of areas which can be adequately served, as opposed to spreading the available extension force thinly over the whole country.

The way in which an extension service is organized and administered naturally has much bearing on its effectiveness. Some countries have established separate extension services in different subject-matter fields, e.g., soil conservation, crop production, and livestock. Apart from requiring additional expenditure and technical staffing in comparison with a single comprehensive extension service, this arrangement has resulted in uncoordinated and sometimes contradictory advice being given to farmers by officials representing different technical departments, and has hampered the development of a close personal relationship between the farmer and the local extension worker. If the farmer is accustomed to seeing one officer in

the community, this officer may ultimately gain his confidence. But if there are many officers, the farmer may become confused and reluctant to take any of them into his confidence. Another major problem in many countries is overstaffing with administrators and co-ordinators, thus reducing the percentage of extension service personnel having direct contact with agricultural producers. It is also likely to increase the amount of routine administrative work to be undertaken by the extension workers operating at the field level, and may add to the complications of bureaucratic control and interference in technical activities.

Finally, special reference should be made to the importance of home economics as a branch of extension work. The farm family is an economic and social unit, the wife not only managing the home and bearing and rearing children, but often contributing to the agricultural work in ways which may be critical to its success. She can be taught to make better use of available resources, including foodstuffs. The diet of many farm families in less-developed countries is not only inadequate in quantity but is also badly balanced nutritionally.

Home economics extension work, and perhaps some provision of improved production requisites, can encourage subsistence cultivators to produce additional and more varied foodstuffs for their own families. This may involve the cultivation of new crops as well as a knowledge of how food should be prepared in order to safeguard its nutritional value, how to preserve it, and what is required in the diets of members of the family. The farm wife can also be helped to run her home efficiently and with the best equipment available, to spend wisely, feed and market her poultry, and perhaps combine with her neighbors in the purchase of articles such as a home canning machine or oil-press. Although such steps would not generally result in any large increase in monetary incomes, they could nevertheless bring about significant and much needed improvements in food consumption levels and general well-being.

In view of the large number of women working on family farms and the heavy work they do in the home and on the land, practical measures need to be taken to lighten their labor and make it more productive. Improvement of water and fuel supplies, introduction of more suitable tools, and improved methods of carrying heavy loads are means to this end and will also contribute to more efficient farm operation.

Agricultural education

A shortage of trained technical personnel of all levels, e.g., for extension work, technical support for extension workers, administration, research, teaching, etc., is characteristic of the less-developed countries and a limiting factor in most programs for agricultural improvement. There is usually a scarcity of training facilities and teachers, in part because the demand for specialized agriculturalists has been small in these countries until recently. The generally rather scanty or non-existent education of many farmers in these countries also hampers efforts to disseminate even simple technical information.

Building up an educational system, both general and agricultural, and the training of large numbers of personnel needed at different levels are obviously a broad and long-range task, most of which is beyond the scope of this chapter. It seems appropriate, therefore, to mention only a few pertinent points of more immediate interest.

While extension services for farmers are an important first step in spreading the use of improved agricultural methods and practices and in stimulating a more receptive attitude toward new ideas on the part of rural communities, such activities can obviously be facilitated by a system of general and agricultural education for training future generations of farmers and making them more ready to accept new techniques on a rational basis rather than in the light of traditional beliefs. The reduction of illiteracy would in itself provide new channels for the dissemination of knowledge of improved agricultural practices. Furthermore, as elementary schools for more general education are established in rural areas, simple instruction in improved methods of agriculture can be included in the courses. Several countries are also making provision for informal training after children have left school through rural youth organizations. This training can be a valuable supplement to organized primary education.

As development proceeds, the establishment of agricultural secondary shools for rural youth may be envisaged, which would make available trained technicians at the intermediate level with a rural background for employment in government services to agriculture, as well as producing future farmers capable of utilizing more complex production techniques and methods of farm management. Facilities for training of a more highly-specialized

nature in colleges and universities are not yet available in some countries, and for the time being they must rely on foreign institutions for training the more highly-qualified teachers, research workers, etc. This, too, is a handicap which is likely to be overcome as economic development gets under way.

Even in countries where higher educational facilities exist for advanced training in agriculture, difficulties sometimes arise in attracting students to undertake agricultural studies at the college level. This is in many cases largely due to the low social standing of agriculture and to the inadequate housing for and salaries paid to personnel of extension and other services to agriculture. Attention to these factors is often needed if improved educational facilities for rural communities are to play a fully effective role. Timing is also important. A number of years must elapse before research or advanced extension workers can be trained and obtain sufficient experience. It is therefore necessary to allocate funds for their training well in advance of the time when the additional staff will be required. The same is true of the construction and equipping of research laboratories and experimental stations.

Agricultural research

While the principles and methods of scientific agriculture, which have brought about such large increases in agricultural productivity in the more developed countries, may have universal applicability, it is seldom possible to transplant them without modification to other climates and other natural and economic conditions. There have been several unfortunate instances where new varieties of crops from developed countries have been recommended to farmers in less-developed countries without testing under local conditions, or where breeds of livestock have been introduced without first verifying their adaptability to local climatic, food, and disease conditions. More and more it is being found that indigenous varieties of crops or breeds of livestock, after proper selection, give better results than imported strains. Again, heavy expenditures of scarce foreign exchange have sometimes been incurred to import farm machinery which proved to be unsuited to local conditions.

There is thus a place from the outset for agricultural research stations in less-developed countries embarking on plans of agricultural development, though initially these research stations may have rather practical programs of work concerned primarily with the testing and selection of improved varieties of crops and livestock, the testing of improved farming methods in the conditions of the locality, or the improvement of local tools and devising of simple types of machinery.

They would be concerned, too, with, e.g., whether the additional returns to farmers are likely to provide a reasonable margin of profit above the costs to them of putting a new technique into practice; whether the new technique or new crop would fit well into the customary pattern of farm operations, or would disorganize them, e.g., by requiring more labor at a season when the farmer is fully occupied; or whether an improved practice might go against deep-seated local customs. Other investigations might turn on the technical and economic feasibility of, e.g., large land reclamation and irrigation projects, or of the suitability of underutilized areas for colonization.

Since research programs in less-developed countries are generally limited by the funds that can be made available, shortage of trained personnel, equipment, etc., care in the orientation of research programs is of obvious importance. The full value is not always obtained from the resources available for a number of reasons. Fields of work are sometimes subdivided between technical departments to such an extent that joint research projects are impossible. For example, plant research groups may work on the selection of pasture varieties without the use of livestock, while grazing trials may be carried out by veterinarians of the livestock department who have no knowledge of plant science. Again, research workers are sometimes dispersed over a relatively large number of experimental stations with the result that each station is seriously understaffed. Greater results may often be obtained if available staff and facilities are located at a limited number of stations (according to the size of the country and climatic variations) to provide better rounded research teams, concentrate equipment, and avoid dispersion of effort. At the same time it is of course necessary to carry out field trials at substations or on private holdings in the major regions so that materials and information adapted to local conditions can be made available to extension workers or directly to producers. Another weak-

ness is that directors of technical departments often allocate research resources largely on the basis of their own scientific interests, rather than on the importance of the project to the agricultural economy. This often results in funds being devoted to research in fields of only minor economic importance. Primary attention to the agricultural products of greatest importance to the economy as a whole, and to the solution of the problems of farmers as reported by the extension services, will normally be a more fruitful approach. With this in mind, several countries, e.g., Argentina, the United Arab Republic, and India, have set up agricultural research committees or institutes to establish priorities among the different kinds of agricultural research. These limiting factors have also led many of the less-developed countries to concentrate on applied research, e.g., adaptability trials on the basis of theoretical knowledge gained elsewhere, restricting their efforts in more fundamental research to those cases where particularly important local problems make it necessary.

The closest possible link between the research stations and the extension service is of particular importance. The results of research have little value until applied by farmers. Equally, premature advice to farmers to adopt untested varieties or methods of cultivation may badly shake their confidence in the extension service. In Japan, for example, the administration of extension and research are both under the Development Bureau of the Ministry of Agriculture and Forestry and, as noted earlier, at least some of the subject matter specialists in the extension services are normally located at research stations so that a regular and fruitful interchange of view is facilitated.

The role of government

This chapter has shown what wide responsibilities are now assumed by the governments of the less-developed countries in fostering agricultural and general economic development. The ways in which they do so and the extent of their intervention vary a good deal according to the political outlook of the government, its financial resources, the strength of its administrative machinery, and other factors. Nearly everywhere, however, the role of government in economic matters has taken on an importance which it seldom if ever had before the Second World War.

Indirectly, nearly all governments carry out policies which profoundly influence the economic and social environment in which agricultural producers operate, though as already noted by no means all these policies assist agricultural development, and some tend to have the opposite effect. On the more positive side, nearly all governments provide some services to agriculture, especially educational, technical, or social services. The majority also participate in some degree in the financing of agricultural development, sometimes indirectly by supplying funds for, e.g., agricultural credit, or by partial grants to stimulate private investment, sometimes directly by undertaking irrigation, afforestation, or other development projects, more often in both ways. In many countries, including Ceylon, Ecuador, the Federation of Malaya, Ghana, and Mexico, to quote only a few examples, the share of public funds in fixed capital formation in all sectors of the economy runs from one third to two thirds of the total.

Stress has been laid on the importance of establishing a favorable economic and social environment if agriculture is to expand quickly enough to meet the rapidly growing needs of the less-developed countries. If conditions are favorable, private capital is likely to flow increasingly into agricultural production (instead of being locked up in unproductive investment), while the initiative of the farmers themselves would be likely to lead to an increased "nonfinancial" investment and to a greater readiness to adopt improved methods of farming. These factors might well have an unexpectedly large effect on output. Price stabilization, improved methods of marketing, and satisfactory systems of land tenure have been discussed at some length, and in many less-developed countries these seem to be the measures which could perhaps do most at the present time to increase farmers' incentives to expand their production. But they are, of course, by no means the only ways in which governments can create a more favorable climate for agricultural development. For example, the incidence of taxation may be modified to this end, as in the case already

mentioned of Colombia. Crop and livestock insurance is being increasingly considered as a means of reducing some of the worse risks to farmers. Particularly important in many countries is the improvement of the infrastructure, especially roads, railways, ports, and communications. Although in past decades, and especially before the First World War, such systems were often developed largely by private capital (including foreign capital) with varying degrees of public assistance, it seems clear that in the less-developed countries today this is a task which will fall mainly on governments.

In a favorable social and economic environment measures aimed directly at agricultural development would be likely to have a much greater effect. Farmers would be more receptive to the teachings of the research, education, and extension services; international and bilateral technical aid would be more readily assimilated; agricultural producers would also be more anxious to utilize credit productively; schemes for irrigation, drainage, or reclamation would be utilized more quickly and effectively by cultivators; private enterprise would be more likely to augment direct government action not only in investment, but also in research, extension, and education where, e.g., manufacturers of fertilizers and pesticides, seedsmen, etc. can play a useful role. In many less-developed countries privately-sponsored schools and colleges are an important part of the educational system.

A substantial and growing number of governments in less-developed countries now plan and shape the course of agricultural and general economic development, though the method and scope of planning vary greatly from country to country. In some it consists essentially in framing broadly-defined aims, sometimes in the form of a long-term "perspective," together with a program of public investment, co-ordinated in varying degrees between economic sectors and government departments. This investment program is often revised annually in the light of the resources available and other factors. Provision is sometimes made in plans for investment in the private sector, and while this must be largely an estimate it is one which can be greatly influenced by government economic policy. In other countries more emphasis is placed on establishing production goals or targets, based on an appraisal of the future growth of population, incomes and needs, of export and import possibilities, and of the resources which can be effectively mobilized in the period covered, usually from four to six years. These are all important steps if planning is to be adopted, and are of value in orienting the general direction of economic growth and setting a framework for private investment, as well as in making a first allocation of an important part of the country's investment resources.

A further stage of planning, now being more widely adopted, includes the assessment of the requirements in capital, in managerial and technical skills, in capital equipment and requisites (including imported goods), and in other scarce resources which will be needed to achieve the production goals, and the establishment of priorities for scarce resources of all kinds. It includes also a careful appraisal of how most effectively to achieve the aims intended, e.g., whether by expanding the area cultivated or by raising yields, whether in all parts of the country or by concentrating on especially suitable areas, whether by a few large-scale projects or primarily by a large number of small-scale projects, etc. It is concerned, too – and here one comes back to the provision of a favorable environment – with the practical measures necessary if the detailed plans are to be implemented, and if the multitude of small producers are to be encouraged to take the necessary action.

A good deal of flexibility is needed if planning is to be realistic and effective, and more and more planning tends to be conceived of as a continuous process. It is not enough to set targets, and to establish the means and resources needed to implement them. The whole field of economic development must be kept under continuous review to see whether changing conditions, at home or in foreign markets, need to be reflected in agricultural production targets and in the basic requirements for their achievement. Similarly, it may be found necessary from time to time to modify priorities, e.g., of financial or other scarce resources, in order to prevent one sector from lagging so far behind as to hamper progress in other sectors, or to limit disproportionate growth in one field beyond its current usefulness. In the same way it implies a constant lookout for social, economic, institutional, or other obstacles to balanced development, so that remedial action can be taken.

Balanced growth does not, of course, imply that some key sectors of the economy, e.g., steel, chemicals, may not be picked out for special de-

velopment, in the expectation that if these develop, progress in less essential sectors will follow more or less automatically. Such so-called "spearhead" development is by now a commonplace of economic planning. Agriculture, however, appears to be a key sector in the same way as, e.g., heavy industry, in that it is no less concerned with the provision of basic needs. It is especially important in less-developed countries where food is the largest item of expenditure in family budgets, so that the cost of food is a prime factor in the production costs of all industries. If food production lags badly behind needs and food prices rise, the rate of growth of all other sectors is likely to be imperiled. There are a number of examples in post-war economic history. If agriculture is not always initially accorded such high priority, it is perhaps because it has always been there, and tends to be regarded as a reserve of finance and manpower rather than a key sector in its own right.

Some transfer from agriculture to other sectors of the economy of investment funds, as well as of manpower, is usually necessary in the initial stages of economic development. But effective planning should aim at finding ways of doing so that do not hamper needed agricultural expansion and thereby slow down the pace of economic development as a whole.

The increasing complexity of governments' participation in agricultural and other branches of economic development has necessitated spreading their action through a number of ministries and autonomous or semi-autonomous agencies at the central and frequently at local levels as well. Needless to say, the success of an agricultural development plan will depend not only on the soundness of the direct and indirect policies and measures proposed, but also on the efficiency with which they are put into practice. In turn, the efficient operation of the different bodies implementing the plan will depend to a large extent on the degree of co-operation and relationship between them as well as on the quality and adequacy of their staffs.

In order to co-ordinate agricultural development efforts spread over different departments, and to co-ordinate agricultural plans with those of other branches of the economy, planning boards or councils, usually at the ministerial level, have been set up in a considerable number of underdeveloped countries. Co-ordinated action between different ministries and agencies often presents difficulties, however, even in long-established and experienced administrations, and it is not surprising to find the same problems in many of the less-developed countries. Close co-operation between the central administration and the development administration at the provincial or district level in particular seems to be difficult because of the shortage of trained and experienced staff, poor communications, and sometimes local opposition from established interests to social and economic changes.

The planning board or council is usually serviced by some form of planning secretariat, with close contacts with those engaged in the more detailed aspects of planning and of operational work in the functional ministries and agencies. Usually an initial period of "running-in" is necessary before newly-created central planning secretariats can establish fully harmonious and effective co-operation with the functional ministries. Another problem is the wide range of up-to-date economic and agricultural statistical information needed for effective planning. Machinery to assemble and analyze this information has to be strengthened (or established where it does not already exist) centrally and usually in the functional agencies and local and provincial centers as well.

In organizing an adequate administrative structure to carry out an agricultural development program, two major lines of action have been followed. The first has been to carry out the projects involved through the existing central government administrative structure, mainly through the ministries of agriculture and public works. The second has been the establishment of special autonomous or semi-autonomous agencies for this purpose. The first alternative in principle has the advantage that an existing ministry should be able to work more effectively as an integrated unit, and to weld policies and concrete projects into a co-ordinated whole. On the other hand, existing ministries are often handicapped by the rigidity of budgetary and other regulations, by the fact that their staffing and organization were usually designed for other tasks when governments were less concerned with economic matters, and by the difficulty of adjusting salaries and working conditions to attract and retain the most suitable staff. It is for these reasons that many countries have set up autonomous or semi-autonomous agencies to carry out irrigation, land settlement, marketing, or other aspects of agricultural develop-

ment projects. These bodies are usually smaller and have considerable financial flexibility; they can pay higher salaries, and can often operate more quickly than a ministry, which has a more cumbersome administrative machinery. Against these advantages, the establishment of more or less autonomous bodies sometimes involves a degree of duplication, tends to impair the effectiveness of existing ministries, and at times leads to the adoption of conflicting policies and measures. Both systems thus have advantages and weaknesses, but with proper safeguards it is likely that either can operate efficiently.

The organization and administration of agricultural institutions and services is an integral part of agricultural development planning, requiring careful consideration, at the planning as well as the implementation stage. When development plans, of a scope too great to be handled by existing agencies, are adopted, their implementation is unlikely to be more than partly successful. As a consequence both farmers and the general public may lose confidence in planned development, and future programs will be correspondingly harder to carry through. More progress is likely to be made if the necessary expansion of the administrative structure and of institutional and other services to agriculture is made at the same time that the scope of development plans is enlarged, rather than later, when the inadequacy of the existing structure has already become apparent.

But no matter how well an agricultural plan is formulated, or how efficient the administrative machinery to implement it may be, in the final analysis it will be only by action of the farmers themselves that agricultural production will increase. It is they who must make most of the extra effort and take many of the risks if the desired results are to be achieved. They should understand the broad aims and objectives of the plan, and this is facilitated if they or their representatives take a responsible part in drawing it up. Producer participation, moreover, can add greatly to the realism of a plan, as well as help to create a more favorable psychological attitude toward it. And unless the human and social, as well as economic, conditions in which farmers operate provide sufficient incentives for them to take action, the results of government programs and projects in the end are likely to fall far below expectations.

ANNEX TABLES

ANNEX TABLE 1A. – WORLD [1] PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Million metric tons						
Wheat	95.0	113.6	119.3	124.2	123.5	126.0	138.6
Barley	28.5	36.0	44.8	46.5	52.6	49.9	51.5
Oats	37.5	42.5	42.3	45.7	43.9	40.8	43.3
Maize	94.1	119.6	123.1	129.8	136.4	138.5	148.4
Rice (milled equivalent)	70.2	74.8	82.5	88.4	92.5	86.8	94.1
Sugar (centrifugal)	20.0	26.3	31.0	32.0	33.5	34.4	38.6
Citrus fruit	11.1	15.2	17.8	18.3	18.1	18.2	19.4
Apples	11.0	12.7	13.8	12.8	14.7	9.1	18.2
Bananas	8.1	11.2	12.0	12.3	12.7	13.0	13.0
Vegetable oils and oilseeds (oil equivalent)	9.2	12.0	13.3	13.4	14.8	14.8	15.0
Animal fats	3.01	4.12	4.65	5.09	5.27	5.28	5.29
Coffee	2.41	2.24	2.49	2.87	2.51	3.09	3.41
Cocoa	0.74	0.76	0.80	0.84	0.90	0.77	0.86
Tea	0.47	0.57	0.68	0.70	0.70	0.72	0.75
Wine	18.0	17.6	21.2	21.4	20.8	16.7	20.7
Tobacco	1.96	2.45	2.81	2.89	2.92	2.77	2.74
Cotton (lint)	5.31	5.78	6.48	6.85	6.53	6.14	6.53
Jute	1.95	2.03	1.66	2.31	2.30	2.16	2.51
Wool (greasy)	1.51	1.57	1.75	1.81	1.91	1.86	1.88
Rubber (natural)	0.96	1.75	1.84	1.95	1.92	1.93	1.99
Milk (total)	193.6	205.2	227.4	229.3	232.8	237.5	239.5
Meat [2]	26.9	30.3	35.5	37.3	39.0	48.3	39.0
Eggs	5.82	7.48	8.70	8.85	8.98	9.21	9.29
	Indices: 1952/53-1956/57 average = 100						
Index of all farm products	76	89	99	102	105	105	108

	1953	1954	1955	1956	1957	1958 (prelim.)
FOREST PRODUCTS	*Million cubic meters*					
Roundwood	1,470	1,552	1,601	1,625	1,597	1,580
Sawnwood	266.3	273.9	295.5	293.9	283.2	285.0
Plywood	8.3	9.0	10.7	11.3	11.7	12.1
	Million metric tons					
Wood pulp	39.1	42.4	46.6	49.8	50.1	50.0
Newsprint	9.8	10.4	11.2	12.0	12.3	12.0
Other paper and board	38.5	40.8	46.4	48.0	48.9	49.7

[1] Excluding U.S.S.R., Eastern Europe, and Mainland China, except for forest products. – [2] Beef and veal, mutton and lamb, pork.

Annex Table 1B. – World [1] Exports of Major Commodities

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
	Million metric tons						
Wheat and wheat flour (wheat equivalent)	15.37	25.16	22.79	24.82	31.74	29.56	27.33
Barley	1.74	3.23	5.46	5.16	7.03	6.35	6.40
Oats	0.72	1.23	1.48	0.94	1.33	1.45	1.45
Maize	9.33	4.34	5.42	4.68	5.87	7.10	8.23
Rice (milled equivalent)	9.67	4.40	4.29	4.82	5.44	5.55	4.97
Sugar (raw equivalent) [2]	9.63	10.74	11.89	13.07	13.54	14.71	14.41
Citrus fruit [3]	2.07	1.89	2.60	2.86	2.40	2.69	2.74
Apples	0.69	0.57	0.71	0.98	0.87	1.14	0.86
Bananas	2.48	2.35	2.91	3.03	3.01	3.35	3.37
Vegetable oils and oilseeds (oil equivalent) [4]	4.19	3.63	4.51	4.61	5.00	5.17	4.85
Coffee	1.66	1.94	1.80	2.12	2.37	2.28	2.26
Cocoa beans	0.69	0.70	0.72	0.72	0.77	0.80	0.65
Tea	0.40	0.42	0.51	0.44	0.52	0.50	0.54
Wine	1.94	1.64	2.39	2.69	2.50	2.79	2.77
Tobacco	0.49	0.54	0.59	0.64	0.64	0.68	0.67
Cotton (lint)	3.01	2.36	2.64	2.39	2.86	3.08	2.64
Jute	0.82	0.86	0.90	1.00	0.89	0.82	0.93
Wool (actual weight)	1.08	1.10	1.04	1.17	1.21	1.23	1.18
Rubber (natural) [5]	1.04	1.82	1.87	2.07	2.07	2.05	2.12
Meat (fresh, chilled, and frozen) [6]	1.15	0.96	1.10	1.18	1.31	1.41	1.49
Eggs (in the shell)	0.25	0.24	0.34	0.35	0.35	0.38	0.37
Forest products	*Million cubic meters*						
Roundwood [7]	...	[8] 18.4	21.3	27.0	26.6	27.3	24.9
Sawnwood	...	[8] 28.7	32.1	35.7	31.8	33.8	32.9
Plywood	...	[8] 0.5	0.8	1.0	0.9	1.1	1.0
	Million metric tons						
Wood pulp	...	[8] 6.0	6.9	7.6	7.8	7.8	7.5
Newsprint	...	[8] 6.0	6.2	6.6	7.0	6.9	6.7
Other paper and board	...	[8] 2 3	2.8	3 2	3 2	3.6	3.5

[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 2A. – WESTERN EUROPE: PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Million metric tons						
Wheat	31.07	30.32	35.70	37.81	32.00	40.47	38.96
Rye	7.49	6.65	7.64	6.69	7.14	7.21	7.04
Barley	9.08	10.93	13.71	14.74	19.05	17.51	17.75
Oats	16.44	14.84	14.58	14.78	15.98	13.23	12.91
Maize	9.73	7.15	8.55	9.71	10.10	12.16	11.10
Sugar (centrifugal)	4.02	5.14	6.55	6.87	6.49	7.11	8.15
Potatoes	96.87	76.26	80.93	73.03	84.07	78.59	73.25
Citrus fruit	1.99	2.10	2.63	2.54	1.84	2.75	3.09
Apples	7.42	8.75	9.50	8.69	10.30	4.29	13.21
Olive oil	0.81	0.86	0.85	0.72	0.90	1.08	0.83
Animal fats	1.04	0.89	1.18	1.33	1.30	1.39	1.40
Wine	14.13	13.10	15.33	16.08	15.58	11.49	15.50
Tobacco	0.19	0.25	0.29	0.34	0.30	0.37	0.31
Milk (total)	77.02	77.17	90.92	89.74	91.26	95.00	95.81
Meat [1]	8.56	7.52	10.23	10.51	10.77	11.13	11.27
Eggs	1.95	2.10	2.66	2.71	2.77	2.95	3.04
	Indices: 1952/53-1956/57 average = 100						
Index of all farm products	83	87	101	102	102	107	108
	1938	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
FOREST PRODUCTS [2]	*Million standards*						
Sawn softwood	10.24	9.87	10.72	11.13	10.85	10.60	10.61
	Million cubic meters						
Sawn hardwood	9.07	9.08	9.82	10.60	10.62	10.98	10.94
Plywood	1.09	1.24	1.86	1.95	1.91	2.10	2.15
	Million metric tons						
Fiberboard (hard and insulating)	0.17	0.67	1.05	1.19	1.28	1.38	1.45
Wood pulp (chemical)	6.67	5.96	7.66	8.37	8.69	9.20	9.10
Wood pulp (mechanical) [3]	3.95	3.46	4.40	4.66	4.96	5.10	4.95
Newsprint	2.80	2.33	2.86	3.12	3.42	3.52	3.51
Other paper and board	8.29	8.85	12.11	13.18	13.68	14.76	15.25

[1] Beef and veal, mutton and lamb, pork. - [2] Including Eastern Europe. - [3] Only partial coverage of production of exploded and defibrated pulp.

ANNEX TABLE 2B. – WESTERN EUROPE: EXPORTS AND IMPORTS OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
	Million metric tons						
GROSS EXPORTS							
Wheat and wheat flour (wheat equivalent)	1.47	0.76	2.31	3.40	2.31	3.09	3.59
Sugar (raw equivalent)	0.86	1.37	1.68	1.83	1.56	1.84	1.36
Citrus fruit [1]	2.07	1.89	2.60	2.86	2.40	2.69	2.74
Apples	0.19	0.31	0.41	0.66	0.53	0.74	0.38
Wine	0.50	0.48	0.77	0.76	0.94	0.87	1.21
Bacon, ham, and salted pork	0.26	0.14	0.27	0.29	0.28	0.30	0.29
Eggs (in the shell)	0.20	0.17	0.26	0.27	0.28	0.31	0.31
Wool (actual weight)	0.23	0.11	0.09	0.10	0.11	0.11	0.10
	Million cubic meters						
Coniferous logs [2]	2.39	1.71	0.88	0.92	0.63	0.70	1.08
Broadleaved logs [2]	0.50	0.45	0.67	0.94	0.66	0.66	0.58
Pulpwood [2]	3.03	3.53	4.11	5.74	5.22	5.18	3.94
Pitprops [2]	3.16	3.00	2.44	3.00	3.03	3.13	2.59
Sawn softwood [2]	13.86	12.66	14.88	15.39	14.05	14.79	13.65
Plywood [2]	0.36	0.30	0.45	0.50	0.40	0.44	0.41
	Million metric tons						
Wood pulp [2]	4.55	3.51	4.39	4.70	4.97	4.90	4.81
Newsprint [2]	0.92	0.87	1.02	1.12	1.30	1.29	1.33
Other paper and board [2]	1.20	1.51	2.24	2.46	2.48	2.72	2.61
GROSS IMPORTS							
Wheat and wheat flour (wheat equivalent)	11.95	14.55	13.02	13.32	15.89	14.16	12.62
Barley	2.41	2.53	3.95	3.58	5.06	4.62	4.70
Maize	8.46	4.03	4.27	4.51	5.02	4.79	6.35
Rice (milled equivalent)	1.31	0.35	0.42	0.59	0.59	0.51	0.45
Sugar (raw equivalent)	3.47	4.25	3.79	4.07	4.41	5.38	4.79
Vegetable oils and oilseeds (oil equivalent)	3.00	2.52	3.02	3.09	3.43	3.58	3.33
Oranges	1.28	1.33	1.92	2.05	1.73	1.95	2.11
Coffee	0.69	0.48	0.61	0.67	0.75	0.75	0.79
Cocoa beans	0.36	0.33	0.40	0.40	0.39	0.45	0.38
Tea	0.26	0.23	0.28	0.26	0.27	0.31	0.30
Wine	1.68	1.39	2.00	2.40	2.13	2.53	2.65
Tobacco	0.37	0.34	0.39	0.41	0.40	0.41	0.42
Cotton (lint)	1.76	1.40	1.57	1.42	1.51	1.72	1.44
Rubber (natural)	0.36	0.59	0.71	0.79	0.76	0.79	0.80
Meat (fresh, chilled, frozen) [3]	1.12	0.81	0.77	0.93	1.14	1.17	1.11
Canned meat	0.08	0.18	0.20	0.20	0.19	0.23	0.24
Bacon, ham, and salted pork	0.39	0.21	0.31	0.31	0.32	0.34	0.35
Butter	0.57	0.39	0.32	0.40	0.44	0.45	0.46
Cheese	0.23	0.27	0.28	0.28	0.30	0.31	0.33
Eggs (in the shell)	0.31	0.21	0.29	0.31	0.32	0.34	0.36

[1] Oranges and lemons only. – [2] Including Eastern Europe. Prewar figures refer to 1938. – [3] Beef and veal, mutton and lamb, pork.

ANNEX TABLE 3A. – EASTERN EUROPE AND U.S.S.R.: PRODUCTION OF MAJOR COMMODITIES

	Average 1950-54	1955	1956	1957	1958 (prelim.)
	Million metric tons				
EASTERN EUROPE [1]					
Wheat and rye	22.0	23.1	21.5	24.6	22.6
Total grains [2]	37.6	44.5	38.8	47.0	41.3
Potatoes	57.6	51.6	66.2	64.5	60.3
Sugar beet	21.9	24.1	19.8	26.3	...
Milk	20.8	23.4	23.6	...	...
Eggs [3]	10.1	11.3	12.7	13.0	...
U.S.S.R.					
Wheat [4]	37.0	46.0	65.0	56.0	75.3
Total grains [5]	84.3	107.0	127.6	105.0	139.4
Potatoes	[6] 75.7	71.8	96.0	87.8	86.1
Sugar beet	22.0	31.0	32.5	39.7	54.1
Sunflower seed	2.0	3.8	3.9	2.8	4.5
Milk	36.3	43.0	49.1	54.7	57.8
Meat	5.4	6.3	6.6	7.4	7.9
Eggs [3]	14.5	18.5	19.5	22.3	23.5
Cotton (raw)	3.9	4.0	4.5	4.2	4.4
Flax (fiber)	0.22	0.38	0.52	0.44	0.44
Wool	0.21	0.26	0.26	0.29	0.32

SOURCE: Based generally on the official statistics of the countries concerned.

[1] Albania (except for milk and eggs), Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland, and Romania. 1958 production of some products has been estimated for Albania, Bulgaria, and Romania. – [2] Wheat, rye, barley, oats, maize. – [3] Thousand million. – [4] FAO estimate. – [5] Including pulses. – [6] Average 1949-53.

ANNEX TABLE 3B. – EASTERN EUROPE AND U.S.S.R.: EXPORTS AND IMPORTS OF MAJOR COMMODITIES

	Exports						Imports					
	Total			To other countries in Communist bloc [1]			Total			From other countries in Communist bloc [1]		
	1955	1956	1957	1955	1956	1957	1955	1956	1957	1955	1956	1957
	Thousand metric tons											
FOUR COUNTRIES OF EASTERN EUROPE [2]												
Wheat and rye	430.9	378.6	162.3	233.5	279.2	6.5	3 249.4	3 013.2	4 897.3	2 173.2	1 724.2	4 082.9
Other grains	373.7	463.8	309.3	76.3	118.2	92.6	1 214.2	1 363.2	1 385.2	817.5	1 077.4	1 095.5
Rice (milled equivalent)	10.7	34.0	43.8	4.6	5.9	12.5	193.6	180.2	201.7	82.9	77.5	147.9
Meat	104.4	104.2	138.3	42.4	33.5	43.2	160.0	137.7	171.7	103.8	114.7	140.0
Eggs [3]	537.3	551.5	533.3	57.9	49.8	21.4	261.9	249.5	329.9	227.3	220.4	303.8
Butter	7.8	8.5	6.7	1.3	4.9	3.8	33.4	40.4	57.6	9.9	28.9	51.6
Cheese	3.9	3.6	4.3	3.2	2.4	2.8	13.1	11.6	18.4	3.5	3.3	11.0
Citrus fruit [4]	—	1.2	—	0.1	1.2	—	55.1	46.0	70.5	0.2	2.2	—
Coffee	2.8	5.0	...	0.7	3.2	...	13.8	18.1	20.2	1.3	3.5	0.6
Tea	0.3	0.1	...	—	—	—	4.7	4.4	6.8	3.3	3.4	4.3
Cocoa beans	0.1	0.8	...	—	—	0.1	20.2	21.8	23.1	0.1	...	...
Tobacco	2.2	2.9	5.1	1.6	0.7	3.0	52.1	54.3	57.5	25.7	29.0	31.5
Cotton (lint)	4.6	11.2	...	2.6	8.7	4.0	307.3	301.9	334.6	234.6	227.4	223.5
Wool (clean basis)	1.6	3.4	3.3	0.4	...	0.4	43.7	43.5	52.0	14.2	12.7	14.8
Flax	0.7	2.5	2.3	—	0.1	—	16.2	19.3	23.2	3.6	8.4	14.1
Oilseeds (oil equivalent)	99.9	80.0	67.4	11.1	11.8	7.7	464.8	454.3	607.0	410.6	367.3	357.1
Edible vegetable oils	6.7	19.1	6.2	13.5	11.6	5.0	92.2	120.3	105.1	65.7	86.8	57.2
Rubber (natural)	1.6	—	—	0.4	—	—	66.2	80.5	101.6	8.2	20.5	29.2
Sugar (raw basis)	846.0	309.3	359.8	502.2	147.5	129.6	160.5	53.5	114.0	29.0	—	—
U.S.S.R.												
Wheat and rye	2 755.5	2 597.9	5 833.4	2 247.6	1 525.1	4 833.0	29.1	466.6	123.9	29.1	64.1	3.3
Other grains	910.6	1 253.1	1 527.6	676.1	822.1	1 011.4	290.8	77.5	63.0	290.8	57.4	52.9
Rice (milled equivalent)	7.5	23.3	71.3	7.5	22.7	37.8	487.1	637.6	370.5	294.7	457.6	181.1
Meat	11.0	31.1	71.2	10.0	31.1	71.2	239.2	207.3	116.8	180.6	174.0	74.4
Eggs [3]	—	1.3	142.0	—	1.3	142.0	231.4	225.2	224.9	225.9	218.9	218.2
Butter	8.9	24.3	49.1	8.9	24.3	49.1	5.7	5.9	8.3	5.2	5.3	4.7
Cheese	—	0.7	8.1	—	0.7	8.1	0.4	0.3	0.3	—	—	—
Citrus fruit	—	—	—	—	—	—	77.0	87.8	108.5	37.8	39.8	42.9
Coffee	—	—	—	—	—	—	1.5	3.5	5.1	—	0.2	0.1
Tea	5.7	6.4	5.7	4.7	4.7	5.4	10.2	16.0	21.0	10.2	12.7	11.8
Cocoa beans	—	—	—	—	—	—	14.1	16.4	44.1	—	—	—
Tobacco	4.6	8.1	6.0	2.6	5.1	4.0	55.2	73.3	91.1	49.4	64.5	82.1
Cotton (lint)	343.3	307.1	307.0	260.9	249.1	259.2	19.9	51.4	108.8	—	0.9	0.8
Wool (clean basis)	14.3	12.6	13.2	10.8	10.0	10.9	46.5	48.8	57.3	27.5	25.8	24.2
Flax	4.6	27.6	35.8	3.6	8.3	14.2	—	—	—	—	—	—
Oilseeds (oil equivalent)	40.6	41.8	39.7	27.5	33.7	39.2	763.6	801.5	716.0	756.8	796.0	713.4
Edible vegetable oils	34.8	58.9	45.5	30.1	55.7	40.4	195.3	96.5	45.6	107.4	87.7	42.9
Rubber (natural)	...	27.0	30.2	...	26.9	29.7	35.3	140.7	145.5	1.0	16.9	48.1
Sugar (raw basis)	209.7	174.4	190.5	6.4	12.4	14.0	933.3	336.4	645.4	351.1	121.5	109.7

SOURCE: Official statistics in national publications and ECE/FAO questionnaires. For trade within the Communist group of countries the present table is based on the statistics of importing countries and thus includes U.S.S.R. deliveries under special aid programs, which are omitted from the U.S.S.R. export statistics. For more detailed statistics, see *The Agricultural Trade of the U.S.S.R. and Other Countries of Eastern Europe 1953-1957, a Statistical Review*, ECE/FAO Agriculture Division, Geneva, 1959.

[1] U.S.S.R., Albania, Bulgaria, Czechoslovakia, Eastern Germany, Hungary, Poland, Romania, Mainland China, Mongolia, North Korea, North Viet-Nam. – [2] Czechoslovakia, Eastern Germany, Hungary, Poland. – [3] Million. – [4] Excluding Eastern Germany.

ANNEX TABLE 3C. – U.S.S.R.: PRODUCTION AND EXPORTS OF FOREST PRODUCTS

	Average 1948-52	1953	1954	1955	1956	1957	1958 (prelim.)
PRODUCTION				*Million standards*			
Sawn softwood	8.80	12.08	12.55	13.75	13.93	14.37	15.61
				Million cubic meters			
Sawn hardwood	7.30	9.96	10.35	11.34	11.49	11.85	12.35
Plywood	0.66	0.95	1.02	1.05	1.12	1.15	1.18
				Million metric tons			
Fiberboard	0.02	0.04	0.05	0.05	0.07	0.09	0.10
Wood pulp (chemical)	1.08	1.56	1.68	1.74	1.85	1.90	2.23
Wool pulp (mechanical)	0.43	0.61	0.66	0.72	0.77	0.80	0.82
Newsprint	0.24	0.29	0.32	0.36	0.36	0.40	0.42
Other paper and board	0.92	1.76	1.95	2.04	2.22	2.30	2.90
EXPORTS				*Million cubic meters*			
Pulpwood	0.05	—	—	0.55	0.53	0.60	0.82
Pitprops	0.29	0.44	0.78	0.84	0.64	0.82	0.99
Sawn softwood	0.82	1.30	1.74	2.32	2.21	3.46	3.63
Plywood	0.05	0.05	0.06	0.09	0.05	0.10	0.11

ANNEX TABLE 4A. – NORTH AMERICA: PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Million metric tons						
Wheat	33.80	44.54	35.81	39.57	42.93	35.96	49.83
Oats	65.60	25.30	25.19	28.11	24.97	24.75	26.83
Maize	53.20	82.36	78.24	82.84	88.47	87.68	97.28
Rice (milled equivalent)	0.62	1.25	1.89	1.65	1.46	1.27	1.39
Potatoes	11.94	12.83	11.41	12.14	12.98	12.87	13.80
Citrus fruit	3.62	6.41	7.32	7.47	7.56	6.42	7.14
Vegetable oils and oilseeds (oil equivalent)	1.19	2.66	2.86	3.20	3.66	3.38	4.00
Animal fats	1.30	2.37	2.51	2.77	2.93	2.82	2.79
Tobacco	0.62	1.02	1.10	1.06	1.06	0.83	0.89
Cotton (lint)	2.76	3.11	2.98	3.21	2.90	2.39	2.52
Milk (total)	54.44	59.55	63.03	63.63	63.85	65.23	65.50
Meat [1]	8.08	10.84	12.37	13.13	13.75	13.28	12.71
Eggs	2.42	3.77	3.95	3.94	4.01	3.98	3.96
	Indices: 1952/53-1956/57 average = 100						
Index of all farm products	68	92	97	101	106	101	107
	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
FOREST PRODUCTS	*Million standards*						
Sawn softwood	11.86	18.14	18.43	19.99	19.04	17.36	17.61
	Million cubic meters						
Sawn hardwood	12.08	18.10	17.80	18.68	18.77	15.34	14.56
Plywood	0.82	3.49	4.99	6.42	6.71	6.75	6.90
	Million metric tons						
Fiberboard (hard and insulating)	0.64	1.21	1.53	1.65	1.72	1.61	1.69
Wood pulp (chemical)	5.20	13.70	17.02	19.16	20.62	20.26	20.17
Wood pulp (mechanical) [2]	3.44	7.23	8.32	8.87	9.20	8.97	8.61
Newsprint	3.38	5.74	6.51	6.92	7.32	7.44	7.13
Other paper and board	10.05	20.50	23.09	24.85	27.20	26.37	26.55

[1] Beef and veal, mutton and lamb, pork. – [2] Includes exploded and defibrated pulp.

ANNEX TABLE 4B. – NORTH AMERICA: EXPORTS AND IMPORTS OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
GROSS EXPORTS				*Million metric tons*			
Wheat and wheat flour (wheat equivalent)	6.07	18.54	13.25	13.64	21.98	20.26	19.17
Barley	0.50	1.44	2.15	2.96	3.56	2.55	4.25
Maize	0.80	2.31	1.96	2.78	3.02	4.52	4.56
Rice (milled equivalent)	0.07	0.54	0.56	0.52	0.82	0.74	0.57
Oranges	0.15	0.23	0.33	0.30	0.41	0.33	0.16
Vegetable oils and oilseeds (oil equivalent)	0.02	0.41	0.85	0.84	1.17	1.32	1.20
Tobacco	0.20	0.22	0.22	0.27	0.25	0.24	0.23
Cotton (lint)	1.29	1.03	0.94	0.56	1.03	1.57	1.00
				Million cubic meters			
Coniferous logs	...	0.33	0.60	0.71	0.72	0.54	0.60
Broadleaved logs	...	0.23	0.25	0.22	0.26	0.24	0.27
Pulpwood	...	5.68	4.64	4.87	5.21	4.81	3.51
Sawn softwood	...	8.41	11.14	12.59	10.79	10.22	10.76
				Million metric tons			
Wood pulp	0.80	1.83	2.38	2.72	2.63	2.64	2.48
Newsprint	2.80	4.50	5.14	5.42	5.55	5.51	5.27
GROSS IMPORTS							
Sugar (raw equivalent) [1]	3.21	3.88	4.04	4.21	4.45	4.42	5.00
Citrus fruit [2]	0.11	0.19	0.22	0.21	0.21	0.21	0.18
Bananas	1.35	1.49	1.64	1.60	1.59	1.66	1.70
Vegetable oils and oilseeds (oil equivalent)	0.90	0.55	0.52	0.56	0.54	0.52	0.56
Coffee	0.81	1.27	1.08	1.24	1.34	1.32	1.29
Cocoa beans	0.27	0.31	0.26	0.25	0.27	0.26	0.22
Tea	0.06	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
Sisal	0 16	0.20	0.19	0.20	0.18	0.19	0.25
Wool (actual weight)	0.10	0.29	0.15	0.17	0.17	0.14	0.11
Rubber (natural)	0.52	0.81	0.66	0.71	0.65	0.62	0.54

[1] Excluding United States trade with its territories. – [2] Oranges and lemons only.

ANNEX TABLE 5A. – LATIN AMERICA: PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Million metric tons						
Wheat	8.62	7.96	11.75	9.51	11.56	10.64	10.75
Maize	18.00	15.13	17.37	19.05	18.43	20.28	20.52
Rice (milled equivalent)	1.33	3.07	3.80	3.63	4.07	3.96	4.09
Sugar (centrifugal)	6.89	12.33	12.40	12.84	14.33	14.99	16.55
Citrus fruit	3.28	3.73	3.99	4.21	4.42	4.54	4.50
Bananas	4.20	7.60	8.60	8.80	9.10	9.40	9.40
Coffee	2.11	1.89	1.96	2.26	1.87	2.42	2.71
Cocoa	0.24	0.25	0.30	0.30	0.30	0.30	0.31
Tobacco	0.21	0.32	0.37	0.39	0.39	0.39	0.38
Cotton (lint)	0.59	0.86	1.12	1.28	1.16	1.26	1.29
Milk (total)	12.22	14.59	17.42	18.33	18.93	19.17	19.71
Meat [1]	5.03	6.10	6.14	6.46	7.08	7.31	7.26
Eggs	0.48	0.58	0.75	0.78	0.79	0.83	0.83
	Indices: 1952/53-1956/57 average = 100						
Index of all farm products	73	89	100	103	106	111	114
		Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
FOREST PRODUCTS		*Million cubic meters*					
Sawnwood		8.10	9.12	9.24	8.27	8.00	8.20
		Million metric tons					
Wood pulp		0.22	0.31	0.32	0.33	0.34	0.35
All paper and board		0.69	0.88	1.05	1.16	1.26	1.30

[1] Beef and veal, mutton and lamb, pork.

ANNEX TABLE 5B. – LATIN AMERICA: EXPORTS AND IMPORTS OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
	Million metric tons						
GROSS EXPORTS							
Wheat and wheat flour (wheat equivalent)	3.45	2.00	3.38	4.23	3.03	2.83	2.41
Maize	6.61	1.20	2.27	0.53	1.11	0.84	1.74
Rice (milled equivalent)	0.10	0.25	0.16	0.13	0.25	0.13	0.12
Sugar (raw equivalent) [1]	4.05	7.06	6.56	7.74	7.90	8.64	8.96
Bananas	2.04	1.91	2.32	2.36	2.36	2.65	2.72
Linseed and linseed oil (oil equivalent)	0.55	0.19	0.29	0.18	0.08	0.17	0.19
Coffee	1.40	1.61	1.35	1.57	1.70	1.57	1.55
Cocoa beans	0.21	0.18	0.22	0.22	0.21	0.20	0.19
Cotton (lint)	0.34	0.39	0.73	0.69	0.77	0.52	0.59
Wool (actual weight)	0.19	0.19	0.16	0.17	0.19	0.13	0.16
Meat (fresh, chilled and frozen) [2]	0.59	0.34	0.25	0.28	0.49	0.50	0.52
Canned meat	0.12	0.12	0.10	0.10	0.10	0.14	0.12
	Million cubic meters						
Broadleaved logs	...	0.40	0.34	0.40	0.43	0.37	0.39
Sawn softwood	...	1.25	1.19	1.12	1.10	1.71	1.50
	Million metric tons						
GROSS IMPORTS							
Wheat and wheat flour (wheat equivalent)	1.69	2.84	3.37	3.79	3.60	3.26	3.15
Rice (milled equivalent)	0.39	0.37	0.30	0.21	0.22	0.32	0.37
Sugar (raw equivalent)	0.25	0.36	0.42	0.48	0.29	0.48	0.39
Potatoes	0.18	0.24	0.21	0.19	0.20	0.21	0.13

[1] Excluding trade between the United States and its territories. – [2] Beef and veal, mutton and lamb, pork.

Annex Table 6A. – Oceania: Production of Major Commodities

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Million metric tons						
Wheat	4.38	5.30	4.70	5.39	3.74	2.74	5.63
Sugar (centrifugal)	0.94	1.04	1.48	1.36	1.37	1.51	1.63
Wool (greasy)	0.59	0.69	0.79	0.85	0.93	0.87	0.89
Milk (total)	10.18	10.43	10.52	11.28	11.78	11.43	11.00
Meat [1]	1.42	1.58	1.79	1.88	1.85	1.95	2 06
	Indices: 1952/53-1956/57 average = 100						
Index of all farm products	78	90	98	104	104	100	110

	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
	Million cubic meters					
FOREST PRODUCTS						
Sawnwood	4.19	4.73	4.85	4 59	4.56	4 60

[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 (prelim.)
	Million metric tons						
GROSS EXPORTS							
Wheat and wheat flour (wheat equivalent)	2.82	3.13	1.99	2.55	3.57	2.56	1.45
Barley	0.07	0.26	0.63	0.36	0.63	0.64	0 32
Oats	0.01	0.19	0.03	0.11	0.20	0.09	0 07
Sugar (raw equivalent)	0.56	0.47	0.80	0.80	0.82	0.98	0.87
Copra and coconut oil (oil equivalent)	0.13	0.13	0.16	0.17	0.17	0.17	0.16
Beef	0.15	0.13	0.17	0.25	0.24	0.28	0.28
Mutton and lamb	0.27	0.30	0.34	0.33	0.31	0.30	0.34
Butter	0.24	0.21	0.18	0.24	0.25	0.21	0.24
Cheese	0.10	0.12	0.11	0.11	0.11	0.10	0.10
Wool (actual weight)	0.49	0.66	0.62	0.71	0.72	0.80	0.73
GROSS IMPORTS							
Wheat and wheat flour (wheat equivalent)	0.06	0.21	0.26	0.28	0.31	0.33	0.31
Sugar (raw equivalent)	0.09	0.11	0.12	0.12	0.11	0.12	0.13
Rubber (natural)	0.01	0.04	0.05	0.06	0.05	0.04	0.05

ANNEX TABLE 7A. – 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 (prelim.)
	Million metric tons						
Wheat	12.13	11.34	13.53	13.96	13.76	14.69	13.03
Millet and sorghum	14.94	13.28	18.11	15.42	15.44	16.51	16.20
Rice (milled equivalent)	65.28	66.62	72.30	78.63	82.45	76.73	84.14
Sugar (centrifugal)	4.18	3.10	4.68	5.07	5.23	5.54	5.55
Sugar (noncentrifugal)	3.67	4.03	4.46	4.87	5.25	5.49	5.48
Starchy roots	21.62	26.25	31.95	33.84	33.86	34.92	34.68
Pulses	6.78	7.11	8.24	9.31	9.16	9.91	8.35
Vegetable oils and oilseeds (oil equivalent)	3.96	4.02	5.05	4.85	5.17	5.04	4.92
Tea	0.46	0.54	0.64	0.66	0.66	0.67	0.70
Tobacco	0.79	0.59	0.74	0.77	0.84	0.84	0.80
Cotton (lint)	1.22	0.90	1.30	1.20	1.26	1.31	1.35
Jute	1.94	1.99	1.64	2.24	2.23	2.10	2.47
Rubber (natural)	0.97	1.65	1.74	1.82	1.77	1.78	1.99
Meat [1]	1.65	1.77	1.99	2.20	2 30	2.37	2.41
Milk (total)	23.23	25.25	26.74	26.48	26.45	26.71	27.13
	Indices: 1952/53-1956/57 average = 100						
Index of all farm products	86	87	100	103	106	105	108

	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
FOREST PRODUCTS	*Million cubic meters*					
Sawn softwood	16.86	21.03	24.52	30.02	31.80	31.40
Plywood	0.25	0.67	0.83	1.03	1.15	1.35
	Million metric tons					
Wood pulp	0.78	1.65	1.93	2.21	2.47	2.35
Newsprint	0.16	0.45	0.48	0.55	0.59	0.61
Other paper and board	0.90	1.77	2.09	2.42	2.79	2.90

[1] Beef and veal, mutton and lamb, pork.

ANNEX TABLE 7B. – FAR EAST (EXCLUDING MAINLAND CHINA): EXPORTS AND IMPORTS OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
GROSS EXPORTS	*Million metric tons*						
Rice (milled equivalent)	8.96	3.05	3.08	3.53	3.49	4.00	3.37
Sugar (raw equivalent)	3.31	1.01	1.83	1.59	2.03	2.01	2.02
Vegetable oils and oilseeds (oil equivalent) [1]	1.71	1.32	1.23	1.51	1.53	1.42	1.12
Tea	0.36	0.39	0.47	0.40	0.47	0.44	0.48
Cotton (lint)	0.68	0.27	0.19	0.28	0.24	0.18	0.17
Jute	0.79	0.84	0.89	0.99	0.87	0.81	0.92
Rubber (natural) [2]	0.96	1.69	1.75	1.92	1.81	1.83	1.82
	Million cubic meters						
Broadleaved logs	...	0.76	2.20	2.50	2.98	3.27	3.20
Sawn hardwood	...	0.56	0.89	1.08	1.09	1.06	1.06
Plywood	...	0.02	0.17	0.24	0.30	0.35	0.39
GROSS IMPORTS	*Million metric tons*						
Wheat and wheat flour (wheat equivalent)	1.03	4 95	4.15	4.49	5.59	7.87	7.73
Rice (milled equivalent)	6.13	3.12	3.40	3.11	4 03	3.95	3.90
Barley	0 05	0.69	0.82	0 61	1.20	1.17	1.03
Maize	0 21	0 20	0.24	0.43	0.47	0.67	0.79
Sugar (raw equivalent)	1.68	1.18	2.64	2.33	2.13	1.92	2.04
Vegetable oils and oilseeds (oil equivalent)	0.37	0.25	0.38	0.49	0.48	0.53	0.49
Cotton (lint)	0.90	0.52	0.74	0.66	0.86	0.89	0.76
Jute	0 05	0.27	0.25	0.29	0.23	0.18	0.13

[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 8A. – Near East: Production of Major Commodities

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Million metric tons						
Wheat	9.50	10.95	13.55	14.09	15.22	17.80	16.53
Barley	4.24	4.66	5.88	5.41	6.22	7.45	6.39
Rice (milled equivalent)	1.09	1.34	1.50	1.35	1.65	1.81	1.35
Total grains [1]	18.63	21.27	25.82	26.51	28.46	32.11	29.52
Sugar (centrifugal)	0.22	0.42	0.59	0.69	0.71	0.78	0.84
Pulses	0.70	0.78	0.83	0.82	0.84	0.89	0.85
Citrus fruit	0.79	0.85	1.12	1.25	1.18	1.31	1.35
Dates	0.87	0.85	1.06	1.01	1.10	1.08	1.06
Bananas	0.05	0.07	0.08	0.11	0.11	0.11	0 11
Vegetable oils and oilseeds (oil equivalent)	0.32	0.41	0.52	0.50	0.61	0.53	0.62
Tobacco	0.09	0.14	0.15	0.17	0.17	0.16	0.15
Cotton (lint)	0.56	0.66	0.74	0.76	0.81	0.80	0.95
Milk (total)	9.70	10.36	10.17	11.16	11.70	11.06	11 34
Meat [2]	0.65	0.85	1.01	1.10	1.19	1 21	1.26
	Indices: 1952/53-1956/57 average = 100						
Index of all farm products	72	84	97	101	109	110	112

[1] Wheat, barley, oats, maize, millet, sorghum, rice. – [2] Beef and veal, mutton and lamb, pork.

Annex Table 8B. – Near East: Exports and Imports of Major Commodities

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
Gross exports	*Million metric tons*						
Wheat and wheat flour (wheat equivalent)	0.24	0.27	1.28	0.33	0.42	0.44	0.27
Barley	0.36	0.46	1.03	0.46	0.78	0.53	0.57
Rice (milled equivalent)	0.15	0.27	0.13	0.25	0.25	0.32	0.41
Total grains [1]	0.94	1.11	2.65	1.11	1.54	1.39	1.32
Citrus fruit [2]	0.30	0.20	0.36	0.31	0.36	0.37	0.38
Tobacco	0.04	0.07	0.07	0.06	0.07	0.09	0.07
Cotton (lint)	0.47	0.47	0.52	0.57	0.51	0.54	0.56
Gross imports							
	0.29	1.43	0.91	1.31	2.12	2.45	2.02
Wheat and wheat flour (wheat equivalent)	0.52	1.79	1.18	1.84	2.65	3.12	2.65
Total grains [1]	0.33	0.54	0.73	0.84	0.92	0.90	0.94
Sugar (raw equivalent)							
		Million cubic meters					
Sawn softwood		0.38	0.71	0.62	0.47	0.51	0.48

[1] Wheat and wheat flour, barley, maize, oats, sorghums, millet, rye, rice. – [2] Oranges and lemons only.

ANNEX TABLE 9A. – AFRICA: PRODUCTION OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954/55	1955/56	1956/57	1957/58	1958/59 (prelim.)
	Million metric tons						
Wheat	2.66	3.15	4.30	3.88	4.31	3.71	3.90
Barley	2.60	3.18	3.77	2.95	3.69	2.17	3.24
Maize	4.62	6.99	8.63	8.76	9.28	8.73	9.19
Millet and sorghum	9.31	10.67	11.38	11.14	11.17	10.99	11.03
Rice (milled equivalent)	1.11	1.72	1.89	1.99	1.93	2.07	2.08
Sugar (centrifugal)	0.95	1.36	1.73	1.92	1.97	2.15	2.25
Starchy roots	35.40	45.43	51.41	52.31	52.76	52.03	51.77
Pulses	1.02	1.43	1.59	1.51	1.50	1.35	1.46
Citrus fruit	0.38	0.77	1.01	1.08	1.22	1.25	1.23
Bananas	0.30	0.31	0.45	0.49	0.50	0.50	0.50
Groundnuts (oil equivalent)	0.56	0.71	0.82	0.94	0.94	1.15	1.05
Vegetable oils and oilseeds (oil equivalent)	1.73	2.56	2.52	2.53	2.75	2.80	2.83
Coffee	0.14	0.28	0.43	0.50	0.52	0.53	0.56
Cocoa	0.49	0.50	0.49	0.52	0.58	0.46	0.54
Wine	2.14	1.72	2.51	2.07	2.49	2.12	1.90
Cotton (lint)	0.14	0.22	0.26	0.26	0.28	0.30	0.30
Sisal	0.16	0.23	0.29	0.30	0.31	0.33	0.33
Milk (total)	6.82	7.87	8.65	8.72	8.85	8.87	9.04
Meat [1]	1.52	1.84	2.00	1.98	2.05	2.06	2.08
	Indices 1952/53-1956/57 average = 100						
Index of all farm products	70	87	101	101	106	103	106

FOREST PRODUCTS	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
	Million cubic meters					
Sawnwood	1.30	1.79	1.80	1.95	1.98	1.98

[1] Beef and veal, mutton and lamb, pork.

ANNEX TABLE 9B. – AFRICA: EXPORTS AND IMPORTS OF MAJOR COMMODITIES

	Average 1934-38	Average 1948-52	1954	1955	1956	1957	1958 (prelim.)
	Million metric tons						
GROSS EXPORTS							
Wheat and wheat flour (wheat equivalent)	0 52	0.33	0 53	0.60	0.35	0.30	0.36
Barley	0.21	0.55	0.64	0.46	0 47	0.10	0.24
Maize	0.67	0.36	0.79	1.02	1.31	1.39	1.58
Sugar (raw equivalent)	0.69	0.71	1.00	1.05	1.08	1.15	1.11
Oranges	0.15	0.40	0.53	0.66	0.56	0.76	0.67
Bananas	0.14	0.22	0.34	0.36	0.35	0.39	0.39
Groundnuts and groundnut oil (oil equivalent)	0.33	0.32	0.51	0.46	0.58	0.54	0.66
Palm kernels and oil (oil equivalent)	0.30	0.33	0.38	0.36	0.37	0.35	0.38
Palm oil	0.24	0.33	0.39	0.37	0.38	0.36	0.37
Coffee	0.13	0.28	0.35	0.47	0.54	0.56	0.59
Cocoa beans	0.46	0.48	0.47	0.48	0.52	0.57	0.44
Wine	1.41	1.12	1.59	1.90	1.53	1.90	1.54
Tobacco	0.03	0.07	0.09	0.08	0.09	0.08	0.08
Cotton (lint)	0.13	0.19	0.24	0.24	0.26	0.24	0.27
Sisal	0.16	0.22	0.27	0.29	0.30	0.32	0.34
	Million cubic meters						
Broadleaved logs	...	1.19	1.88	2.36	2.32	2.40	2.41
	Million metric tons						
GROSS IMPORTS							
Wheat and wheat flour (wheat equivalent)	0 28	0.75	0.77	0.79	0.96	0.93	0.76
Rice (milled equivalent)	0.39	0.18	0.23	0.35	0.34	0.45	0.49
Sugar (raw equivalent)	0.41	0.55	0.87	0.94	0.94	1.00	0.99

ANNEX TABLE 10. – TOTAL CATCH (LIVE WEIGHT) OF FISH, CRUSTACEANS, MOLLUSKS, ETC. IN SELECTED COUNTRIES

	1938	Average 1953-57	1953	1954	1955	1956	1957	1958 (prelim.)
	Thousand metric tons							
WORLD TOTAL	20 500.0	27 878.0	24 910.0	26 800.0	28 120.0	29 600.0	29 960.0	33 400.0
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
United States (incl. Alaska)	2 253.1	2 716.7	2 437.5	2 706.4	2 738.9	2 959.4	2 732.5	2 671.4
China: Mainland	...	2 398.4	1 900.0	2 294.0	2 518 0	2 640.0	2 950.0	6 020.0
U.S.S.R.	1 523.0	2 375 4	1 983.0	2 258.0	2 495.0	2 616.0	2 535.0	...
Norway	1 152.5	1 875.8	1 557.1	2 068.2	1 813.4	2 201.3	1 754.7	1 415.5
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
B. 1953-57 average catch: 500 000 tons and more but less than 1 000 000 tons								
Canada (incl. Newfoundland)	836.8	999.6	925.1	1 025.8	963.7	1 091.9	991.7	...
India	...	946.3	819.0	828.5	839.0	1 012.3	1 233.0	1 064.4
Germany, Western	776.5	742.0	730 4	678.0	776.9	770.8	753.8	715.2
Spain (incl. Ceuta and Melilla)	423.5	712.4	635.1	650.2	760.1	748.9	767.9	835.7
Indonesia	472.0	642.4	616.9	628.5	669.8	636.9	...	...
Union of South Africa (incl. South West Africa)	66.7	597.8	638.8	623.1	607.1	536.9	583.2	...
France (incl. Algeria)	530.3	519.1	520.3	500.2	522.7	537.9	514.5	524.7
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	...
Portugal	247.2	445.1	425.2	438.7	424.7	472.2	464.6	455.2
Denmark	97.1	424.8	342.8	359.4	425.3	463.0	533.3	598.1
Philippines	80.9	377.0	311.9	364.6	385.2	416.0	407.5	...
Netherlands	256.2	320.2	343.3	339.2	319.5	298.1	300.8	313.8
Angola	26.2	317.6	220.4	261.2	290.4	420.5	395.5	278.2
Korea, South	838.3	302.2	258.0	249.5	259.3	340.9	403.1	395.1
Korea, North	925.2	290.4	122.0	235.0	312.0	...	...	...
Pakistan	...	267.9	249.0	259.7	270.9	277.0	282.8	283.7
Thailand	161.0	220.0	205.0	229.8	213.0	217.9	234.5	196.3
Italy	181.2	215.7	208.4	217.6	218.0	218.6	210.3	209.3
Peru	...	212.9	147.8	176.1	213.3	297.3	483.1	750.0
Sweden	129.2	205.9	199.7	201.1	219.5	197.4	222.1	...
Brazil	103.3	173.5	160.7	172.0	...	...	...	...
Chile	32.2	173.2	107.2	143.5	214.3	188.3	213.1	225.8
China: Taiwan	89.5	172.8	130.4	152.2	180.3	193.2	208.0	229.7
Federation of Malaya	...	139.6	147.0	137.3	136.8	138.5	138.3	139.5
Morocco	43.7	120.0	140.8	105.5	96.3	110.2	147.1	163.7
Turkey	76.0	117.9	102.5	119.4	111.5	139.5	116.7	101.3
Poland	12.5	114.2	94.4	105.7	113.2	127.4	130.3	...
Viet-Nam	180.0	110.0	...	...	130.0	130.0	135.0	143.0
Mexico	17.1	102.2	...	90.9	105.8	134.8	117.5	...
Faeroe Islands	63.0	101.1	88.8	89.4	105.6	116.3	105.6	...
Burma	...	100.0	...	...	...	100.0	...	...
Cambodia	...	100.0	...	...	...	100.0	...	...
French Equatorial Africa	...	100.0	...	...	...	100.0	...	...
Muscat and Oman	...	100.0	...	...	...	100.0	...	...

ANNEX TABLE 10. - TOTAL CATCH (LIVE WEIGHT) OF FISH, CRUSTACEANS, MOLLUSKS, ETC. IN SELECTED COUNTRIES (CONCLUDED)

	1938	Average 1953-57	1953	1954	1955	1956	1957	1958 (prelim.)
	.....			*Thousand metric tons*				.....
D. 1953-57 average catch; 50 000 tons and more but less than 100 000 tons								
Belgian Congo	0.9	86.0	66.6	65.7	80.6	96.2	122.4	139.0
Argentina	55.3	78.3	77.2	78.2	79.0	75.4	81.6	...
Belgium	42 8	71.8	74.4	72.6	80.0	69.1	62.9	64.3
Germany, Eastern	...	68.7	62.3	62.8	68.6	74.9	...	...
Venezuela	21.7	65.9	63.3	51.8	69.6	61.3	83.1	80.3
Finland	44.4	63.1	62.1	65.5	63.3	60.2	64.5	61.5
United Arab Rep. (Egypt)	38.1	62.5	52.1	56.7	63.4	70.3	...	80.0
Greece	25.0	59.7	46.0	52.5	60.0	65.0	75.0	...
French West Africa	...	57.7	50.2	51.3	54.1	61.1	72.0	...
Australia	33.5	52.6	52.0	53.7	52.5	49.9	55.3	53.6
Tanganyika	16.0	52.5	50.0	50.0	52.4	55.0	55.0	...
E. 1953-57 average catch: less than 50 000 tons[1] ...								
Hong Kong	...	45.0	39.6	46.7	45.9	...	...	...
Aden	...	41.4	75.8	51.9	34.8	21.8	22.6	...
New Zealand	27.0	38.5	36 6	36.9	39.2	...	...	...
Uganda	...	35.1	23.4	24.6	34.4	45.0	48.0	...
Ceylon	...	33.1	25.5	29.7	31.3	40.3	38.5	40.7
Greenland	4.7	26.9	25.0	24.9	25.8	27.4	31.5	33.5
Ireland	12.8	26.2	19.0	21.5	23.6	30.5	36.6	...
Yugoslavia	16.8	26.1	25.7	23.0	22.6	28.4	30.7	31.4
Ethiopia and Eritrea, Fed. of	...	20.8	20.5	25.2	18.1	...	...	...
Colombia	10.0	20.3	16.0	16.0	18.0	21.2	30.1	25.0
Kenya	...	15.0	18.7	17.6	12.7	12.7	13.4	...
Ryukyu Islands	12.0	13.3	8.8	15.1	13.6	13.7	15.8	16.5
Cuba	10.0	13.2	10.2	11.5	12.8	15.6	...	...
Sudan	8.8	12.4	12.1	12.9	13.6	13.5	9.9	...
Tunisia	9.6	11.6	11.5	13.6	10.8	11.9	14.0	15.2
Israel	1.7	8.9	7.7	9.2	10.7	10.3	11.6	12.6
Singapore	1.5	8.3	5.7	6.3	6.2	9.6	13.8	...
Hawaii	7.0	7.5	8.6	9.3	7.0	7.5	4.9	5.1
St. Pierre and Miquelon	1.9	7.3	5.9	6.8	6.8	9.3	7.9	8.3
Ruanda Urundi	...	6.1	4.2	5.6	5.6	5.4	9.7	11.5
Uruguay	3.6	4.9	3.4	4.0	4.9	5.4	6.9	6.4
Mauritius	2.0	1.7	1.6	1.6	1.7	1.7	1.7	...
Malta and Gozo	1.1	0.9	1.0	0.8	0.8	0.8	1.0	...

[1] Only 23 of the 143 countries included in group *E* publish regularly annual statistics on fish catch.

ANNEX TABLE 11. – UNITED STATES COMMODITY CREDIT CORPORATION, QUANTITY AND VALUE OF INVESTMENT [1]

	Quantity (30 April)						Value (30 April)					
	1954	1955	1956	1957	1958	1959	1954	1955	1956	1957	1958	1959
	Thousand metric tons						*Million dollars*					
Wheat	24 208	28 156	29 073	24 453	24 174	33 937	2 155	2 633	2 795	2 411	2 402	3 105
Rice	58	763	1 322	804	732	535	6	98	232	107	104	81
Barley	622	2 044	1 987	1 774	2 698	3 242	34	107	92	87	114	155
Oats	589	1 052	1 222	650	732	1 376	32	58	60	32	32	57
Maize	20 568	22 255	29 192	34 801	37 211	39 206	1 296	1 437	1 926	2 289	2 414	2 486
Grain sorghum	1 029	2 927	2 887	2 040	8 295	13 498	60	167	128	105	393	706
Butter	165	149	34	16	45	20	245	212	44	21	60	26
Cheese	164	176	130	87	74	5	146	156	111	73	62	4
Dried milk	298	101	81	65	70	59	109	38	30	24	26	20
Linseed	382	201	41	351	59	279	56	25	5	42	7	31
Linseed oil	31	37	26	—	—	—	13	14	9	—	—	—
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	1 268	1 439	2 268	1 580	642	1 260
Wool	55	70	54	24	—	—	81	103	82	35	—	—
Tobacco	281	366	402	451	427	414	270	406	535	609	590	594
Other commodities							175	237	287	396	405	401
TOTAL							6 189	7 261	8 633	7 816	7 251	8 933
							Percentage					
Change from previous year							+ 97	+ 17	+ 19	- 9	- 7	+ 23

SOURCE: *Report of Financial Conditions and Operations*, United States Department of Agriculture, Commodity Credit Corporation, April 1955, 1956, 1957, 1958, and 1959.

[1] Stocks pledged for oustanding loans and stocks in price support inventory.

ANNEX TABLE 12. – AVERAGE WORLD EXPORT UNIT VALUES IN U.S. DOLLARS: MAJOR COMMODITIES

	Average					1958 (prelim.)	1957				1958 (prelim.)			
	1947-49	1950-51	1952-53	1954-55	1956-57		I	II	III	IV	I	II	III	IV
	U.S. dollars per metric ton													
Wheat	94.4	72.6	77.7	65.8	62.0	62.2	63.1	63.3	63.0	61.2	62.3	62.4	62.2	62.0
Wheat flour	127.2	99.8	109.2	95.3	85.0	82.7	89.1	85.9	87.5	81.6	82.2	85.2	81.7	81.7
Barley	81.6	63.9	68.6	52.6	50.4	49.1	41.3	50.5	47.6	46.8	46.5	47.4	50.1	52.3
Maize	78 4	69.3	75.6	60.6	57.4	50.2	58.9	56.3	55.5	52.0	51.6	50.8	50.3	48.6
Rice (milled)	152.7	131.1	171.8	131.3	114.7	120.5	116 5	112.9	110.4	119.7	120.0	117.4	125.2	122.2
Sugar (raw)	103.0	110.2	102.4	96.6	103.9	99.1	106.8	120.0	120.7	109.5	102.1	99.9	96.2	98.1
Apples	112.1	98 2	96.4	106.4	124.0	151.8	106.9	116.1	151.1	148.5	184.1	215.2	90.3	120.0
Bananas	102 1	102.6	99.8	99.2	103.2	93.7	100 5	101.2	102.6	99.2	92.6	94.0	94.2	93.9
Oranges and tangerines	116.3	104.4	95.1	101.0	124.2	121.6	130.1	127.3	125.8	131.4	116.0	124.1	163.3	123.7
Raisins	264 7	260.2	223.4	234.0	297.2	349.5	296.7	314.2	298.1	305.7	345.2	337.8	342.7	369.6
Copra	204.5	209.3	169.1	161.6	141.4	168.3	139.7	137.9	140.2	142.6	158.3	168.9	169.5	175.7
Palm kernels	129.7	146.3	154.1	129.2	122 6	124.3	126.9	120.7	119.7	119.3	124.1	122.7	124.1	126.3
Soybeans	118.3	107.5	111.1	104.0	93 3	86.4	94.7	91.9	93.5	87.8	87.8	90.1	89.3	83.1
Groundnuts (shelled)	198.9	177.4	225.0	198.0	203.9	172.0	213.5	221.3	212.3	190.7	179.0	174.8	154.5	162.4
Olive oil	919.4	690.4	612.4	562.4	703.9	603.4	683.2	701.2	671.2	634.8	623.6	618.2	597.8	574.0
Coconut oil	356 4	362 6	279.2	263.5	236 5	280.6	227.7	249.4	236.1	252.3	267.1	268.4	272.9	311.4
Palm oil	240 0	255.6	216.6	191.8	220.0	199.6	232 0	227.5	213.2	217.0	211.2	206.6	195.3	187.1
Palm kernel oil	336.4	332.1	272.4	251.7	237.8	264 8	249.4	240.1	232.3	239.3	240.2	240.3	215.9	263.0
Soybean oil	467.6	391.3	306.9	322.9	341 3	306.5	347.7	342.6	316.1	318.0	320.6	327.5	289.4	281.1
Groundnut oil	464.9	442 2	407 5	369.7	418.4	369.6	435 8	449.2	394.6	425.7	375.4	388.0	352.4	355.2
Cattle	118.5	143.4	127.2	141.0	129.2	133.3	128.6	129.7	146.6	111.1	133.9	138.7	138.0	123.9
Beef and veal	322.9	396 9	456.1	444.4	400.9	487.6	431.0	393.8	397.2	455.3	436.3	480.8	501.1	523.3
Mutton and lamb	288.5	255.9	306 7	402.3	435.5	410.4	469.2	447.4	454.4	426.5	442.9	390.3	402.8	383.9
Bacon	724.4	626.9	702.1	656.9	700 8	688.7	718.3	638.9	714.2	614.0	614.1	704 0	703.2	736.7
Canned meat	539.2	768.7	871.6	872.4	803.1	827.8	784.5	801.6	691.0	841.7	792.4	823.5	827.4	872.9
Cheeses	691.0	525.5	573 3	560.0	635.2	508.7	675 6	624.0	592.0	555.5	494.1	473.3	489.3	571.5
Butter	996.1	835.3	951.5	956.9	851 0	614.8	772.3	753.9	832.2	800.1	681.6	580.8	568.4	618.4
Eggs (in shell)	767.3	624.7	705.4	647.1	636.7	599.9	518.8	539.1	666.8	730.2	594.7	579.7	574 8	630.3
Milk (condensed)	349.5	308.2	332.1	306.0	322.3	314.4	340.5	325.5	332.1	318.8	335.8	318.6	292.7	312.5
Milk (powdered)	547.4	406.7	499.8	398.0	401.4	380.0	449.5	441.8	409.6	414.3	402.1	347.8	396.0	378.3
Potatoes	58.2	49.3	58.9	47.4	57.2	59.6	49.0	56.9	52.4	57.4	52.0	69.8	56.7	55.5
Oilcakes	86.7	74.0	73.9	72.1	62.1	50.2	77.0	70.1	67.1	64.9	60.2	55.2	57.5	62.6
Coffee	533.4	1 039.5	1 143.4	1 282.2	1 075.3	902.3	1 121.3	1 102.9	1 042.5	1 008.8	957.7	928.3	914.7	826.0
Cocoa beans	530.6	630 3	674.5	956.9	568.2	851.5	519.6	474.5	568.5	684.1	800.5	894.2	944 9	824.0
Tea	1 162.3	1 027.1	984.9	1 398 3	1 262.5	1 223.2	1 354.2	1 151.1	1 211.8	1 242 2	1 171.5	1 185.9	1 268 4	1 238.6
Wine	235.1	171.2	162.4	144.3	166.1	217.0	164 2	172.4	173.4	189.6	184.1	206 3	275.2	235.2
Tobacco (unmanufactured)	1 142.0	1 137.4	1 239.6	1 285.8	1 305.6	1 351.4	1 353.4	1 390.3	1 337.0	1 396.4	1 407.5	1 363.5	1 268.5	1 367.5
Linseed	193.0	155.0	147.1	119.6	129.5	125.0	131.3	116.6	98.1	123.6	130.5	127.4	122.0	122.9
Linseed oil	554.9	383 3	309.6	184.5	278 6	298.0	301.0	253.3	240.8	203.8	294.1	326.6	271.8	286.5
Cotton	784.6	1 011.9	895.0	826.9	739.0	699.1	753.4	749.5	724.6	730.5	712.2	747.1	634.8	699.8
Jute	314.2	286.5	213.2	184.0	196.4	195.4	214.8	194.3	207.3	208.4	205.8	174.5	193.3	198.0
Sisal	277.2	347.2	286.7	164.2	148.4	143.0	146.3	143.5	134.5	137.6	137.6	135.6	142.8	146.1
Wool (greasy)	992.7	2 135.4	1 536.5	1 480.4	1 520.6	1 148.0	1 688.3	1 704.4	1 640.9	1 505.5	1 324.2	1 180.5	1 079.7	985.4
Rubber (natural)	380.0	878.3	576 2	574.7	622.0	506.0	638.0	611.2	615.0	563.4	532.4	482 8	498.6	510.0

ANNEX TABLE 13. – U.S.S.R.: AGRICULTURAL INVESTMENT AND OUTPUT

Item	Time reference	First period	Second period	Average annual increase
		.... Thousand million roubles		*Percentage*
CAPITAL				
State investment	Averages 1951-55 and 1956-57	12.6	22.3	18
Investment by collective farms		13.3	22.7	17
Long-term state credit to collective farms	1950 and average 1955-57	3.0	6.4	13
State payments for deliveries by collective farms and private producers [1]	1952 and 1957	31.3	96.7	25
		..... Millions		
MANPOWER				
Conventional working days performed on collective farms	1952 and 1956	8 847	11 103	6
		..... Thousands		
Manpower on state farms	1952 and 1957	1 640	3 016	13
FARM MACHINERY				
Tractors [2]	1953 and 1958	1 239	1 700	7
Grain combines	1953 and 1957	318	483	11
Trucks	1953 and 1957	424	660	12
		..... Thousand metric tons		
Use of mineral fertilizers	1953 and 1957	6 569	10 432	12
		.....Million hectares.....		
SOWN AREA	Averages 1950-53 and 1954-57			
Fodder crops		24.7	38.5	12
Other crops		128.4	146.6	3
Total		153.1	185.1	5
		..... Millions		
LIVESTOCK NUMBERS	Averages 1949-53 and 1954-58			
Cattle		57.3	62.9	2
Pigs		27.1	39.7	8
Sheep		89.0	112.1	5
		.....Thousand million roubles.....		
AGRICULTURAL PRODUCTION	Averages 1949-53 and 1954-58			
Gross value		300.0	400.0	6
		.....Million metric tons.....		
Grain	Averages 1951-54 and 1955-58	80.9	112.9	7
Potatoes		75.7	83.3	2
Vegetables		10.0	13.9	7
Sugar beet		21.1	35.4	11
Cotton (raw)		3.5	4.2	4
Flax		0.23	0.40	12
Meat		5.5	7.1	7
Milk		36.1	51.1	9
Wool		0.22	0.28	6
		..... Thousand million		
Eggs		15.2	20.9	8

SOURCE: Official statistics.

[1] It is understood that the increase in state payments represents primarily increased prices rather than a larger volume of deliveries. – [2] Conventional units of 15 h.p.

ANNEX TABLE 14. – NATIONAL PRODUCT PER CAPUT, SHARE OF DOMESTIC PRODUCT ORIGINATING IN AGRICULTURE, AND PROPORTION OF AGRICULTURAL AND RURAL POPULATION

	1	2	3	4	5
	Per caput net national product at factor cost [1]	Share of domestic product generated in agriculture [1]	Proportion of total population dependent on agriculture [2]	Proportion of rural population in total [3]	Disparity factor (per caput income generated in agriculture/per caput income generated in other industries) [4]
	U.S. $	..... *Percentage*			..... *Ratio* .....
United States	1 870	5	14	36	0.3
Canada	1 310	12	16	38	0.7
Sweden	1 160	14	23	53	0.5
New Zealand	1 000	24	(22)	39	1.1
Australia	950	22	(16)	31	1.4
Luxembourg	890	10	17 (22)	42	0.5
Belgium	800	8	13	37	0.6
United Kingdom	780	5	(7)	20	0.8
Denmark	750	21	(24)	35	0.8
France	740	16	(26)	44	0.6
Norway	740	15	(27)	68	0.5
Finland	670	24	42 (46)	68	0.4
Germany, Western	510	10	(14)	29	0.7
Netherlands	500	12	(16)	45	0.7
Israel	470	12	18	16	0.6
Argentina	460	19	(30)	38	0.5
Puerto Rico	430	20	(47)	60	0.3
Ireland	410	33	(44)	59	0.6
Austria	370	16	22 (25)	51	0.7
Chile	360	15	(37)	40	0.3
Italy	310	25	(39)	...	0.5
Union of South Africa	300	16	(47)	57	0.2
Lebanon	260	20	...	...	...
Colombia	250	39	53	64	0.6
Panama	250	34	(58)	64	0.4
Brazil	230	30	(63)	64	0.3
Greece	220	36	(49)	63	0.6
Portugal	200	30	(52)	69	0.4
Yugoslavia	200	30	59 (60)	84	0.3
Turkey	190	23	(34)	63	0.6
Japan	180	27	46	...	0.4
Jamaica	170	46	(70)	78	0.3
Philippines	150	43	(71)	76	0.3
Ecuador	150	40	(62)	72	0.4
Honduras	150	50	(83)	69	0.2
Paraguay	140	51	56 (63)	65	0.8
United Arab Republic (Egypt)	120	35	(63)	70	0.3
Peru	120	33	...	...	...
Ceylon	110	53	(51)	85	1.1
Thailand	80	48	66	90	0.5
Belgian Congo	70	27	(69)	...	0.2
Korea, South	70	38	...	80	...
Pakistan	70	59	(76)	89	0.5
Kenya	60	83	...	95	...
India	60	48	70 (69)	83	0.4
Burma	50	44	...	...	...

SOURCES: Col. 1: United Nations Statistical Papers, Series E and H, *Per capita national product of 55 countries 1952-54*, and national sources for Sweden, Australia, Yugoslavia, and Turkey. Col. 2: United Nations *Yearbook of National Accounts Statistics, 1957*, and national sources for Sweden and Australia. Col. 3: FAO, *Production Yearbook, 1957*, Table 4, and national sources for United States, United Kingdom, Australia, Sweden, Netherlands, Norway, Finland, Turkey, and Japan. Col. 4: United Nations *Demographic Yearbook*, 1955.

[1] The data derived from the main sources refer to the concepts used in the sources and to the period 1952-54, except where otherwise stated; the data from Sweden refer to gross domestic product at market prices and the year 1950; the data from Australia to national income and net product of agriculture in 1953/54. In Yugoslavia and Turkey, the exchange rate of the currency has been adjusted. – [2] Figures in parentheses refer to proportion of total male workers engaged in agriculture, other data to proportion of total population dependent on agriculture. In most countries, the data are derived from the latest available census and may therefore refer to a period slightly different from that of columns 1 and 2 (1953). In the United States, data referring to farm population; in the United Kingdom, annual returns referring to 1953 have been used; in Denmark, Norway, Germany, the Netherlands, Ireland, and Italy, current reports on agricultural manpower, referring to 1953, have been used, assuming total manpower to be a constant fraction of the total population over the years between the census and 1953. – [3] The data refer in each case to the year indicated in the source, which may differ somewhat from the time reference in the other columns. – [4] The "disparity factor" expresses the proportion of income originating in agriculture, as per caput of the population dependent on agriculture, over income originating in other industries, as per caput of population dependent on other industries. This factor has been derived from the data in columns 1, 2 and 3, by calculating the per caput amounts originating in each of the two main sectors and thereafter the proportion between these amounts.

ANNEX TABLE 15. – FAMILY LIVING EXPENDITURE IN SELECTED COUNTRIES
(all figures rounded)

	Year	Coverage	Per caput expenditure per year		Thereof spent on			
			In national currency	In US$	Food	Clothing	Housing, etc.	Other items
					..... *Percentage*			
United States	1950	Urban	$1 270	1 270	31	12	27	30
	1955	Farm operators	$990	990	35	11	23	31
United Kingdom	1953/54	Urban	£220	620	33	10	21	36
		Rural	£210	590	32	13	19	36
Italy: North	1953	Nonfarm	Lire 284 000	455	42	19	17	22
		Farm	" 200 000	320	55	16	13	16
Italy: South	1953	Nonfarm	" 194 000	310	45	19	15	21
		Farm	" 146 000	235	52	18	11	19
Yugoslavia	1955	Workers	Dinar 56 300	140	56	14	...	...
		Farm	" 48 700	120	67	12	13	8
Japan	1955	Urban workers	Yen 56 800	160	45	11	11	33
	1955/56	Farm	" 49 500	135	49	11	16	24
Jamaica	1954	Kingston	...	...	56	6	15	23
	1956	Rural	£48	135	69	11	5	15
United Arab Rep. (Egypt)	1955	Rural	Eg. £ 33	95	68	...	...	...
		"	" 21	60	69	...	...	...
		"	" 24	70	66	...	...	...
Ghana	1953	Accra	£45	125	64	12	14	10
	1954	Akuse town	£27	75	64	17	10	9
	1955	Cocoa farmers	£23	65	66	17	9	8
Ivory Coast	1955/56	Rural (one district)	CFA 32 000 Francs (per consumption unit)	100	80	4	...	...
Thailand	1953	Farm	Baht 4 600	65	71	9	7	13
India	1951	Urban	Rupees 422	90	53	7	9	31
		Rural	" 295	60	66	7	8	19
	1950/51	Agricultural laborers	" 100	20	85	6	2	7

SOURCES: United States: Urban: *Study of consumer expenditures, incomes and savings. Statistical tables, Urban U.S. – 1950.* Tabulated by the Bureau of Labor Statistics, U.S. Department of Labor, for the Wharton School of Finance and Commerce, University of Pennsylvania, Vol: s 2, 18, 1956-57. Farm operators: *Farmers' expenditures in 1955 by regions.* U.S.D.A., Statistical Bulletin No. 224.

United Kingdom: *Report of an enquiry into household expenditure in 1953-54.* Ministry of Labour, London, 1957.

Italy: *Struttura ed elasticità dei consumi di un campione di famiglie italiane,* Istituto nazionale per lo studio della congiuntura.

Yugoslavia: *Statistički godišnjak* FNRJ, 1958.

Japan: Urban: *Family income and expenditure in postwar Japan, 1946-1955.* Bureau of Statistics. Farm households: *Report on farm household cost-of-living survey, April 1955 - March 1956* (in Japanese), Ministry of Agriculture, 1957.

Colombia: United Nations, *Analyses and projections of economic development, 3. The economic development of Colombia.* Geneva, 1957 (E/CN. 12/365/Rev. 1).

Jamaica: Kingston: *Household expenditure survey 1953-54.* Jamaica, Department of Statistics, 1955. Rural areas: *Rural household expenditure survey 1956.* Jamaica, Department of Statistics, 1957.

Ghana: Gold Coast, Statistical and Economic Papers, No. 2 (*1953 Accra survey of household budgets*), No. 3 (*1954 Akuse survey of household budgets*) and No. 6 (*Survey of population and budgets of cocoa-producing farmers in the Oda-Swedru-Asamankese area 1955-56*).

Ivory Coast: *Enquête nutrition – niveau de vie, Subdivision de Bongouanou, 1955-1956.* Territoire de la Côte-d'Ivoire, Service de la statistique.

United Arab Rep. (Egypt): *Analysis of the surveys in the villages of Egypt, 1955* (in Arabic).

Thailand: *Thailand economic farm survey, 1953.* Division of Agricultural Economics, Ministry of Agriculture, Bangkok.

India: Urban and rural: *The national sample survey,* No. 3, *Tables with Notes on the Third Round, August-November 1951.* Delhi, Department of Economic Affairs, 1954. Agricultural laborers: B. Ramamurti, *Agricultural labour, how they work and live.* All-India Agricultural Labour Enquiry. Delhi, Ministry of Labour, 1954.

See also: FAO, *Review of food consumption surveys.* Rome, 1959.

ANNEX TABLE 16. – INCOME ELASTICITY COEFFICIENTS OF FOOD EXPENDITURE IN RURAL AND URBAN DISTRICTS IN SELECTED COUNTRIES

	United States 1955		United Kingdom 1953/54		Italy 1953 [2]		Italy 1953 [3]		Japan 1955		India 1952 [4]	
	Rural	Urban	Rural [1]	Urban	Rural	Urban	Rural	Urban	Rural	Urban	Rural	Urban
TOTAL FOOD EXPENDITURE	0.18	0.39	0.6	0.7	0.65	0.58	0.74	0.69	0.48	0.6	0.87	0.79
Bread and cereals	0.01	0.16	– 0.2	0.05	0.27	0.21	0.33	0.20	0.38	0.2	0.69	0.33
Starchy food, etc.	0.20	0.16	0.4	0.05	...	...	...	...	– 0.55		...	...
Sugar	0.02	0.27	0.9	0.9	0.78	0.50	0.92	0.89	...	...	1.43	1.09
Pulses and nuts	– 0.17	0.16	...	...	...	...	...	...	0.30	0.65	...	...
Vegetables and fruit	0.16	0.36	0.6	0.6	[5] 0.60	[5] 0.67	[5] 0.60	[5] 0.79	0.33	0.6	...	...
Meat products	0.27	0.31	0.3	0.3	0.88	0.71	1.25	1.07	...	...	1.15	1.26
Fish products	0.28	0.24	0.5	0.0	0.81	0.63	1.06	0.93	1.03	0.5		
Eggs	0.01	0.18	0.7	0.3	0.50	0.38	0.76	0.78	[6] 0.83	[6] 1.2	1.86	1.53
Milk products	0.02	0.28	0.45	0.1					...	...	...	...
Butter	0.17	0.50	0.1	0.0								
Fats and oils	– 0.13	– 0.02	0.0	0.0	0.81	0.54	0.83	0.70	[7] 0.31	...	1.16	1.01
Nonalcoholic beverages	0.06	0.28	0.2	0.05	0.86	0.72	1.18	0.95	0.71	1.05	...	...
Alcoholic beverages	0.95	0.85	2.0	3.3					1.27	0.8	...	...
Meals outside the home	0.92	0.85	2.5	5.0	1.15	1.29	0.74	1.09	1.52	1.6	...	...
Other food	0.22	0.34	0.7	0.6					0.54	0.4	0.93	1.01
Tobacco	...	...	2.5	3.3	0.90	0.78	0.95	0.48	0.18	– 0.2	...	...
Clothing	...	...	...	...	1.53	1.16	1.13	1.24	1.95	1.7	...	...

SOURCES: As for Annex Table 15, except for the United States, which is: *Household food consumption survey 1955. Report No. 1. Food Consumption of Households in the United States*, U.S.D.A., 1956.

[1] County of London and other urban areas with more than 100,000 population. – [2] Central North Region. – [3] South. – [4] Fourth round. – [5] Including potatoes. – [6] Plus meat. – [7] Including condiments.

ANNEX TABLE 17. – AVERAGE FOOD CONSUMPTION IN RURAL AND URBAN AREAS IN SELECTED COUNTRIES

(per caput per day)

	Date	Coverage of sample	Calories	Protein		Fat
				Total	Animal	
				..... *Grams*		
United States	1955	Urban: all households	3 050	103	...	152
		Rural farms	3 660	109	...	170
United States [1]	1955	Urban: all households	4 230	121	...	...
		Rural farms	4 880	124	...	...
United Kingdom	1956	London	2 560	75	46	109
		Provincial conurbations	2 639	77	43	108
		Other urban	2 610	75	42	108
		Rural	2 786	78	41	108
Yugoslavia:						
Croatia	1956	Four industrial towns, [2] 837 families	2 540	76	27	83
	1954	64 villages	2 470	79	25	65
Poland	1957	Industrial workers	2 723	63	31	98
	1955/56	Individual farms	3 547	88	37	106
Japan	1956	Urban areas	2 034	70	25	24
		Rural areas	2 158	68	20	19
Ecuador	1953/54	Urban: Cuenca	1 843	53	20	43
		Rural: Otavalo	1 697	55	2	22
		Quinindé	2 035	56	29	42
Costa Rica	1950	Urban	1 987	59	18	35
		Rural farms	1 889	48	7	31
India [3]	1935–48	Urban (Delhi)	3 293	119	6	36
		Bihar (mainly rural)	2 277	74	6	22
	1953/54	Rural (Bombay State selected area)	2 588	71	7	169
Cameroons (French Adm.):						
Evodoula	1954	Mainly cocoa farmers	1 955	48	14	65
Ivory Coast						
Bongouanou	1955/56	Village	2 061	61	25	
		" Campements "	2 384	79	36	

[1] Per nutrition unit - adult male, 25 years of age and over. – [2] Rijeka, Split, Garazin, Zagreb. – [3] Per consumption unit.

SOURCES: United States: *Dietary Levels of Households in the U.S. Household Food Consumption Survey 1955*, Report No. 6.

United Kingdom: *Domestic Food Consumption and Expenditure: 1956*, Ministry of Agriculture, Fisheries and Food, Annual Report of the National Food Survey Committee.

Yugoslavia: E. Ferber and H. Maver, *Prilog ispitivanju prehrane...* and *Prehrana i njezin utjejcaj...*

Poland: A. Szczygiel, *Results of a food consumption survey carried out among the families of workers and clerks employed in four branches of industry*, Zagadnienia ekonomiki rolnej, No. 3/1958.

Japan: *Nutrition in Japan, 1957*, Ministry of Health and Welfare, Japan.

Colombia: FAO, *Report to the Government of Colombia on food and nutrition policy in Colombia*, ETAP Report No. 858, 1958.

Ecuador: *La realidad alimentaria del Ecuador - Un estudio de cinco encuestas alimentarias.* National Institute of Nutrition, Quito.

Costa Rica: *Estudio cooperativo INCAP/FAO.* Instituto de Nutricion para Centroamerica y Panama.

India: *A supplement to the results of diet surveys in India 1935-48, New Delhi 1953 (Indian Council of Medical Research); Diet and nutrition studies in rural areas in Bombay State, Karat Community Project Area.*

Nigeria: Tribal nutrition and health in Nigeria, *The Journal of Clinical Nutrition, Vol. 2, 1952-53.* B.M. Nicol, *The nutrition of Nigerian peasants with special reference to the effects of deficiencies of the Vitamin B.*

Cameroons: *Enquête sur l'alimentation au Cameroun.* Evodoula, 1955.

Ivory Coast: *Enquête nutrition - niveau de vie, Subdivision de Bongouanou, 1955-1956.* Territoire de la Côte-d'Ivoire, Service de la statistique.

ANNEX TABLE 18. – ILLITERACY RATES FOR SELECTED COUNTRIES, BY URBAN AND RURAL AREAS

	Date of census or survey	Age level of population	Population	Percent illiterate		
				Total	Male	Female
				..... *Percentage*		
Argentina	Census 1947	14 and over	Urban	8.8	7.0	10.5
			Rural	23.2	20.9	26.2
			Total	13.6	12.1	15.2
Brazil	Census 1950	15 and over	Urban	21.7	15.3	27.1
			Suburban	38.6	31.3	45.3
			Rural	66.9	60.9	73.3
			Total	50.6	45.2	55.8
Ceylon	Census 1946	15 and over	Urban	23.1	15.7	34.7
			Rural	39.9	23.6	58.3
			Total	37.0	22.1	54.8
Chile	Census 1952 (2 % sample)	15 and over	Urban	10.4	7.5	12.7
			Rural	36.0	33.0	39.3
			Total	19.9	18.1	21.5
Costa Rica	Census 1950	15 and over	Urban	8.1	6.1	9.7
			Rural	27.9	26.7	29.3
			Total	20.6	19.9	21.4
Cuba	Census 1953	15 and over	Urban	11.1	11.0	11.2
			Rural	40.0	42.6	36.7
			Total	22.1	24.2	20.0
Cyprus	Census 1946	15 and over	6 towns	27.1	...	...
			Villages	43.3	...	...
			Colony	39.5	...	...
Dominican Republic	Census 1950	15 and over	Urban	29.5	23.5	34.2
			Rural	67.3	65.3	69.5
			Total	57.1	55.3	58.9
El Salvador	Census 1950	15 and over	Urban	34.7	27.2	40.8
			Rural	77.1	72.8	81.5
			Total	60.6	56.4	64.5
Greece	Census 1951	15 and over	Urban and semi-urban	19.5	9.5	29.0
			Rural	33.7	14.9	49.9
			Total	25.9	11.9	38.6
Honduras	Census 1950	10 and over	Urban	43.6	41.4	45.6
			Rural	74.7	72.3	77.2
			Total	64.8	62.9	66.7
Japan	Sample survey 1948	15-64 years "complete" or "partial" illiterates	Urban	1.2	...	...
			Rural	2.6	...	...
			Total	2.1	...	...
Panama	Census 1950	10 and over (excluding tribal Indians)	Urban	7.2	6.0	8.3
			Rural	42.9	41.1	44.9
			Total	28.3	27.7	28.9
Puerto Rico	Census 1950	10 and over	Urban	18.0	14.4	21.2
			Rural	29.7	26.8	32.9
			Total	24.7	21.8	27.6
Union of South Africa	Census 1946	10 and over (native population)	Urban	54.7	58.4	46.9
			Rural	78.3	78.0	78.5
			Total	72.4	71.5	73.3
United States	Sample 1952	14 and over	Urban	2.0	2.1	1.9
			Rural nonfarm	2.1	2.7	1.5
			Rural farm	5.7	7.1	4.1
			Total	2.5	3.0	2.1
Venezuela	Census 1950	15 and over	Urban	29.5	23.7	35.2
			Rural	72.0	67.0	77.3
			Total	47.8	42.8	52.8

SOURCE: UNESCO, Statistical Division, April 1959.

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