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Developments in International Food Policy



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DEVELOPMENTS IN INTERNATIONAL
FOOD POLICY

A paper prepared by Mr. J.J. McNerney
of the Economic Affairs Division

September 1978

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Commonwealth Secretariat, Marlborough House,
Pall Mall, London, SW1Y 5HX.**

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PREFACE

The world food crisis of 1972-74, which led to the convening of the World Food Conference in November 1974 and the adoption of the Universal Declaration on Hunger and Malnutrition, focussed the debate on international food policy on two main issues. First, how in the short term could the basic and immediate food needs of the Least Developed and the Most Seriously Affected (MSA) Developing Countries be met by the international community? Secondly, what measures should the international community take in the longer-term to increase food production and improve its consumption and distribution in developing countries?

The recovery in world food production and supplies since 1975 appears to have blunted the resolve of the international community for speedy action to implement practical solutions to the issues raised and debated in 1974 and subsequently. Yet the food problems confronting the majority of developing countries and indeed the conscience of the whole world have scarcely changed in the last four years. Although in purely statistical terms present world food reserves are probably adequate to meet any immediate crisis caused by crop failure, effective international commitment to the maintenance of reserves and to the transfer of food from surplus to needy countries has still to be agreed.

There is a danger that the continuing failure to establish an effective world grain reserve system may lead to a cut-back in world grain production, with the eventual prospect of a reduction once more in world reserves below minimum safety levels. Furthermore, and most important in the long-term, the implementation of policies and the provision of resources to increase food production in food deficit countries is making very slow progress indeed, while measures to improve food consumption and distribution in these countries remain few and inadequate.

There are twelve Commonwealth countries among the 46 MSA countries. It is estimated that about a quarter of the population of developing countries suffers from malnutrition, but the proportion in Commonwealth developing countries is probably even higher, in some countries as much as a third. The evolution and application of international food policy is of particular importance to Commonwealth developing countries, particularly the Most Seriously Affected. It is also important to developed members, such as Australia and Canada, which are major world producers and exporters of grains.

This paper attempts to provide an assessment of developments in the food situation since the World Food Conference in 1974, paying particular attention to progress in the adoption and implementation of policies at the international level. A further paper is planned on World Food Security with special emphasis on the situation in Commonwealth countries.

Mr. McNerney, a Senior Economics Officer in the Edible Products Section of the Economic Affairs Division, has been mainly responsible for preparing this paper. Supervisory assistance has been provided by Mr. D. Shipp, Chief Economics Officer of the Section.

September 1978

B. Persaud
Acting Director
Economic Affairs Division

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DEVELOPMENTS IN INTERNATIONAL FOOD POLICY

I. Introduction

1. This paper is concerned with progress in the adoption and implementation of international policies to assist in the solution of the world food problem. The world food problem has many dimensions, most inter-related, and these were articulated clearly in the documentation prepared for and the debate at the World Food Conference held in November, 1974. The World Food Conference was called in response to the acute food crises which developed in 1972-73 due to the failure of grain crops in many countries and the progressive run-down during the sixties of world grain stocks and was, therefore, primarily a response to a crisis situation. Since 1974 the overall world food supply position has improved considerably, largely due to increases in world grain harvests following better weather conditions in many countries. However, this favourable development in short-term availability does not significantly change the critical long-term outlook for developing countries, and there is the danger that it may have resulted in too much complacency.

2. A notable feature of the World Food Conference was that attention was not limited to the immediate crisis. The opportunity was taken to analyse and propose solutions to the underlying long-term food problems which afflict the greater part of the world's population. Briefly, the two major food problems identified by the World Food Conference were (i) the threat of famine, food shortage and high prices, either regionally or world-wide, which arises as the result of periodic crop disasters and supply fluctuations; (ii) the ever present hunger and malnutrition of the poorest part of the world, arising from inadequate food production levels and distribution systems in developing countries, particularly in the poorest countries. The two problems are inter-related and action to remedy one will alleviate the other. While in the short-term the international community must through food security policies ensure access to available supplies to alleviate shortages and hunger and malnutrition, the long-term solution to the world food problem must be a vastly increased capability of developing countries to meet their food requirements.

3. Both of these major food problems, for which the international community is seeking solutions (albeit hesitantly and uncertainly), involve a variety of aspects of food policy. Thus, world food security must embrace the establishment of a food information and early warning system, the holding of internationally controlled or national, but internationally co-ordinated, grain stocks, arrangements for meeting emergency situations and the adequate provision of food aid in ways which do not affect production incentives in developing countries. The setting up of grain stocks must lead to consideration of the mechanisms for the release or acquisition of stocks, and attempts to stabilise the world cereals market in turn involve national and international cereal production policies, price support measures, etc. To increase the production of food in developing countries and ensure a more equitable distribution demands an analysis, at both national and international levels, of measures and resources needed; hungry and malnourished groups must be identified while the possibilities of increasing food output must be realistically appraised. Requirements for inputs, such as water, fertilizer, seed and agricultural implements, must be

estimated, and the proportion of financial requirements likely to be available from domestic resources or needing to be obtained from abroad must be calculated. The provision of adequate production incentives, education and training, extension schemes, research and development, transport and distribution, storage and protection are all important aspects of the problem.

4. This paper begins by tracing the development of trends in world food production, noting the recent improvement in total world food production, but equally highlighting the continuing lack of progress in many developing countries, especially in the Most Seriously Affected (MSA) countries. An outline of the main proposals on international food policy at the World Food Conference of 1974 is followed by a review of progress and developments in the main international institutions concerned with food production and supplies, including those established as a result of the World Food Conference. The somewhat limited progress towards an international system of world food security in the negotiations for a new International Grains Arrangement to replace the International Wheat Agreement is described; world food security is, however, to be the subject of a separate study in due course, and is discussed in this paper only to a limited degree insofar as it arises in the broader treatment of food policy or in the examination of specific institutions. A section on the provision of external financial resources emphasises the inadequacy of present resource flows into agriculture and examines the role of the World Bank and of the International Fund for Agricultural Development (IFAD). There are reviews of both the domestic food and food aid policies of the United States and the European Community, the two groups whose policies probably are of most concern to developing countries. The paper concludes with a more extensive review of the factors influencing the supply of the most important agricultural inputs, and a postscript on the Fourth Session of the World Food Council held in June of this year.

II. Recent Trends in Food Production and Consumption in Developing Countries

(i) World Food Supply

5. The improvement in the world food supply position which began in 1975 continued in 1976, mainly as the result of a substantial increase in world cereal production and stocks. A major factor in 1976 was favourable weather in nearly all the major cereal producing areas of the world, so that a record world wheat crop of 418 million tonnes was harvested, while coarse grain output rose to a new peak of 704 million tonnes. In addition world rice output was comparatively heavy. World cereal stocks at the end of the 1976-77 season were estimated at 162 million tonnes as against 123 million tonnes a year earlier, thanks to the improved 1976 harvests and the reduced import demand for grain from India, the Soviet Union and Latin America. World meat production increased by 3 per cent in 1976, both in developed and developing countries. World sugar output increased by 7½ per cent in 1976-77, and output of oils and fats went up by 6 per cent. The world catch of fish in 1976 is provisionally estimated at a new record of 73 million tonnes.

Table A - Indices of World and Regional Food Production, 1971 to 1976, and Annual Rates of Change, 1961-70 and 1970-76

	1971	1972	1973	1974	1975	1976	Change 1975 to 1976	Annual rate of change	
	1961-65 = 100							1961-70	1970-76
	Per cent								
<u>Developing Market Economies</u>	125	125	129	132	141	146	+4	3.3	2.8
Africa	121	119	115	123	125	131	+4	2.7	1.2
Far East	126	122	133	130	143	145	+1	3.5	2.8
Latin America	128	129	132	139	144	155	+8	3.5	3.3
Near East	126	136	129	140	150	157	+4	3.0	4.2
<u>Asian Centrally Planned Economies</u>	126	125	130	133	137	140	+2	2.9	2.4
Total developing countries	126	125	130	133	140	144	+3	3.1	2.7
<u>Developed Market Economies</u>	123	122	125	128	132	134	+1	2.2	2.4
Western Europe	120	119	123	129	127	127	-1	2.3	1.6
North America	124	122	124	126	135	139	+3	2.1	3.1
Oceania	127	126	138	131	141	149	+6	2.9	3.1
<u>Eastern Europe and the U.S.S.R.</u>	126	123	146	138	131	144	+10	2.9	1.9
Total developed countries	124	122	131	131	132	137	+4	2.4	2.3
World	125	123	130	132	135	140	+4	2.7	2.4

Note: Food production covers crops and livestock only. In addition to other non-food products, the index numbers now also exclude coffee, tea, linseed and hempseed, and are therefore not completely comparable with those published earlier.

Source: FAO, Conference Document C77/2 and Fourth World Food Survey, 1977.

6. World food production increased by 4 per cent in 1976, the largest rise since 1973; output in developing countries went up by 3 per cent. Nevertheless despite the good 1976 increases the annual average rates of growth in food production during 1970-76 in developed and developing countries of 2.3 and 2.7 per cent respectively continued below the corresponding rates for the nineteen-sixties of 2.4 and 3.1 per cent. In the developing countries the greatest improvement in food production in 1976 was in Latin America, where output increased by 8 per cent, more than twice the annual average growth rate of the seventies. In the Far East food production was up by 1 per cent in 1976, this representing only about one-third of annual average growth this decade, but in Africa, where the average growth rate for the seventies was low at 1.2 per cent, food production expanded in 1976 by 4 per cent.

7. The generally inadequate rates of growth in world food production become much more apparent when allowance is made for population growth, and production is reported on a per caput basis. Despite per caput food production in all regions except Africa being at or close to peak levels in 1976, the FAO index number (1961-65 = 100) of per caput output in the developing market economies was only 104, one point higher than in the previous year, and only 2 points higher than the 1971 figure of 102. Furthermore, while the annual average rate of increase in per caput food production in the developing market economies in the nineteen sixties was 0.7 per cent, growth was reduced to only 0.2 per cent per annum between 1970 and 1976. Only in the developing market economies of the Near East has a significant annual rate of growth of 1.4 per cent taken place this decade in per caput food production; in Latin America and the Far East growth has been only 0.5 and 0.2 per cent respectively, while in Africa per caput food production since 1970 has declined at an annual average rate of 1.4 per cent, resulting in a 1976 per caput output 6 per cent less than in 1961-65.

8. Food production has fared worse in the 46 Most Seriously Affected (MSA)¹ countries than in other developing countries, their production rising by only 2.1 per cent per annum in 1970-76 as against an increase of 2.8 per cent for the developing market economies as a whole. The total population of the MSA countries is nearly 1.1 billion, slightly more than a quarter of the world population. Per caput food output of the group of MSA countries actually fell by 0.4 per cent a year during 1970-76. Even between 1975 and 1976, when the growth rate for world food production was the best since 1973 and per caput production in developing countries increased by 0.5 per cent, in all MSA countries there was a reduction in per caput output of 1.4 per cent, while in African MSA countries the contraction was 3.3 per cent.

9. The group of Least Developed Countries (LDCs)² falls very largely within the wider MSA grouping and therefore reflects much the same food production difficulties. There is, moreover, a lack of aggregated statistical data on the food production of the LDCs. For this reason and because of the overlap between the two groupings any separate analysis of LDC performance is both difficult and of doubtful value. Hence further treatment of the developing countries in this study is limited to MSA and non-MSA countries.

¹ The MSA countries are listed in Annex I.

² The LDCs are listed in Annex II.

Table B - Rates of Growth in Food Production: World and Regions

Region	Total		Per caput	
	1961 to 1970	1970- 76 (Per cent per annum)	1961 to 1970	1970- 76
Developing market economies	3.3	2.8	0.7	0.2
MSA countries	3.1	2.1	0.7	-0.4
Non-MSA countries	3.3	3.4	0.6	0.7
Africa	2.7	1.2	0.1	-1.4
Latin America	3.5	3.3	0.8	0.5
Near East	3.0	4.2	0.3	1.4
Far East	3.5	2.8	0.9	0.2
Other developing market economies	2.1	1.5	-0.4	-1.0
Asian centrally planned economies	2.7	2.4	0.9	0.6
All developing countries	3.1	2.7	0.7	0.3
Developed market economies	2.2	2.4	1.2	1.5
North America	1.9	3.1	0.7	2.1
Western Europe	2.3	1.6	1.6	1.0
Oceania	2.9	3.1	1.1	1.3
Other developed market economies	3.3	2.1	1.8	0.6
Eastern Europe and the USSR	2.9	1.9	1.9	1.0
All developed countries	2.4	2.3	1.4	1.4
World	2.7	2.4	0.8	0.5

Source: FAO, Fourth World Food Survey

(ii) World Grain Production

10. Following a period of considerable instability in 1972-74, total world grain output recovered by 1 per cent in 1975, despite a disastrous harvest in the Soviet Union. A much more pronounced improvement in world cereal output took place in 1976, when total cereal output (including rice in milled equivalent) went up by 9 per cent to a new record of 1,355 million tonnes. The main factors in this expansion were favourable climatic conditions in most producing areas and the increase in planted areas in response to high prices. World wheat output went up by 17 per cent to a new record of 418 million tonnes, while coarse grain output advanced to some 704 million tonnes, also a new peak. World rice production of 233 million tonnes, milled equivalent, while heavy, was, however, 3 per cent smaller than the very good 1975 output. A very important feature of the increase in cereal output in 1976 was that some 70 per cent of the expansion in wheat and coarse grain production took place in the Soviet Union where a record grain harvest of 215 million tonnes was achieved. As a result of the record 1976 grain output and fall in import demand from countries such as India, Brazil, Mexico and especially the Soviet Union, world cereal stocks (excluding those in China and the Soviet Union) for the crop year ending in 1977 rose sharply to some 164 million tonnes, 32 per cent greater than in the previous year, and the highest since 1972-73.

11. As of mid-March 1978 world cereal output in 1977 was estimated at 1,336 million tonnes, 1 per cent down on 1976, but the second highest on record. Wheat production, however, declined by 8 per cent as the result of smaller harvests in North America, Latin America, Africa, China, the Soviet Union and Australia. This was largely offset by the 4 per cent rise in world rice output which took place mainly in the Far East, notably in India, and by the 1 per cent increase in production of coarse grains which occurred principally in the United States, Argentina and the EEC. As a consequence of the heavy 1977 world output of cereal crops the total carry-over of cereal stocks from the 1977-78 season is forecast to rise by 9 per cent to 178 million tonnes, 19 per cent of world consumption (excluding the Soviet Union and China) and above the minimum safe level of global stocks of 17-18 per cent suggested by FAO.

Table C - World Production of Cereals
(million tonnes)

	1975	1976	1977 ^p	1978 ^f
Wheat	355	418	386	408
Coarse Grains	649	704	708	721
Rice (milled)	240	233	242	250
Total cereals	1,244	1,355	1,336	1,380
of which:				
Developed market economies	472	480	492	..
Developing market economies	354	367	368	..
Centrally planned economies	419	508	476	..

p = provisional.

f = forecast.

(iii) Grain Production in Developing Countries

12. Output of cereals in developing countries grew relatively substantially in 1976, the expansion from 354 million tonnes in 1975 to 367 million tonnes (market economy countries) representing a rise of over 3 per cent. However, whereas between 1972-73 and 1975-76 cereal production in developing countries grew more rapidly than that of the world as a whole (12 per cent as against 6 per cent), due mainly to favourable monsoons which had boosted rice output in Asia, this was not the case in 1976-77, when the increase in world cereal output of no less than 9 per cent was to a large degree attributable to the great recovery in wheat and coarse grain output in the Soviet Union. For the developing countries the overall increase in cereal output in 1976 of some 13 million tonnes was considerably smaller than the record expansion in output in 1975 of 29 million tonnes. The reason for this was the slight fall in the rice output of the developing countries, occasioned by smaller crops in India and Bangladesh as the result of less favourable monsoon conditions. In 1975, by contrast, the rice output of developing countries had gone up by 15 million tonnes. Preliminary estimates indicate only a marginal further increase to 368 million tonnes in 1977; the improvement in Far East rice production was largely offset by poorer Latin American and African wheat crops.

13. The effects of favourable weather on the out-turn of world cereal crops must always be borne in mind. Indeed in developing countries weather conditions can be a critical factor in determining the level of food supplies. In 1976, for example, the early conclusion of the monsoon damaged rice crops in India, Bangladesh and Thailand, whereas in 1975 the sustained rainfall conditions in many Asian countries had boosted the major monsoon paddy crops. Likewise, although the increased world cereal output in 1975 and 1976 was to some extent due to an enhanced use of inputs and to improved monetary incentives to farmers in the form of higher prices, the major factor in the expansion was the generally favourable weather in many producing states. A continuation of good weather in the majority of developing countries in the next few seasons cannot be taken for granted. A recurrence of adverse climatic factors in some areas may be expected quite shortly and could easily reduce developing country cereal output below the trend and result in short supplies.

(iv) Grain and Other Food Imports into Developing Countries

14. Grain imports by developing countries rose to a new peak of 52.9 million tonnes in 1975 (Appendix Table 4), some 11 per cent higher than in 1974, reflecting strong demand for cereals and also probably some element of stockbuilding. Imports of rice fell in favour of wheat and maize purchases. Following the sharp rise in the cost of cereal imports in 1973 and 1974, which placed severe strains on their foreign reserves, developing countries faced a bill for cereal imports in 1975 only 3 per cent greater than in 1974. Since their volume had risen appreciably there was in fact a fall in the unit cost of cereal imports. Nevertheless, the total value of developing country cereal imports in 1975 of \$10.6 billion was some two and a half times that of 1972 (Appendix Table 5). In 1976 both volume and value of cereal imports fell, the latter more than the former. Some developing countries can finance a rising volume of food imports without serious difficulties through increased export earnings, but this is not so for most of them.

15. Cereal imports by the MSA countries, which were around the nineteen million tonnes level in 1974-75 and in 1975-76, declined to 16.5 million tonnes in 1976-77, some 3.2 million tonnes less than actual imports in the previous season, but still 2.9 million tonnes above the 1971-75 average. The decline in MSA import requirements in 1976-77 mainly reflected the fall in demand from Asia following the good 1976 cereal crops there. Nevertheless, larger imports were required by Africa, and the import requirements for the 43 MSA countries other than Bangladesh, India and Pakistan were in fact put at 9.6 million tonnes, 1.2 million tonnes more than in the previous year. Over the longer-term perspective of the last decade a rather similar pattern has been apparent, with Indian cereal imports declining, but those of all other MSA countries as a group tending to rise. This pattern is again being followed in 1977-78 when India will account for only 0.3 million tonnes of the total estimated MSA requirements of 14.8 million tonnes. Although as a group developing countries are net importers of cereals, certain of them are regular exporters, for example, Argentina of wheat and coarse grains, and Thailand and Burma of rice. Others, however, are intermittent exporters, as for instance India in 1977-78, selling on world markets only in times of abundant domestic supplies. In 1975 developing market economy countries exported 15.2 million tonnes of cereals, only 29 per cent of their overall imports of 52.9 million tonnes.

16. A feature of recent years has been the relatively small component of food aid in the cereal imports of developing countries. Food aid averaged over 12 million tonnes a year during 1970-72, forming 36 per cent of cereal imports, but the run-down in United States stocks resulted in a severe cut in aid in the critical season 1973-74, and although aid shipments subsequently recovered somewhat to some 8.0 to 9.0 million tonnes, they continue well below the levels of the sixties. The annual food aid target of 10 million tonnes of grain a year set by the World Food Conference in 1974 has still not been reached, shipments in 1976-77 being estimated at 8.9 million tonnes, and although the outlook for 1977-78 is rather better, the total is likely to remain short of the target.

17. The following table illustrates the rise in developing country cereal imports and the declining proportion received as food aid.

Table D - Developing Countries' Imports of Cereals and Share as Food Aid

<u>Period</u>	<u>Total</u>	<u>Food Aid</u>	<u>per cent</u>
		(million tonnes)	<u>of total</u>
Average 1961-63	25.1	14.3	<u>57</u>
1970	33.5	12.7	<u>38</u>
1971	36.6	12.7	<u>35</u>
1972	34.5	11.8	<u>34</u>
1973	45.6	9.6	<u>21</u>
1974	48.8	7.7	<u>16</u>
1975	54.4	8.4	<u>15</u>
1973-75 average	49.6	8.6	<u>17</u>

Source: World Food Council, 1977.

18. Food aid levels have historically been related to the availability of food surpluses, and the decline in the nineteen-seventies reflected the reduction in world grain stocks. Although the recovery in grain stocks in 1976-77 and 1977-78 has been accompanied by a moderate rise in the volume of cereal food aid it seems unlikely that this will return to the levels prevailing during the nineteen-sixties for a number of reasons. Firstly, in the present depressed state of the world economy donors find it more costly to sustain very high levels of food aid programmes. Secondly, there is an awareness that excessive food aid may discourage self-reliance in food production in developing countries. Thirdly, there is widespread agreement in the international community that world grain stocks ought not be run-down through disposal programmes to the point where future crop shortfalls could result in severe grain shortages and high prices. Rather, part of the current world grain surplus should be converted into security reserves, nationally-held but internationally co-ordinated and financed. Such security reserves would limit the quantities of grain available for normal food aid.

19. Against the low level of food aid in cereals in recent years and the unlikelihood of significant increases in the future should be placed the notable increase in food aid in several non-cereal commodities. Aid shipments of skimmed milk powder rose from 76,500 tonnes in 1974 to 121,500 in 1975 and to 150,000 tonnes in 1976 and were likely to reach about 250,000 tonnes in 1977-78. Food aid in butter oil was some 50,000 tonnes in 1976 and was likely to grow in 1977-78. Although food aid in dairy products in the last two decades has been subject to great instability since it has depended upon the fortuitous production of surpluses, its recent recovery owes much to the increasingly high levels of surpluses in the E.E.C., where the inability to restrain dairy production to any significant degree means that availabilities are likely to remain high in at least the medium-term. Since the absorptive capacity of developing countries for milk products now appears to be greater than was originally thought, higher levels of food aid in dairy products could be sustained, especially as there is a large "concealed surplus" of skim milk powder currently disposed of at subsidised prices for use as animal feeding stuffs. Food aid in vegetable oils recovered from an average of 113,000 tonnes in 1974 and 1975 to over 200,000 tonnes in 1976 and may rise further in 1977-78. Nevertheless it is likely to remain below the average annual level for the nineteen-sixties of some 380,000 tonnes since the United States, the principal supplier, now appears to be marketing its oil surpluses more successfully on a commercial basis than was the case ten years ago. Broadly speaking, non-grain food aid (which also includes a small volume of fish) in the past has accounted for between 10 to 20 per cent of total aid, but it could assume a more important role in the future, especially because of its generally high nutritive value.

(v) Future Trends in Food Production

20. While most developing countries have development plans which aim at self-sufficiency in grains, or at least reduced dependence on imports, projections made by various authorities - largely based on extrapolation of past trends - foresee that the import requirements of developing countries will continue to increase, at least into the 1980s. On the basis of current resources and trends in management the FAO forecast in 1974 that food production in developing countries would increase by 2.6 per cent a year

to 1985, or slightly less than the population increase of 2.7 per cent per annum. Using a 'trend' growth in incomes, food demand was projected to rise by 3.6 per cent a year. On these assumptions FAO estimated a net foodgrain deficit for importing developing countries by 1985 of some 85 million tonnes, including rice in the form of paddy, or 72 million tonnes, with rice on a milled basis. A study published by the World Bank in November 1976 put the 1985 net grain deficit at some 75 million tonnes. Studies of the likely deficit by the USDA and IFPRI (International Food Policy Research Institute), based upon various assumptions of income growth, produced ranges of 34-68 million tonnes and 41-83 million tonnes respectively for the 1985 grain deficit. The two higher income estimates, if corrected for differences in data, show a fair degree of concurrence with the FAO and World Bank estimates of the 1985 deficit; essentially these range from 70 to 80 million tonnes.

21. The emergence of such large deficits in the overall grain requirements of developing countries suggests the impossibility of meeting these needs by importing. It is clear that the developing countries as a group would be quite incapable of meeting the foreign exchange costs (\$12-15 billion) of importing some 70-80 million tonnes of grain annually, although some individual countries would no doubt have the capability to import large quantities of grain. For food aid to even meet, say, a quarter of requirements, would involve the provision of up to 20 million tonnes of cereals a year, more than twice the amount currently being made available. Thus, while developing countries can be expected to continue importing cereals to the extent that their foreign exchange resources permit, and while food aid will continue to play an important role, especially for the Food Priority Countries (FPCs)¹, it is clear that the main thrust to meet cereal shortages must come from an intensification of measures within the developing countries to raise their own cereal output. This will, of course, require greatly increased financial, material and technical assistance from the international community. In this context the inadequacy of present external resource flows to food production is apparent; totalling \$3.7 billion in 1975, they increased only marginally in 1976 to \$3.9 billion, although a more marked recovery to \$4.5 billion is provisionally estimated for 1977. The World Food Conference target of \$5.3 billion required from external resources to raise the rate of growth in food output in developing countries to 4 per cent per annum has been revised to \$8.3 billion in 1975 figures and at current values must be in the region of \$10 billion. It thus appears that less than half the external resources required are currently being made available.

22. There must be special concern about future levels of food production in the 46 MSA countries on the basis of the recent output trends set out earlier in Table B. In per caput terms food output in the MSA countries has been declining in the present decade. Furthermore, in contrast

¹ Forty-three Food Priority Countries were identified by the World Food Council in 1976. The criteria for identification were (i) low per caput income; (ii) a high projected cereal deficit by 1985; (iii) a high degree of protein-calorie malnutrition; (iv) inadequate increase in food production; (v) serious balance of payments constraints and (vi) a potential for rapid and socio-economically well-distributed increase in food production. The FPC countries are listed in Annex III.

to all developing market economies, which together recorded an increase during the year in their cereal output of 13 million tonnes to 367 million tonnes, total cereal production in MSA countries fell marginally in 1976 from 189 million tonnes in 1975 to 188 million tonnes. An improvement in total MSA cereal production in 1977 to 196 million tonnes was primarily a reflection of improved crops in India since output in all other MSA countries only advanced from 87 to 88 million tonnes.

23. Despite the very serious situation in the MSA countries, the prospects for increasing food production in developing market economies may now be somewhat better than they appeared in 1974. Although in 1970-76 the average annual rate of increase in food production in developing market economy countries was only 2.8 per cent, the two years of good weather after 1974 resulted in food production in these countries rising by 7 and 4 per cent respectively in 1975 and 1976. Food production in these countries will continue to be subject to the vagaries of weather, but improved cultivation techniques, the better supply of inputs and the use of new varieties of cereals all hold out the possibility that in the period up to 1985 the average annual rate of increase in food production in developing countries may be rather higher than the 2.6 per cent forecast. It is encouraging to observe that in 1974-76, although not unfortunately in 1977, food production in the developing market economies rose on average by 4 per cent, the figure called for in the Second Development Decade.

III. Proposals on Food Policy at the World Food Conference, 1974

24. Any review of international food policy at the present must start with the comprehensive programme of action proposed at the World Food Conference, and must analyse subsequent developments in institutions, activities, and policies. The major aims of the Food Conference included the formulation of programmes to increase food production in developing countries, to improve the distribution and consumption of food, to strengthen world food security and to bring about a more orderly system of agricultural trade and adjustment. In all the Conference adopted no less than 22 resolutions, intended to cover all aspects of the world food problem. The first resolution set out the objectives and strategies of food production, while most of the remaining 21 resolutions were concerned with ways of achieving these objectives. It may be, in retrospect, that all 22 resolutions were too diffuse in coverage, and that, although they referred to all the main issues and requirements, they lacked precise proposals as to the attainment of the desired objectives. Nevertheless, the World Food Conference also made concrete proposals for the establishment of new bodies, for example the International Fund for Agricultural Development and the World Food Council, and thus laid the bases from which further international action in the sphere of food policy could evolve.

25. The first resolution of the Conference declared that the "highest priority should be given to policies and programmes for increasing food production and improving food utilisation in developing countries, so as to achieve a minimum agricultural growth rate of 4 per cent per annum" and that "all Governments should accept the removal of the scourge of hunger and malnutrition as the objective of the international community as a whole ... within a decade..." The initiatives called for by the remaining

21 resolutions were wide-ranging and comprehensive, although in many cases far from specific. Broadly the initiatives covered seven main areas of policy, viz:

- (i) Measures to improve food production in developing countries, including the provision of adequate supplies of essential inputs, the development of the necessary rural infrastructure, the adoption of policies to encourage the production and conservation of food, and the necessary progressive changes in the agrarian structure.
- (ii) Measures to increase substantially the flow of external financial assistance to agriculture and food production in developing countries and to ensure a more efficient use of financial and technical assistance.
- (iii) The endorsement of the International Undertaking on World Food Security, in particular by the maintenance of adequate national or regional stocks of food and by participation in an improved food information system.
- (iv) An improved policy for food aid, including increased commitments and forward planning by developed countries, and better co-ordination of bilateral and multilateral food aid programmes.
- (v) The recognition of the inter-relationship between the world food problem and international trade, and of the need to stabilise agricultural markets and to improve access in developed country markets for agricultural exports from developing countries.
- (vi) Policies and programmes to improve nutrition, including a global nutrition surveillance scheme, an internationally co-ordinated scheme for nutritional research and the extension of nutrition intervention and special feeding schemes, particularly for the most vulnerable groups.
- (vii) Priorities for the achievement of an integrated agricultural and rural development, including the efficient use of land and water resources, the introduction of appropriate technology, and the involvement of the rural masses in programmes to relieve rural unemployment and improve family incomes and living standards.

26. To give an impetus to its recommendations the World Food Conference called for the establishment of a number of new international bodies, while at the same time it urged existing institutions to undertake or collaborate in a number of new activities. The World Food Council was to be established by the General Assembly as a co-ordinating mechanism for the follow-up of policies regarding food production, nutrition, food security, food trade, food aid and related matters. A Committee on World Food Security was to be established by FAO, which would report to the World Food Council; its

role would include monitoring of the implementation of the International Undertaking on World Food Security. A Committee on Food Aid Policies and Programmes was to be established, also reporting to the World Food Council. FAO was to take fresh initiatives as required to expand the global information and early warning system. The Conference asked IBRD, FAO and UNDP to organise a Consultative Group on Food Production and Investment in Developing Countries (CGFPI), the main functions of which should be (a) to encourage a larger flow of external resources for food production, (b) to improve the co-ordination of bilateral and multilateral donors and (c) to ensure a more effective use of available resources. In addition, Resolution XIII of the Conference resolved that an International Fund for Agricultural Development (IFAD) should be set up immediately to finance food production in developing countries.

27. These institutions have now all been established and their development is analysed more fully in the next Part (IV) of this study. Meanwhile it must be stated that the World Food Council, the body charged with overseeing the implementation of the decisions of the World Food Conference, essentially lacks the authority to carry out its tasks, since it is not located in the UN General Assembly, but is attached to the Economic and Social Council. Thus, despite the important role of co-ordination assigned to it, its authority and influence are uncertain. In each of its three meetings during 1975-77 it has debated important issues and made recommendations, but governments have been slow to implement these and there is no obligation upon them to do so.

28. As an example of the Council's lack of authority the slow response of the international community to the need to build up grain reserves may be cited. The 1977 meeting made important recommendations about setting up a security reserve of grains. Although the Council's recommendations called for negotiations to proceed as rapidly as possible for the establishment of an international system of nationally held reserves, a note of real urgency was lacking; indeed the negotiations on a new international arrangement to replace the International Wheat Agreement of 1971 are being conducted slowly. A third season of good grain crops in 1977-78 has resulted in very large end-of-season grain stocks. As a consequence, the United States acted to cut the wheat area by 20 per cent in 1978, and that for coarse grains by 10 per cent. Pessimists can all too easily envisage a situation in 1978-79 or later where the occurrence of poor crops in certain developing or centrally planned economies together with the cuts in grain output in North America could face the international community with short grain supplies, high prices and, because of lack of prompt action in 1977 and 1978, still no international security reserve. The problem of how the World Food Council, meeting only once a year, can impart a sense of urgency to its proceedings is vitally important. Perhaps the Council should concentrate all its efforts each year on only one key issue, rather than attempt to cover several, as it has hitherto done.

29. It was suggested to the 1978 meeting of the World Food Council that as the Council's previous calls for global action had proved of little value more specific lines of approach might be adopted. Calls could be addressed, for example, to the appropriate aid institutions, such as the Development Assistance Committee, to regional groupings of developing countries, and even to selected countries. A promising line of approach suggested was that of promoting food and nutrition programmes for selected developing countries in co-operation with selected developed countries and international agencies.

IV. Progress in Follow-up Activities

(i) General

30. The good grain harvests of 1976 together with the favourable results in many countries for 1977 cereal harvests mean that for the next season or so the world probably has the assurance of adequate cereal supplies owing to the large carry-over stocks from 1976 harvests and the even larger carry-over stocks, particularly of coarse grains, obtained from 1977 harvests. Nevertheless, 1977 wheat output in some developing countries in Latin America and Africa was reduced below the previous year's levels. Furthermore, although wheat and coarse grain prices fell sharply during the 1976-77 crop year, thereby reducing the cost of imported grains for developing countries, the decline in prices, although followed by a recovery in 1977-78, had serious implications for world grain production and supplies in the longer-term since it pointed sooner or later to the probability of a fairly sharp reduction in cereal plantings by the major exporting countries. Indeed acreage set-aside provisions for wheat and coarse grains were introduced in the United States for the 1977-78 season in order to reduce total cereal output.

31. In relation to the proposals of the World Food Conference of 1974, the situation as at mid- 1978 can be summarised as follows on the credit side:

1. World food production has increased sharply, although more as a consequence of favourable weather conditions than in response to policy measures.
2. The International Fund for Agricultural Development (IFAD) formally became operational in December, 1977, and its first projects were approved in April 1978.
3. Food aid has gradually been increased, and commitments of cereals for 1977-78 are estimated at 9.3 million tonnes (as against actual shipments of 8.9 million tonnes in 1976-77).
4. There is increasing concern about and emphasis on the food problem in the international fora.
5. There have been a number of positive beginnings in various separate areas of the food problem, especially as regards poverty-oriented rural development.

32. Unfortunately, the lack of progress in many areas seems to outweigh these modest gains, and opportunities have been missed:

1. Progress towards the establishment of a grains reserve in the present negotiations on a new arrangement to replace the International Wheat Agreement of 1971 is very slow. There is uncertainty as to whether a new arrangement would include coarse grains, and there appears to be a wide divergence on the desirable size of the grain reserve.

2. The 500,000 tonnes international emergency grain reserve has not yet been fully established; contributions available for disbursement in 1978 are likely to be 250,000 tonnes.
3. Significant forward planning in food aid has not yet been introduced. Total food aid has not yet reached the 10 million tonnes minimum annual target.
4. Effective measures to improve nutrition or reduce malnutrition have scarcely begun to be undertaken.
5. Food production in the poorest and MSA developing countries remains in its discouraging growth pattern, and per caput production continues to decline.
6. Despite the establishment of IFAD the flow of external resources for food production continues to rise only very slowly in real terms.
7. The liberalisation of international trade in favour of developing countries is making little progress.

(ii) Developments in the World Food Council (WFC)

33. There is no clear way to assess the impact of the World Food Council on international food policy decisions; at its first three sessions it devoted much of its efforts to attaining the implementation of measures called for by the World Food Conference in 1974. Although the Council essentially lacks authority to enforce its decisions on national governments it has, as the most important body in the field of international food policy, considerable stature. Furthermore, if at each of its annual meetings it continues to lay emphasis on measures called for at earlier Sessions or indeed by the World Food Conference itself, there is a real possibility that individual governments may eventually respond to its calls. Another important aspect of the meetings of the World Food Council is that they are attended by Ministers, rather than officials, and its meetings therefore give Ministers opportunities to make important public statements about the food policies being pursued by their countries.

34. The main feature of the Third meeting of the World Food Council, held in June 1977, was the adoption of an integrated programme to eradicate hunger and malnutrition in the world. A real consensus was attained on a broad programme of action embodying a co-operative relationship between three groups, viz. the developing countries, international agencies and the developed countries. The Council's discussion of world food problems was essentially under five headings, viz:-

- (a) The need to increase food production in developing countries;
- (b) An international system of food security;
- (c) Food aid;

- (d) Policies and programmes to improve nutrition;
- (e) Food trade.

35. It is pertinent to note the most significant developments in the last couple of years in the context of these five headings laid down by the Council at its Third Meeting in June 1977.

A. Increasing food production in developing countries

36. The most pressing problem in this sphere is the need to increase output in the Food Priority Countries (FPCs).¹ Most FPCs are MSA countries as well, and for most purposes of statistical analysis the FPCs may be equated with the MSA countries. Briefly, the food production of FPCs in 1970-76 increased by only 2.1 per cent per annum as against 2.8 per cent for all developing market economies. Worse, their per caput production has declined by 0.4 per cent per year, as against an increase of 0.2 per cent for developing economies. The 1977 Council meeting recommended that FPCs should initiate or develop measures to increase their food production to a rate of at least 4 per cent per year. To this end it was recommended that countries should determine their internal and external investment requirements and overcome constraints to achieving this. Furthermore, the Council recommended that the international community should as soon as possible increase the level of its external financing for food production in developing countries to some \$8.3 billion a year (in 1975 values), the figure set by the World Food Conference in 1974, of which \$6.5 billion should be made available on a concessional basis.

37. What in fact has happened recently as regards external resource flows? On the OECD narrow definition² preliminary data show that the flow of external resources to food production in developing countries in 1976 rose from \$3.7 billion to \$3.9 billion. This is less than half the sum of \$8.3 billion (in 1975 values) called for by the World Food Council in 1974.

¹ The criteria for the identification of the FPCs are listed in footnote 1 on page 10; the FPCs are listed in Annex III.

² The narrow definition of assistance to food and agriculture includes activities directly contributing to the development of agricultural production such as crop and livestock development, fisheries, forestry, irrigation and land development, supply of fertilizers and other inputs, agricultural services and storage. The broad definition also includes agro-industries, rural infrastructure, construction of plants for fertilizers and other inputs, and projects for rural, regional and river basin development. The narrow definition comes closer to the components incorporated in the estimates of requirements calculated by FAO for the World Food Conference.

Indeed in real terms, the increase was marginal.¹ Furthermore, there was decline in commitments to agriculture in 1976, reflecting difficulties in rapidly expanding projects to agriculture and inadequate concessional funds. Another feature of recent years has been the deterioration in the terms of external lending; the average grant element declined from 63 per cent in 1973 to 45 per cent in 1975, but may have recovered to about half in 1976.

38. The Third Meeting of the World Food Council, recognising the absolute necessity for the amount of concessional finance for food production to be raised very significantly, recommended that all countries should (i) ratify the IFAD agreement as soon as possible, (ii) should make the Fifth Replenishment of the International Development Association (IDA) effective, and (iii) should make possible a steady and significant growth in real resources provided to the United Nations Development Programme (UNDP) for food and agriculture. The fact that IFAD has become operational in early 1978, and that a Fifth Replenishment of the IDA has in fact been agreed give grounds for hope that there may be no decline (in real terms) in commitments to food and agriculture in the next year or two, but in themselves seem unlikely to produce the needed increase in concessional financing.

39. A document presented to the Council noted that attempts to develop food production plans for Food Priority Countries had been started by the Consultative Group for Food Production and Investment (CGFPI) in 1976. Indeed the formulation of investment strategies in national food plans for increasing domestic food production was seen as a major priority for future CGFPI activities. The CGFPI was now assisting a number of developing countries formulate food plans. The CGFPI had also been asked to identify developing countries with a potential for rapid expansion of food production. A preliminary study indicated that in all parts of the world food production is only a small part of potential output, and that the largest concentration of agricultural development potential exists in Africa, with 30 per cent of the world's potentially most productive land, considered either in terms of low development costs and/or high potential yields. The second largest area for expansion is Asia, with 25 per cent of the world's potential, and the third is Latin America, with 20 per cent of the world's potential. The food plans produced by four developing countries in collaboration with the CGFPI have the potential to become the basis for important increases in food production in the countries concerned. However, the decision in December 1977 to discontinue the CGFPI means that work on plans for other developing countries will inevitably be slowed down despite an undertaking by the three co-sponsors of CGFPI - FAO, UNDP and the World Bank - that they will consider the possibility of providing assistance to other governments wishing to establish food and nutrition plans (See paragraph 72 on the role of CGFPI).

40. To sum up, despite the renewed emphasis placed by the World Food Council on the need to increase food production in developing countries and the useful initiatives being taken by a number of governments and international institutions, it seems unlikely in the present state of the world economy that the additional external resources needed to finance the increased food output will be forthcoming either in volume or on sufficiently concessional terms.

¹ A tentative estimate presented by the World Food Council at its Fourth Meeting suggests that external assistance commitments to both food and agriculture increased during 1977, fairly significantly in current prices, but not very appreciably in real terms (see also paragraph 143 (h)).

B. An international system of food security

41. The large accumulation of world grain stocks from the good 1976-77 harvest, together with the prospects of further large crops in many countries in 1977-78, afforded the Council an opportunity for a meaningful international discussion at its Third Meeting of the possibility of establishing an international grain reserve within the context of a new International (Grains) Arrangement. No binding decisions were taken in this discussion, but the exchange of views and changes in the attitudes of some countries suggested that if negotiations were to take place in the course of the next year there was a reasonable possibility that a new International Arrangement incorporating provisions for a world grain reserve might emerge. Documents before the Council laid special emphasis on the unique opportunity to create a grain reserve and of the dangers of not creating a reserve. It was recommended that countries holding grain stocks should convert a portion of these into national reserves while intensified efforts should be made to establish an international system of nationally held reserves as part of a new International Arrangement.

42. In February-March 1978 a U. N. Conference took place to negotiate a new International Arrangement to replace the International Wheat Agreement of 1971. It did not prove possible in the time available to reach agreement on an arrangement, but when the Conference adjourned on 23rd March it was decided that an Interim Committee would continue efforts to prepare a draft text and that the full Conference would be reconvened by September 1978. In the course of the negotiations the main areas of agreement and disagreement emerged. In the context of food security the main issues requiring further clarification appeared to be items (ii) and (iv) of paragraph 44 (below), namely the overall size of the reserve stock, and the assistance to be given to developing countries to enable them to undertake reserve stock obligations.

43. The main areas of broad consensus were as follows:

- (i) The new agreement should include a Trade Convention, as well as a Food Aid Convention.
- (ii) The Food Aid Convention should ensure the supply for food aid to developing countries of not less than 10 million tonnes annually of wheat and other grains suitable for human consumption.
- (iii) The objectives of the Wheat Trade Convention should include:
 - (a) to assure supplies to importing members and markets to exporting members, especially developing countries;
 - (b) to contribute to the stability of the international wheat market;
 - (c) to contribute to world food security, especially safeguarding the interests of developing countries;
 - (d) to moderate wheat price fluctuations;
 - (e) to promote the expansion of international trade; and
 - (f) to encourage greater international co-operation.

- (iv) The above objectives should be achieved through an international stock policy based upon the co-ordinated management of national reserve stocks, and measures taken to reduce excessive price fluctuations.
- (v) Member countries should undertake joint agreed reserve stock actions at specified price triggers, and, if necessary, should take appropriate additional measures.
- (vi) Reserve stock actions and consultations should be undertaken according to the movements of a wheat price indicator.
- (vii) A price range or indicative price range should allow the effective operation of the Convention, and should aim to protect both consumers and producers from excessive price movements.

44. The main areas of disagreement were:

- (i) The nature and definition of the price range had yet to be agreed. The question to be resolved was whether prices should provide only trigger points for the release or accumulation of stocks and for special consultations as the basic tools of stabilisation, or whether there should also be mandatory purchase and supply obligations on members. By and large exporters favoured the first course, while importers took the view that if they were to undertake commitments to hold reserves, they should in return be assured of supplies at agreed maximum prices. Exporters, however, felt that the introduction of "safeguard" maximum and minimum prices would result in a rigid agreement which would break down in times of extreme shortages and surpluses.
- (ii) Despite agreement in principle that the overall size of the reserve should be such as to achieve the objectives of the Convention without unduly depressing prices there was no consensus on its actual size. A figure of 30 million tonnes for the wheat reserve was suggested on the basis of past production fluctuations, but on the basis of variations in trade a range of only 12-15 million tonnes was indicated.
- (iii) There was no agreement on the coverage of a new Arrangement. Broadly, exporters wished to limit the economic provisions to wheat, while major importers of coarse grains insisted that the agreement should include provisions for reserve stocks and minimum and maximum prices for coarse grains.
- (iv) There was no agreement on how to provide assistance to developing countries to enable them to undertake reserve stock obligations. Developing countries had proposed the establishment of a fund based on levies on wheat exports of members, along the lines of similar provisions in the International Sugar Agreement, but the matter had not been discussed.

45. An important development in the 1977 meeting of the WFC with implications for food security was the decision to hold consultations with the major rice importing and exporting countries and with specialist international organisations to assess the interest in and possibility of proceeding to negotiations for an international rice agreement. Such an agreement would include provisions for stabilising world markets, increasing production in developing countries and expanding trade. The results of the consultations so far suggest some interest in an international rice agreement.

C. Food aid

46. The relatively low levels of food aid in recent years have been noted earlier in paragraphs 16-19. The WFC's 1977 recommendations as regards increasing and improving food aid did not in essence differ from those of its Second Session in June 1976. Briefly they called for (i) a minimum level of 10 million tonnes of cereals for food aid in 1977-78, and the forward planning of food aid supplies; (ii) donor countries should increase the concessionality or grant element in food aid; (iii) a Food Aid Convention with provision for larger amounts of food to move through the World Food Programme ¹ should be negotiated as an element of a new International (Grains) Arrangement to be concluded by June 1978; (iv) the Committee on Food Aid Policies and Programmes ² should intensify its efforts to develop and implement an improved policy framework for food aid, conducive to more food aid being provided multilaterally.

47. In discussion in the Council certain donor countries gave somewhat more binding pledges than hitherto on food aid while some also indicated they were reviewing ways whereby their food aid could make a greater contribution to development, especially in the poorest nations. The statement of the United States that it would try to maintain its total of food aid even in years of tight supply could be construed as a form of forward planning; otherwise forward planning of food aid does not seem to have advanced significantly since a proposal made by the European Commission in September 1976 for a three-year indicative food programme had to be withdrawn owing to opposition from some Member States. It was widely agreed that a larger proportion of food aid should be channelled through the World Food Programme, that the element of concessionality should be increased and that food aid to the least developed countries should essentially be on a grant basis.

48. Against this background it may be noted that recent estimates for 1977-78 commitments of food aid in cereals amount to 9.3 million tonnes, thus approaching the minimum target of 10.0 million tonnes. As regards the World Food Programme, for which resources averaged only \$100 million a year up to 1974, or 10 per cent of food aid, there has been some improvement

¹ The World Food Programme (WFP), which commenced operations in 1963, is the joint UN/FAO agency for the multilateral use of food for development capital and to meet emergency nutritional requirements.

² The Committee on Food Aid Policies and Programmes (CFA) was charged by the World Food Conference of 1974 with the task of helping evolve and co-ordinate short and long-term food aid policies. It was re-constituted from the earlier Intergovernmental Committee of the World Food Programme.

in pledged resources, although the most recent level of pledges has been somewhat disappointing. For the 1975-76 biennium \$674 million was pledged, representing an annual average of \$337 million, while for the 1977-78 biennium, for which a target of \$750 million was set, \$716 million had been pledged up to the end of April 1978. A pledging target for the 1979-80 biennium of \$950 million has been proposed, but there must be some doubt as to whether such an ambitious target will be met since up to April 1978 only \$690 million had been pledged.

49. Under the Food Aid Convention (FAC) an annual amount of cereals of 4,226,000 tonnes has been available for distribution to developing countries since 1971. A certain proportion of this aid is distributed through the WFP, but the greater part of it is distributed on a bilateral basis. Until March 1978 the WFP could not rely upon the availability of cereals under the Food Aid Convention after its expiry date of 30th June 1978. Nevertheless although it has proved impossible to implement a substantive new International (Grains) Arrangement by July 1978 the provisions of the Food Aid Convention have been extended to the end of June 1979, thus assuring cereal supplies for 1978-79 of 4.2 million tonnes. However, had the proposed new FAC come into effect in July 1978, presumably 10.0 million tonnes of cereals - more than double that provided under the existing FAC - would have been made available for 1978-79. Since aid under the current FAC is less than half of total world food aid, it may be assumed that total world food aid when the new FAC is adopted will probably be somewhat in excess of 10 million tonnes.

D. Nutrition

50. The effects of malnutrition are appallingly serious and widespread. In 1974 the number of undernourished people in the world was estimated at 470 million, one-quarter of the population of the developing world. Up to one-third of all children born alive die from malnutrition before they are five. Many of those remaining are subject to irreversible mental retardation as a consequence of poor nutrition, while others suffer the consequences of specific dietary deficiencies. About 100,000 children go blind yearly as a consequence of severe Vitamin A deficiency. Some 200 million people suffer from endemic goitre caused by iodine deficiency, while nutritional anaemia arising from iron deficiency is very common.

51. It is no wonder, therefore, that World Food Conference Resolution V called for a large number of measures to be taken in the field of nutrition. However, although the subject has subsequently been discussed by the various bodies which touch upon its many aspects, it is difficult to discern any significant progress in this area. The recommendations of the Third Session of the World Council fell broadly into four groups: (i) that all governments should give high priority to improving nutrition, being assisted by the supporting international agencies; (ii) that these agencies should develop their capacity to assist populations, and should evaluate their experience in nutrition intervention programmes; (iii) that FAO should formulate programmes for international co-operation; and (iv) that donors should incorporate nutritional considerations in their aid programmes.

52. There are a large number of facets to nutrition that prevent it having a simple relationship with food policy, since scientific, medical and socio-economic conditions all have a bearing upon it. Furthermore it is very difficult indeed to measure progress in the field of nutrition in a quantitative form. Lastly, there are such a large number of international and national agencies concerned with nutrition that their co-ordination becomes a formidable task. The World Food Council has assigned to its Bureau the task of

co-ordinating and accelerating the activities of those agencies responsible for nutritional problems, but it is far from clear that many of these activities should be the concern of WFC; some may more appropriately be the concern of other bodies, such as the WHO. Indeed, it may be questioned whether, with its limited resources, the WFC should concern itself very deeply with nutritional matters, since FAO itself already has an important role in assisting governments to deal with nutrition.

53. As well as the practical difficulties alluded to in the preceding paragraph, it may well be that the WFC will be unable to undertake much work in the sphere of nutrition since it may not be possible for governments of developing countries, which face many difficulties in devising comprehensive programmes, to take the kind of measures that might be suggested by the WFC. Firstly, malnutrition is related to poverty so closely that in general the raising of nutritional levels requires economic development in order that the malnourished may have the purchasing power to acquire food of adequate quality in adequate quantity. Secondly, the complexity of the problem requires an interdisciplinary approach entailing complex problems of organisation that may be beyond the ability or resources of many developing countries. A difficult choice may have to be made between using limited resources to develop nutritional programmes or to increase food production. Lastly, part of the reason why few governments have set nutritional targets may be that their attainment might require a redirection of both social and economic development efforts and could entail basic structural reforms such as land reform which some governments may be reluctant to face. For these reasons effective progress in the establishment of national or international nutrition programmes may be very small in the next few years.

54. A further serious constraint is likely to be finance at both the national and international levels. To make a real impact on malnutrition would probably require the provision of substantially larger resources both for nutrition planning and for enlarging food assistance programmes. These resources may not be available in the near future, and therefore the major accent should perhaps be on increasing the recent co-operation between UN agencies such as FAO and national governments, rather than laying a large nutritional programme upon the WFC.

55. Despite these formidable difficulties, the effects of malnutrition are so serious and widespread that the international community must continue to try to alleviate the condition of the malnourished to the greatest extent possible. Although the Sub-Committee on Food Nutrition (SCN) of the World Food Council does not yet feel itself in a position to indicate nutritional priorities for countries or agencies or to suggest which actions would have the greatest potential nutritional impact (partly because of divergences of opinion among nutritionalists), it may well be that national and international resources should be concentrated on a narrow front to make a determined attack upon a limited number of urgent nutritional issues. For example, the suggestion of the World Health Organisation (WHO) for a special international effort to eradicate endemic goitre and Vitamin A deficiency within a decade might be adopted as one priority objective, while meeting the special nutritional requirements of pregnant and nursing mothers and pre-school children - at least in the LDCs and MSA countries - could be another.

E. Food trade

56. Resolution XIX of the 1974 World Food Conference had given special attention to (i) an expansion and liberalisation of food trade; (ii) a greater stability in world food markets; and (iii) international agricultural adjustment. While documentation presented to the 1977 meeting of the WFC indicated that very little progress had been made in the MTN regarding the food and agricultural trade of developing countries, the analysis prepared for the 1978 meeting struck a more hopeful note. In the MTN some progress had been made in the tropical products sector, partly under the Generalised Scheme of Preferences (GSP), and further improvements may be expected this year. The Stabex scheme has provided some buffer to the ACP states against the worst effects of fluctuations in the value of their exports of selected agricultural exports, and was extended to 7 additional agricultural products in April 1977. In UNCTAD a new International Sugar Agreement with substantive economic provisions has been negotiated, while the eventual successful conclusion of the current negotiations for a new International Grains Arrangement would represent a major step forward in improving conditions in the world food trade. However, it is perhaps disappointing that UNCTAD IV decided to exclude food grains and rice from the Integrated Programme for Commodities, while progress in establishing the Common Fund and individual commodity agreements has been very slow indeed.

57. Overall the priority for food in all international trade negotiations remains comparatively low. Discussions on agricultural adjustment so that increased food output in developing countries would be accompanied by changes in developed countries' food production and trade policies have really made no progress. Two recommendations made by the 1977 meeting of the World Food Council (WFC) have passed virtually unheeded. These were that (i) all countries, especially developed ones, should aim to stabilise, liberalise and expand world food trade, thereby facilitating increased food production in developing countries, stimulating their agricultural exports, and improving and stabilising their access to food imports; and (ii) negotiation of UNCTAD's IPC should be speedily concluded, with particular reference to foodstuffs, and the current MTN negotiations should provide developing countries with increased access to developed country food and agricultural markets.

58. There can be no doubt that the adoption of liberalised food trade policies by the developed countries would enhance the export earnings of developing countries, allowing them to import more agricultural requisites such as tractors, fertilizers and pesticides. If liberalisation of those important food imports from developing countries subject to fairly severe import restrictions had resulted in an increase of export values from developing countries of 10 per cent over actual 1975 values, this would have resulted in an addition to their export earnings of some \$1.8 billion, a useful sum when contrasted with the value of developing countries' grain imports in 1975 of \$10.6 billion.

59. In practice the obstacles to imports by developed countries of agricultural products from both developed and developing countries seem almost insuperable in many cases. The United States, for example, in addition to imposing specific duties on oilseeds, oils, grains and meat, also regulates imports of some of these items, such as groundnuts, wheat and wheat products and meat, by means of import quotas. The European Community's

Common Agricultural Policy is not "a matter for negotiation" in the current round of MTN discussions, and although the Community has at times been ready to increase the degree of access for certain preferred suppliers (e.g. the ACP countries) at the expense of third countries, it has not in general been prepared to permit increased imports from outside sources at the expense of domestic suppliers. Thus the Community, the world's largest food importer, and therefore in theory at least in a position to absorb substantial food imports from developing countries, is inhibited in practice by the operation of the Common Agricultural Policy from increasing to any significant degree imports from developing countries of the foodstuffs in which it is largely or wholly self-sufficient, even if they could be obtained more cheaply this way.

60. The Community's sugar regime illustrates the extent to which a price commitment to domestic producers far in excess of world prices, together with the operation of import levies, serves to exclude the import of virtually all sugar from developing countries apart from the guaranteed quantities bought from the ACP countries under the Sugar Protocol of the Lome Convention. Measures to discourage Community sugar production, either by¹ reducing the size of sugar quotas or by letting the price of sugar fall relative to other CAP products, could improve the access of developing countries to the Community market, thereby increasing their food export earnings; in addition they would reduce the volume of the Community's subsidised sugar exports to third countries. There is, however, no likelihood of the Community implementing stringent measures such as these.

1. A fall in the relative price of sugar could, however, have adverse effects on the export earnings of the Lome countries.

(iii) The Provision of External Financial Resources

61. The marginal rise, in real terms, in the commitment of external financial resources to food production in developing countries in 1976 has already been alluded to in paragraph 37. It is estimated that in 1977 there was again only a very modest increase in real resource flows; until there is a sustained economic recovery in the industrialised countries the possibilities of a significant increase, in real terms, in the volume of external financial resources must be rated poor, although the annual sums provided are likely to be increased to take some account of inflation.

62. The following table summarises the value of development assistance commitments for agriculture (on the broad OECD definition) in recent years. The data for 1976 are provisional, and those for 1977 estimated.¹

Table E - Development Assistance Commitments for Agriculture (broad OECD definition)

	(\$ million)				
	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
<u>Bilateral</u>					
DAC countries	968.8	1,607.1	1,646.2	1,600.0 e	..
OPEC countries	<u>36.4</u>	<u>313.5</u>	<u>830.3</u>	<u>400.0 e</u>	..
Total bilateral	<u>1,005.2</u>	<u>1,920.6</u>	<u>2,476.5</u>	<u>2,000.0 e</u>	..
<u>Multilateral</u>					
AfDB	11.0	39.4	44.8	24.3	..
AFESD	-	40.5	-	54.7	..
ADB	74.3	134.0	245.9	200.9	..
BADEA	-	-	12.7	29.4	..
CGIAR	25.7	31.7	43.7	58.8	..
EEC	101.2	143.6	62.7	150.7	..
IDB	183.4	235.6	337.2	427.9	..
UNDP/FAO	73.6	73.6	111.2	109.1	..
World Bank	1,084.6	1,612.3	2,223.8	1,807.3	..
WFP	<u>64.7</u>	<u>231.3</u>	<u>217.7</u>	<u>310.7</u>	..
Total multilateral	<u>1,618.5</u>	<u>2,542.0</u>	<u>3,299.7</u>	<u>3,173.8</u>	..
Grand Total	<u>2,623.7</u>	<u>4,462.6</u>	<u>5,776.2</u>	<u>5,200.0 e</u>	<u>6,000 e</u>
of which technical assistance	381.2	478.5	535.5		
(\$ billion)					
<u>Grand Total in constant 1975 prices</u>	<u>3.6r</u>	<u>5.1</u>	<u>5.8</u>	<u>5.1</u>	<u>5.5e</u>

e Partial estimate. r Revised.

Source: CGFPI.

¹ See also paragraph 143(h).

63. The total volume of both bilateral and multilateral assistance to agriculture declined in 1976. The fall in bilateral assistance was, however, the greater, largely because of the significant reduction in OPEC assistance. There may, however, have been a shift in OPEC lending through multilateral agencies. The overall reduction in multilateral assistance reflected the sharp drop in commitments by the World Bank and the IDA, these being only partly offset by the higher agricultural commitments of the Inter-American Development Bank (IDB), the EEC and WFP. From the figures in Table E it is clear that development assistance to agriculture declined in real terms during 1976, although it is estimated to have recovered slightly in 1977.

64. In recent years (1973-75) about 90 per cent of the total aid for agriculture has been in the form of capital assistance. In 1975 there was an increasing orientation of aid to countries of Asia and the Far East, which received some \$2.0 billion of capital commitments to agriculture in 1975 as against \$1.22 billion in 1974. On a per caput basis, however, Asia continued to be the smallest recipient of capital commitments. By far the greatest expenditure (at least up to 1974) has been on land and water development (in fact mainly the latter), followed by fertilizer supply. The accompanying table F gives a breakdown of capital assistance by main sub-sectors in 1973-74.

Table F - Break-down of Bilateral and Multilateral Capital Assistance by main Subsectors, 1973-74 (Commitments)
(excluding fertilizer supply)

	1973		1974	
	\$ million	Per cent	\$ million	Per cent
Land and water development	297	19	914	34
Construction of fertilizer plants	71	5	352	13
Agro-industries	137	9	304	11
Integrated rural development	99	6	178	7
Crops; animal husbandry; fisheries	268	17	314	12
Agricultural services; development banks; storage	313	20	215	8
Other	363	23	420	16
Total	1,548	100	2,697	100

Source: OECD DAC Report and Review 1976.

65. Capital assistance has tended to be concentrated on relatively few countries in a region, although it appears efforts to widen assistance are meeting with some success, as are those to give greater assistance towards the lower income countries. Nevertheless, external assistance to agriculture on a per caput basis remains disproportionate between low income countries with the most difficult food problems and other developing countries.

(iv) The World Bank and Food and Agriculture

66. Since the beginning of the present decade there has been a marked change in the emphasis of World Bank investment policies, so that investment in agriculture in developing countries has become the most important single investment function of the Bank. The accompanying table shows overall investment by the Bank and the IDA in agriculture in recent years both in absolute terms and as a proportion of all its lending. The Bank has been the largest single external source of funds for direct investment in agriculture for several years now, and in the fiscal year 1977 agriculture and rural development accounted for 32.7 per cent of its total lending commitments.

Table G - World Bank and IDA Lending to Agriculture

	(Fiscal years, \$ million)					
	<u>1972</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>	<u>1977</u>
Agriculture	436	938	956	1,858	1,628	2,308
Total lending	2,598	3,408	4,314	5,896	6,632	7,067
<u>Agriculture as a percentage of total</u>	<u>16.8</u>	<u>27.5</u>	<u>22.2</u>	<u>31.5</u>	<u>24.5</u>	<u>32.7</u>

67. The changed Bank philosophy on agricultural development has resulted in: (i) an increased proportion of total lending being directed to agriculture, within which poverty-oriented projects are receiving an increased share; (ii) a rising proportion of lending going to the poorest countries; (iii) a greater number of people benefiting from Bank - supported projects. Nevertheless, it must be recognised that the Bank's lending in this sphere is designated as being for agriculture and rural development, and suggestions have been made that the emphasis on rural development is inconsistent with the urgent need to increase world food production. The Bank's view, however, is that it recognises the high priority that food production merits, and that increasing food output is one of the twin objectives of its rural development policies, the other being the reduction of rural poverty. The Bank has learned in recent years that rural development poses many difficulties. Furthermore, although rural development can, in the right conditions, do much to improve the productivity and income of low-paid rural families, the effects on food production are slow to emerge and difficult to assess. For example, the Bank stated in the annual report for 1977 that although it estimated an increment in annual agricultural production in fiscal year 1977 of 9 million tonnes (over half of which was cereals) from its assistance to projects in 1975-77, many of its latest rural development projects were still in their infancy; only after a lapse of several more years would it be possible to confirm if its early estimates of increased food output resulting from rural development were really near the mark.

68. There can be little doubt that the widening of the Bank's activities in the sphere of agriculture in the present decade to include projects relating to crop storage, marketing, processing, farm credit, and fishing, as well as the deepening of its lending to poorer countries and to the least well-off sectors of the rural population, will, in the longer-run, lead to an increase in food output in the food-deficit countries. Furthermore, the Bank's operations in other spheres such as technical assistance, transportation, and water supply, must generate improvements in conditions in developing countries which will favour increases in the output of both agricultural and food products.

69. As the leading world agency for financing development the Bank has responsibilities in a wide number of developmental activities, and while agriculture is the most important single sector in which it now operates its activities in this area are as much related to rural development as to increasing food production. Many of the Bank's investment functions, e. g. in irrigation, are essential to the expansion of world food output, but, unlike IFAD or the World Food Council, the Bank was not constituted primarily to help increase food output in developing countries. Nevertheless, the Bank's studies of world food problems, the great volume of investment it is directing to food and agriculture, its role as an aid co-ordinator, its co-operation with other agencies and its sponsorship of the CGIAR and the CGFPI are all proof of its close involvement in the problems of increasing world food output. The Bank's recent record suggests that it is aware of and has responded to the new orientations of world development and the problems of world food supply that have arisen this decade.

(v) The International Fund for Agricultural Development (IFAD)

70. IFAD became operational at the end of 1977; its first concessional loans, to Tanzania and Sri Lanka, were approved in April, 1978. The aim of IFAD is to commit its initial capital of \$1,022 million over two or three years on highly concessional terms, so that annual sums of \$0.3 - 0.4 billion for investment in food production in the poorest countries are likely to be committed during 1978-80. These sums will not represent substantial additions to the total flow of external resources flowing into agriculture in developing countries, which in 1975, for example, totalled some \$5.8 billion. However, in relation to the \$1.41 billion capital commitments to agriculture in 1975 to the poorest countries with a per capita GNP of under \$150, the capital put up by IFAD for food production will represent a substantial increment.

71. The critical period in IFAD's existence is likely to come in 1980 or 1981 when its resources will probably need replenishment. Will the necessary replenishments be forthcoming from developed countries and from OPEC? If the OPEC countries find that they are not able to contribute to the replenishment to the extent to which they originally contributed to the Fund, will this lead to a corresponding reduction in resources provided by the developed countries? Will there be the prospect of Soviet contributions to IFAD? Only time can show.

(vi) The Consultative Group on Food Production and Investment in Developing Countries (CGFPI)

72. The Group, set up under the auspices of the World Bank, FAO and UNDP, was set the task of encouraging the flow of external assistance for food

production, of co-ordinating the activities of the various donors and of improving the efficiency of financial and technical aid. The Group held four meetings between July 1975 and September 1977. At its Third Meeting in 1976 it was questioned whether the Group could indeed fulfil the objectives assigned to it by the World Food Conference, and there were suggestions that it might be abolished. The Group had recently concentrated its activities in four specific areas, viz: (i) analysis of the flow of external resources to agriculture in developing countries; (ii) the estimation of developing countries' investment requirements for food production; (iii) the identification of countries with a potential for rapid expansion of food production; and (iv) assisting food deficit countries in the preparation of national investment strategies to increase their food production. Although the Group had made useful studies in all these sectors, it had not proved itself of great value in its primary role of encouraging the flow of external assistance to food production. Accordingly, at the Fourth Meeting of the Group in 1977 it was agreed that its three co-sponsors would evaluate the effectiveness of the Group to generate new investments in food production. The Evaluation Report circulated in January 1978 concluded that the original terms of reference establishing the CGFPI were so wide as to be unattainable, given the small resources of the Group, and that assistance to developing countries wishing to develop investment strategies for food production could be given by other established agencies. The sponsors are therefore now winding up the CGFPI, although they have agreed that they themselves will help governments with the various aspects of food strategies.

V. National Policies

(i) Domestic Food Policies

A. The United States

73. The Food and Agriculture Act of 1977 re-established set-aside programmes for wheat and coarse grains in order to regulate production; it also provided for new target and loan rates to be set. An equally important provision, however, was the intention to establish a substantial wheat and feed grain reserve prior to the beginning of the 1978-79 marketing year.

74. New target and loan rates for 1978 for wheat and coarse grains provided for an enhanced wheat target price (\$ 3.05 per bushel instead of \$ 3.00) should output fall below 49.0 million tonnes.¹ The target rates in 1979-81 for both wheat and coarse grains may be adjusted to reflect changes in production costs. There is also provision for the minimum loan rates for 1978-81 to be reduced if the national average market price falls below 105 per cent of current loan rates; this is intended to keep wheat and coarse grains competitive in domestic and export markets.

75. The 1977 Act authorised set-aside programmes for wheat and coarse grains. For 1978 it was decided to introduce a 20 per cent set-aside for wheat and a 10 per cent set-aside for coarse grains. Participation in the

¹. The target price for wheat was raised to \$3.40 per bushel in May 1978 under the 1978 Emergency Farm Bill.

set-aside programmes is voluntary but is required for farmers to be eligible for loans, purchases or payments. The effect of the set-aside programmes and the later measures introduced in March 1978 (see paragraph 78) on 1978 wheat and coarse grain output is somewhat difficult to assess. On balance it seems that United States output of wheat in 1978 may be cut by 7-8 million tonnes, and that of coarse grains by 17-20 million tonnes. Even with the set-asides, if average yields are attained in 1978, United States total cereal supplies in 1978-79 are unlikely to change greatly. Any serious food shortages elsewhere could therefore probably be met from United States supplies, but stocks would fall and prices rise.

76. Grain reserves of some 35 million tonnes (or even more as the result of the decision in March 1978 to lift the ceiling of 35 million tonnes on the reserves) were to be established in the United States before the opening of the 1978-79 marketing year. These reserves, intended to act as an insurance against the severe grain shortages experienced in 1973-75, were to be constituted in three ways:

- (a) The International Emergency Reserve.
This is to consist of up to 6 million tonnes of grains acquired by the government, which would only be released for non-commercial food aid, for nutrition assistance or to meet U.S. obligations under a proposed international reserves agreement. ¹
- (b) Farmer-owned Reserve Programme.
This Programme is intended to prevent extreme price fluctuations, to assist orderly marketing, and to assure consumers in both the domestic and export markets that additional supplies will be available when prices reach certain predetermined levels. The quantities to be held by producers under this programme are substantial - at least 8 million tonnes of wheat, 17-19 million tonnes of coarse grains and 0.6 million tonnes of rice. The Programme is operated through a system of incentives and disincentives intended to influence farmers' decisions on stockholding. Extended price support loans for 3-5 years at low rates of interest are made to producers against the collateral of grain, and in addition storage payments will be made. To prevent premature sale of the reserve stocks penalties are imposed on

¹ Up to the present time Congress has not yet enacted the legislation required to establish the International Emergency Reserve.

sales below predetermined prices. Thus, for example, the sale of wheat below 140 per cent of the current loan rate or of coarse grains below 125 per cent would involve the return of all the storage payments received and possible other penalties. Equally, measures are provided to discourage farmers from retaining stocks in periods of really high prices. Wheat prices in excess of 175 per cent of the loan rate or coarse grain prices of over 140 per cent would result in loans being called in, and in a liability to pay loan interest and for the return of storage payments. Appropriate adjustment in the predetermined price levels appears to give the scheme the required degree of flexibility. By 9th June, 1978 the Farmer-owned Reserve contained 9.4 million tonnes of wheat and 3.4 million tonnes of coarse grains.

(c) A Government-owned Reserve.

Quantitatively this is relatively small. It consists of 1975-crop rice and 1976-crop wheat acquired by the CCC. Holdings in this reserve may not be sold by the CCC below the predetermined price of 150 per cent of the loan rate.

77. To summarise, the Grain Reserve appears to provide a mechanism to encourage producers to respond to the working of the market by selling their holdings in periods of supply shortages and high prices. However, since farmers own their reserves they have the option to retain them at any time provided they repay the loans. Thus in times of shortages they might hold on to their reserves in expectation of further price rises. At the same time, however, there is eventually to be a substantial International Emergency Reserve, insulated from the commercial market and wholly controlled by the Government, which can be used as requirements demand to meet commitments under any internationally agreed system of reserve stocks. Furthermore, this initiative may encourage other governments to set up similar reserves.

78. Late in March 1978 the U.S. Administration announced further measures to encourage farmers to take land out of feedgrain production, to encourage the use of wheat areas for forage purposes, and to provide further financial incentives for farmers to participate in the farmer-held grain reserve. In essence farmers would be paid to take a further 10 per cent of their coarse grain acreage out of production, while wheat growers taking part in the set-aside could use up to 40 per cent of their wheat acreage for forage while still qualifying for some production payment. Limits on the farmer-held grain reserve would be removed and interest charges on CCC loans would be waived for grain remaining in the reserve after the first year.

B. The European Economic Community

79. The average increase in agricultural prices for the 1978-79 season has been limited to only 2.25 per cent although changes in green currency rates resulted in much larger price rises in individual countries. However, this average rise compared favourably with that for 1977-78 of 3.9 per cent and no less than 7.7 per cent in the 1976-77 season. In 1978 agricultural producer prices in the Community, as in 1977 and 1976, are generally above world prices, appreciably so in many cases, whereas in 1975 a justification for the Community's Common Agricultural Policy could be found in the fact that for some commodities world prices had still been above

Community prices. In 1976 and 1977 as the result of the continuation of Community price and production policies there were again surpluses of many agricultural products, notably of dairy and livestock products and sugar, so that not only were imports from third countries restrained by duties or levies, but export subsidies were used to assist in the disposal of produce, some of which, notably skimmed-milk powder, were disposed of under the Community's food aid programme. During 1977 the Community sought to establish a common fisheries policy, but disagreements among the Member States prevented the implementation of a definitive policy.

80. During 1976 the Community appropriated 5,835 million ua for the financing of the Common Agricultural Policy as compared with 4,697 million ua in the previous year. The increase in expenditure was attributed to monetary developments involving a rise in monetary compensatory payments and to lower world prices for some products, the cost of re-structuring measures in the wine and milk sectors, and an increase in the quantity of meat acquired under intervention. In 1976, 68 per cent of the Community's budget was devoted to the agricultural sector. Support of milk products alone absorbed no less than 33 per cent of the total appropriations for the agricultural sector. By contrast, appropriations available for financing Community food aid (which is not provided from the budget of the agricultural sector) in 1976 amounted to 354.6 million ua, only 6 per cent of the appropriations for the support of Community agriculture.

81. Although the increase in producers' prices in 1978-79 was held to an average of 2.25 per cent in terms of the Community's currency, this still represents only a rather modest achievement in the effort to contain rising agricultural prices in the Community, and will have little impact on the problem of reducing the Community's agricultural surpluses. There is no evidence of any significant change in the broad agricultural policy of the Community, which continues to result in a chronic tendency to over-production for many commodities, leaving the burden of adjustment to price and supply changes to outside suppliers, and making it almost impossible for developing countries to export many CAP commodities to the Community on any assured long-term basis.

82. While Community States carry grain stocks, most do not have explicit stock or reserve policies such as that established in the United States under the 1977 Food and Agriculture Act. Nor has the Community itself formulated a general framework or fixed objectives for stocks. The Community believes, however, that the instruments for the management of agricultural markets permit it to influence the establishment and maintenance of grain stocks as required. For instance, should a new international Wheat Agreement or Grains Arrangement embody explicit undertakings to hold given quantities of stocks, any expenses incurred would probably be met by the European Agricultural Guidance and Guarantee Fund.

(ii) Food Aid Policies

A. The United States

83. The United States is the largest single supplier of food aid to developing countries, supplying about 60 per cent of the Food Aid annual target of 10 million tonnes of cereals set by the World Food Conference. The bulk of United States Food Aid is supplied through the operations of Public Law 480. In the 1977-78 fiscal year, for example, some 6.3 million tonnes of cereals are to be supplied as food aid under P L 480. However, in quantitative terms current levels of food aid are low compared with those prevailing in the nineteen-sixties when large crop surpluses were disposed of under food aid policies. Thus, while the United States provided a total of 10.0 million tonnes of cereals as food aid in 1969-70, the subsequent world grain shortages reduced this figure to only 3.0 million tonnes in 1973-74, and by 1976-77 the volume had only recovered to some 5.4 million tonnes. For the 1977-78 fiscal year it now appears that about 4.8 million tonnes of cereals will be made available under Title I of P L 480 (i.e. on concessional long-term credits) and 1.5 million tonnes under Title II (grants). Total shipments of farm commodities under all Titles of P L 480 during 1977-78 are put at 6.7 million tonnes, of which the greater part consists of grains, notably wheat. For 1978-79 it has been announced tentatively that shipments of farm products will again total 6.7 million tonnes, of which 5.1 million tonnes will move under Titles I and III, and 1.6 million tonnes under Title II.

84. Public Law 480 was extended for a further 4 years under the 1977 Food and Agriculture Act and the International Development and Food Assistance Act. Since 1975 Congress has specified that the majority of food sold on a concessional basis for aid purposes should go to countries Most Seriously Affected. The 1977 legislation laid down that 75 per cent of Title I sales should be directed to countries with a per caput GNP of \$550 or less (the poverty criterion of the IDA). Furthermore, Public Law 480, as amended by the 1977 legislation, now contains three Titles. Title I, which accounts for the bulk of food aid, provides for long-term, low-interest credit sales. Title II relates to direct grants of food aid. The minimum quantity of grant food aid under Title II was raised from 1.3 to 1.6 million tonnes for the fiscal years 1978-80; distribution of at least 1.3 million tonnes was to remain mainly with voluntary agencies and the World Food Programme. The annual ceiling on Title II donations was raised from \$600 million to \$750 million. However, in no previous year has the original ceiling been remotely approached. Title III is a new provision, established by the 1977 legislation, and is known as Food for Development. It is intended to use a part of foreign currency proceeds from the sale of commodities authorised under Title I for agricultural and rural development, including raising food production capabilities, and to improve storage, marketing and human nutrition. The total value of all agreements under Title III is to be a minimum of 5 per cent of the value of Title I agreements in 1977-78, 10 per cent in 1978-79 and 15 per cent in later years. In addition to P L 480 activities there is a relatively small ongoing food aid programme under the Mutual Security AID programme which makes certain commodities available as loans and grants.

85. United States disbursements on food aid have varied a good deal in recent years as is indicated in the following figures.

Table H - United States Net Disbursements for Food Aid

(\$ million)

<u>1970</u>	<u>1973</u>	<u>1974</u>	<u>1975</u>	<u>1976</u>
888	618	728	1,266	1,210

Furthermore, the value of recent agricultural exports under the P L 480 and MSA/AID programmes barely equals the 1966-70 average of \$1.2 billion and is about a fifth less than the 1961-65 average of \$1.5 billion. This reflects the decrease in availabilities during the early nineteen-seventies. The funds made available for P L 480 Programmes (all Titles) for 1977-78 are in the region of \$1.4 billion, and it is forecast that a similar volume of funds will be available for the 1978-79 Programme. For the 1977-78 Title I Programme some 5.5 million tonnes of foodstuffs were initially allocated, valued at \$0.8 billion, but increased prices for wheat and rice later resulted in the quantity of food being reduced to 5.0 million tonnes; this compares with a 1976-77 volume of 4.6 million tonnes.

86. An important feature of United States food aid is that a very high proportion (93 per cent in 1973-76) is bilateral; in most other countries except Japan the bilateral share is much smaller and the multi-lateral proportion correspondingly higher. Another feature is that a high proportion (three-quarters of all P L 480 transactions) of food aid consists of concessional loans rather than outright grants. The loans are, however, repayable over a long period at favourable interest rates. In addition there is now the provision (Title III) that a proportion of the funds generated from local sales of P L 480 commodities can be used for Food for Development.

B. The European Economic Community

87. The Community is an important supplier of food aid, notably of cereals, skimmed-milk powder and butter oil, providing additional aid to that furnished by individual Member States. Community food aid as such is financed from the Community Budget in the form of grants. The Community's commitment to food aid in cereals arises from its adherence to the Food Aid Convention; since 1973-74 it has undertaken to supply 1,287,000 tonnes of cereals per annum. Only a proportion (although an increasing one) of the total FAC cereals commitment is supplied as Community food aid, the remainder being provided as national aid by the various member countries from their own budgets. In 1977, for example, 720,500 tonnes were provided by the Community while the remaining 566,500 tonnes came from the various Member States. The Commission has offered to raise the overall Community contribution under a new Food Aid Convention to 1,650,000 tonnes.

88. Other food aid provided by the Community is outside formal international pledges and has consisted of skimmed-milk powder, butter oil, sugar and dried egg. Currently, only the first two products are included in the regular food aid programme. The quantities supplied have varied from year to year, depending to some extent on the size of Community

surpluses, but have tended to increase, notwithstanding the reductions in 1977. In that year 105,000 tonnes of milk powder and 36,800 tonnes of butter oil were made available for food aid compared with 150,000 tonnes and 45,000 tonnes respectively in 1976. As part of its on-going food aid programme the Community also provides emergency food aid from the reserves incorporated in the annual food aid allocations.

89. Proposals made by the Commission in September 1976 for a three year Indicative Food Aid Programme for 1977-79 were withdrawn in March 1977 since some countries were not prepared to accept an increase in the volume of aid. The Programme had emphasised 4 features, viz:-

- (i) aid to be planned for a three-year period;
- (ii) the volume of aid to be significantly increased during the period of the programme;
- (iii) aid to be concentrated on cereals;
- (iv) national schemes of aid to be gradually incorporated into the overall Community scheme.

Although the Indicative Food Aid Programme has been withdrawn, it is understood that other ways of improving the Community's food aid policy are still under consideration.

VI. The Provision of Agricultural Inputs

(i) Fertilizers

90. The fall in fertilizer prices at the beginning of 1975 stimulated fertilizer consumption. As a consequence world consumption, which had fallen in 1974-75 by 3.2 per cent, recovered in 1975-76 by 9.6 per cent to a fresh record level of 88.7 million tonnes. This was about 6 per cent above the previous peak of 1973-74. Consumption in developing countries rose by 11 per cent, and was favoured by lower international prices, reductions in domestic prices, and a marked fall in freight rates during 1975. Indeed by 1975-76 the crop/fertilizer price relationship had returned to the pre-crisis level of the early 1970s.

91. Fertilizer consumption in developing countries rose on average by 8.5 per cent between 1969-70 and 1975-76, and is forecast to rise by 10 per cent per annum in the period 1974-75 to 1980-81. However, if the observed ratio between the growth rate of food production and that of fertilizer consumption of 0.23 is maintained until the end of the decade, the implied growth rate in food production would be only 2.3 per cent per annum. Since this is well below the Second Development Decade Target of 4 per cent, it is evident that to achieve this higher rate of food production, substantially higher rates of fertilizer consumption than those currently predicted will be required in developing countries. It is estimated that world fertilizer supplies will be adequate until 1980-81, on the basis of intended expansions in fertilizer production capacity, and the 10 per cent

per annum rise in consumption now predicted for developing countries. However, past experience indicates that developing countries have the capacity to use more fertilizers if supplies are available, and such an increased use is essential if developing countries, particularly the MSA and Food Priority countries, are to raise their grain production by the desired 4 per cent. To meet this requirement might necessitate an annual increase in fertilizer consumption by developing countries of 16 or 17 per cent per annum, somewhat above the average rate prevailing during 1964-65 to 1969-70. This would imply a rise in developing country fertilizer consumption to about 28 million tonnes by 1980-81, which would still be below the estimated fertilizer capacity of these countries of 33.7 million tonnes.

92. This approach, however, greatly oversimplifies the problem for several reasons. In the first place fertilizer plants in developing countries are, for a variety of reasons, frequently operated below capacity. It cannot be assumed that developing countries as a group will be capable of meeting all their requirements in the next five or ten years at the higher rates of consumption postulated. Furthermore, although fertilizer capacity has increased significantly in certain developing countries, for example India and Bangladesh, and other developing countries may shortly have supplies available for export, geographical and economic factors would not permit all the fertilizer requirements of developing countries collectively being met by production in developing countries. It is in the Food Priority and MSA countries where the need for increased fertilizer production and consumption is greatest; the mere availability of adequate fertilizer supplies on world markets at normal prices is of little value to the MSA countries if they lack the financial resources for their acquisition. These countries will therefore continue to look to the international community for assistance, either bi-lateral or multilateral through the International Fertilizer Supply Scheme (IFSS), for the provision of the necessary fertilizers.

93. Bi-lateral assistance towards the provision of fertilizers has fallen off since the crisis years of 1973 and 1974, and such aid in 1976-77 was only 74 per cent of that provided in 1974-75. The multilateral operations of the IFSS (plus very small supplies provided by the EEC) constitute only a small part of the fertilizer assistance given to MSA countries and it is from bilateral sources that the bulk of fertilizer resources for MSA countries has come. The measure of the failure to provide MSA countries with sufficient fertilizers is illustrated by the fact that at its 1975 meeting the World Food Council recommended that 1 million tonnes of plant nutrient should be provided at the bilateral and multilateral levels to enable MSA countries to obtain their required plant nutrients; in fact the total quantities provided in 1974-75, 1975-76 and 1976-77 were 570,000 tonnes, 540,000 tonnes and 430,000 tonnes, respectively. Of these only 11 per cent on average were provided through the IFSS despite a recommendation by the Group of 77 to the 1976 meeting of the World Food Council that at least 30 per cent of fertilizer aid should be channelled through the IFSS. The requirement of 1 million tonnes of fertilizer nutrients for the MSA countries was re-stated at the 1977 meeting of the World Food Council, but there seems little likelihood of this aim being achieved. The estimated total import requirements of the MSA countries in 1977-78 have been put at

2.38 million tonnes of plant nutrients; on present indications it appears unlikely that more than about 500,000 tonnes of plant nutrients will be available on aid terms, leaving the MSA countries to bear the cost (some \$600 million) of the remaining 1.88 million tonnes themselves.

94. Since fertilizer consumption in the MSA countries in the biennium 1974-75 and 1975-76 showed an annual average growth rate of only 3.4 per cent, despite the fall in prices and the improvement in world supplies, it appears that the fertilizer crisis of 1973-74 is persisting in MSA countries, although it has changed in nature. Analysis of the MSA countries' requirements in 1977-78 by regions indicates that although Asia would need to import 1.41 million tonnes of plant nutrient it would nevertheless provide 71 per cent of its overall requirements of 4.85 million tonnes; Latin American MSA countries required only 265,000 tonnes, but would have to import some 240,000 tonnes, more than 90 per cent of requirements. The 28 MSA countries in Africa were estimated to require 1.08 million tonnes, of which 0.73 million tonnes, over two-thirds of the total, would need to be imported.

95. No easy solutions to the fertilizer problems of the MSA countries can be envisaged. The IFSS, which is now to be prolonged for another two years, was conceived in a period of acute shortages and high prices, and lacks the resources to fill the gap between MSA country requirements and their limited import ability. (Indeed, in future the IFSS will intervene primarily to maximise the economic impact of its fertilizer supplies on the agricultural sectors of the recipient MSA countries, while also offering short-term consultant and follow-up assistance advice). Specific requests by recipient countries for additional quantities of fertilizer might increase the flow of concessional supplies somewhat, especially if the next few years see some tendency to world over-supply and a weakening in prices. It is predicted, however, that after 1980-81 prices may need to rise to attract new investment in fertilizer plants in which case MSA country problems will be intensified.

96. Two particular aspects of the fertilizer situation merit further attention. The first is that timely imports of essential fertilizers are much more economic than subsequent imports of food. This suggests that some part of food aid might perhaps beneficially be converted into fertilizer assistance. There are evident difficulties, since the greater part of food aid (much of it consisting of surpluses) is already ear-marked for development purposes. But if donor countries could be persuaded that fertilizer aid was a far more effective form of aid than food aid it might in time prove possible to use at least part of the cash provided for food aid for the purchase of fertilizers for MSA countries. Other possibilities may exist for triangular trade, with food aid being made available to developing fertilizer exporting countries in return for fertilizer deliveries to MSA countries.

97. The second aspect concerns the circumstances in which it would be practicable and economic for developing countries, including MSA ones, to build fertilizer plants rather than import fertilizers. Clearly a large number of new fertilizer plants are being constructed in developing countries since, according to the CGFPI, commitments for fertilizer plants increased from \$90 million in 1973 to \$1,382 million in 1975, and may have increased further in 1976. World Bank assistance for fertilizer plant construction has increased significantly, since between 1961 and 1973 the Bank provided only \$140 million to help finance fertilizer plants whereas in 1974 \$329 million was provided and in 1975 \$434 million. Nevertheless, the construction of new fertilizer plants requires both convenient access to raw materials

and the provision of an adequate infrastructure. Developed countries and some of the more industrialised developing countries already possess infrastructures requiring little modification or adaptation for the establishment of fertilizer plants, but the construction of similar plants in the least developed countries, especially if built on remote or "green field" sites, would necessarily require the establishment of substantial infrastructures, which would therefore be an important part of the project cost. On this basis many developing countries, notably the MSA ones, would be faced with such high production costs that it would almost certainly be more economic for them to import their requirements than manufacture them. It is for this reason that recent investment in fertilizer plants in developing countries has been mainly in those with well-developed infrastructures such as India, Pakistan, Brazil and Indonesia, or in OPEC countries, which have the required raw materials and can also afford to incur high construction costs.

98. In the context of construction costs it is significant that none of the African MSA countries except Egypt, and, to a lesser extent, Senegal have the capacity at present to produce nitrogen or phosphate fertilizers. In the Asian MSA countries, these fertilizers are produced in large quantities only in India, Bangladesh and Pakistan, which have established infrastructures, while there are little or no production prospects in the MSA countries. With regard to future production prospects in the MSA countries, although the developing countries' capacity for the manufacture of nitrogen is likely to double between 1976-77 and 1981-82, it does not seem likely that much of this will take place in the MSA countries of Africa or Latin America because of high infrastructure costs and limited raw material supplies. The position is rather different with regards to phosphates, since by 1981-82 the supply from developing countries is expected to more than double on account of increased output in Africa and the Far East; the only MSA countries likely to participate in this increase on a significant scale, however, are Senegal and Egypt. MSA countries do not produce potash, nor for that matter do other developing countries apart from Congo and Chile, so that in the future developing countries will have to continue to import most of their potash requirements.

99. An important feature of fertilizers is that their supply lends itself to regional approaches. Examples of regional cooperation arrangements are those of the Andean Group, the Latin American Economic System (SELA), the Senegal River Development Organisation (OMVS), the Industrial Development Centre for Arab States (IDCAS), and ESCAP. A Commonwealth initiative in regional cooperation in fertilizer supply is being undertaken in relation to the ECOWAS group in West Africa, while a regional Commonwealth fertilizer project for the Caribbean is also being studied.

100. During 1976 the FAO Commission on Fertilizers concluded that an international commodity agreement for finished fertilizers would probably not be a feasible proposition, although it requested the study of long-term contracts, particularly with regard to enforcement procedures; the FAO Council at its meeting late in 1976 broadly concurred with the Commission's views. However, it felt the study of international commodity agreements regarding fertilizer raw materials should continue, especially since phosphates have been included in UNCTAD's Integrated Programme for Commodities.

101. Preliminary data for 1976-77 (July-June) reveal a continuation of the recovery in world fertilizer consumption which began in the previous season; indeed the annual increase between the two seasons came back into line with the average growth rate of the past ten years. While all regions participated in the increase, growth was highest in the developing

countries, which appear to have consumed slightly more than in the peak year of 1973-74. The general rise in consumption was favoured by lower world fertilizer prices and by improved crop/fertilizer price relationships. The relative stability of fertilizer prices in 1976 was not maintained in 1977, when some strengthening of demand led to higher prices for nitrogenous and phosphatic fertilizers; the early months of 1978 were also characterized by generally firm prices. World supplies of the three primary nutrients in 1977-78 appear to have been adequate, but certain MSA countries continued to have difficulty in covering their import requirements owing to balance of payments difficulties.

(ii) Pesticides

102. Resolution X of the World Food Conference called for international co-ordination of the supply of pesticides and for advice on their use. An ad hoc Consultation on Pesticides in April 1975 recommended an improved information system; an expanded emergency fund; increased formulation and manufacture and expanded training schemes in developing countries. A Resolution of the Group of 77 at the 1976 Meeting of the World Food Council called upon FAO to organise within the International Fertilizer Supply Scheme assistance to MSA countries suffering from acute pesticide shortages and invited contributions of about \$20 million for this purpose.

103. High prices slowed down the use of pesticides in 1975-77, although developing countries' usage still increased by 9 per cent each year. Other limiting factors on pesticide use are the training of technicians and the complex infrastructure required. The main difficulties with regard to supply are that the old, well-established, tried pesticides, still valuable in developing countries, have been supplanted in developed countries by more costly, specialised pesticides on environmental grounds or because of growing insect immunity.

104. Because they are expensive and require sophisticated infrastructures specialised pesticides are not in use much in developing countries, where the demand is still for traditional pesticides. The latter to some extent now have to be manufactured in developing countries owing to restrictions on manufacture in developed countries. Shortages of traditional pesticides developed in 1976 to such an extent that assistance with their supplies was extended to certain developing countries. Nevertheless, pesticide use remained low in many developing countries during 1976. Since it is calculated that losses from pests, diseases and weeds average 30 per cent on some crops, it is vital that pesticide use should be accelerated in developing countries. There seems to have been no significant response to the appeal of the Group of 77 for \$20 million to provide MSA countries with pesticides. At the 1977 Meeting of the World Food Council it was recommended that international agencies and donor countries should give special financial and technical assistance to developing countries suffering from shortages of pesticides and weak plant protection services. If, as seems likely, the response of the international community remains weak, affected countries might apply to IFAD for assistance in procuring pesticide supplies and/or in the construction of pesticide plants. As with fertilizers, there is probably scope for the production of pesticides on a regional basis.

105. During 1977 world pesticide production appears to have risen by 5-10 per cent, so that, in combination with an improvement in the stock position, supply was adequate to meet demand. Prices generally remained stable during the year, and the main problems for several developing countries continued to be the lack of foreign exchange for the purchase of requirements and a shortage of trained personnel to supervise the introduction of new varieties. Currently the demand for herbicides is growing more rapidly than for pesticides or fungicides.

(iii) Improved Seed Varieties

106. In response to Resolution XII of the World Food Conference, an Expert Consultation on Seed Industry Development, held in December 1975, formulated a global seed production training programme. The Seed Industry Development Programme (SIDP) has identified projects for national development, but lack of funds has hindered development. As with pesticides, so the Group of 77 in 1976 pressed for more action on seed industry development, calling on FAO to strengthen the SIDP, and requesting the International Rice Research Institute (IRRI) to develop further its work on the identification of high-yielding varieties; at the same time there was an appeal to donor countries to provide \$20 million to SIDP and IRRI for their enlarged activities. The call for improved seed varieties was re-iterated at the 1977 meeting of the World Food Council, which recommended that international research institutes should co-operate with developing countries in the search for new high-yielding varieties. The Council also called for developing countries to be supported through bilateral programme or voluntary contributions to SIDP to an amount of at least \$20 million.

107. The provision of improved varieties of seed is the third aspect of the package of improved inputs required to increase food production in developing countries. Not only is good seed vital to a high level of crop production, but the development of high-yielding cereal varieties is an on-going process, requiring constant research, since new varieties of seed are frequently high-yielding only for a limited period before other natural factors tend to reduce their yields. Surveys show that under a fifth of developing countries use HYVs on a large scale, and of these only one-third had established adequate seed multiplication services. Seed supply is inadequate in many countries, and there is also a need for equipment and trained personnel.

108. The international institutional framework for seeds is already functioning, and the problem is basically that of establishing seed industries in developing countries. Since modest seed projects can be established at a relatively low cost, it would seem that the provision of the \$20 million for seed development by the international community would go a considerable way towards helping increase food output in developing countries. The supply of essential equipment and of trained personnel would probably be a first call upon resources, a fair proportion of which might come from IFAD or bilateral donors. To guard against disasters seed reserve stocks should be established, probably on a regional basis.

109. In general the regional approach to the provision of improved seed varieties is likely to have its limitations owing to the fact that different areas within a region may require the development of their own varieties of seed. Nevertheless, there could be opportunities for certain facilities to be centralised, while leaving other work to be carried out at the local level but with an abundant exchange of information between all centres.

110. An area that requires more attention and resources is the development of new high-yielding varieties for traditional local crops other than rice or wheat. Local crops to which the International Crops Research Institute for the Semi-Arid Tropics (ICRISAT), for instance, is giving special attention include sorghums, millet, chickpeas and pigeonpeas, while the International Institute for Tropical Agriculture in Nigeria is working on cowpeas, soya beans, lima beans, cassava, sweet potatoes and yams.

(iv) Farm Machinery

111. The term "farm machinery" covers a very wide span of equipment, ranging from simple hand-operated appliances or tools, through motors to power appliances such as threshing machines or to operate pumps for irrigation purposes, to tractors for mechanical cultivation. The criteria for the effective use of machinery in developing countries are different from those applied in developed countries, since in the latter machinery is intended to maximise output per worker, whereas in developing countries land constraints generally demand that machinery should maximise the output per unit of land and should be labour-intensive. Machinery that displaces labour, adding to the number of rural unemployed, has little place in developing countries; the use of machinery should be determined by the requirement that it should increase yields of food crops, reduce costs, or permit the undertaking of operations which would not otherwise be possible. Unfortunately tractors are often considered the most important kind of farm machinery, whereas in fact less complex and cheaper equipment is potentially of much greater use to small-scale farmers. Indeed, the use of tractors, per se, appears to have little effect on crop yields, at least in Asia, where their use is associated with other yield-increasing inputs, which are often of greater importance. The main advantage of tractor usage is that in some circumstances it saves time and therefore permits an improved cropping programme, leading to a further demand for labour.

112. Where the peasant farmer is concerned, however, the provision of simple mechanical appliances, permitting an improvement in yields, should be the dominant consideration. Along with these should be considered machines that facilitate tasks that would otherwise be carried out inadequately or not at all (e.g. the placing of fertilizer in the root zones), or which speed up the tempo of operations so that time is available for the cultivation of additional crops. Other important examples of desirable machinery are the motors or engines required to pump water for irrigation purposes; these may be considered part of the function of irrigation rather than as farm machinery, but they may also be used to drive equipment such as rice hullers, sugar cane crushers or stationary threshers, or even to carry out simple food-processing operations such as rice cleaning and polishing.

113. Although the international community has perhaps laid less stress on the provision of farm machinery in recent years than on the supply of other inputs, nevertheless the World Food Council at its 1977 meeting recommended that "irrigation equipment and selective and appropriate implements for mechanisation" should be provided as parts of a minimum package of inputs by donor countries and international agencies on concessional terms to Food Priority Countries.

114. Since much farm machinery is probably supplied as parts of projects or programmes it is not possible to put any precise value on the requirements of developing countries. According to the CGFPI the annual average value of external capital commitments to agriculture of machinery and other inputs (excluding fertilizer supplies) in 1974 and 1975 was \$68.2 million out of a total of \$4,403.8 million. Commitments to machinery (all bilateral) were thus quite small, although some other commitments for farm machinery might well have been made under other headings such as crop development. Even

when allowance is made for the likelihood that in many developing countries, notably the MSA ones, the number of tractors may not greatly affect crop yields, and therefore requirements are low, the accompanying table shows that developing countries account for only 10 per cent of all agricultural tractors in use and for only 5 per cent of harvester - threshers. If anything like similar proportions exist for simpler types of agricultural machinery it is clear that developing countries must have an extremely large potential to use simpler equipment, some of which could no doubt be produced by moderately industrialised developing countries

Table J - Agricultural Tractors and Harvester-threshers:
Numbers in Use in Developing Countries and in the World
 (thousands)

	Agricultural tractors				Harvester-threshers			
	Av. 1961- 65	1973	1974	1975	Av. 1961- 65	1973	1974	1975
Developing countries	703	1,466	1,585	1,706	102	138	143	149
World	12,410	16,463	16,904	17,212	2,257	2,686	2,758	2,878
<u>Developing countries as a percentage of world total</u>	<u>5.7</u>	<u>8.9</u>	<u>9.3</u>	<u>9.9</u>	<u>4.4</u>	<u>5.2</u>	<u>5.2</u>	<u>5.2</u>

Source: FAO Production Year Book, 1976.

(v) The Reduction of Post-harvest Losses

115. The Seventh Session of the General Assembly of the UN stressed that a major effort should be aimed at the "reduction of post-harvest food losses in developing countries.... as a matter of priority.... reaching at least a 50 per cent reduction by 1985". All countries and international organisations were asked to co-operate in achieving this objective. At the Second Session of the World Food Council (1976) the Group of 77 called on FAO and governments to assess harvest and post-harvest losses and take measures to reduce them. The Group of 77 also invited donor countries to contribute some \$20 million to a trust fund in FAO for work in this area. Following a study in depth of the matter by the FAO Committee on Agriculture in April 1977, the Third Session of the World Food Council recommended that "in supporting the food production efforts of developing countries, programmes should be initiated by them and supported by appropriate international agencies and bilateral donors to reduce harvest and post-harvest losses, and to this end FAO's activities in this field should be substantially

strengthened". Harvest losses, both pre-harvest and post-harvest, were discussed at the Session of the FAO Conference held in November 1977.

116. Estimates of post-harvest losses vary enormously, even as between the different stages of the post-harvest system. There are mechanical losses during harvesting, drying, handling and processing, which in the case of food grains are probably in the range of 5-10 per cent. Biological losses are normally at least 10 per cent, more in some countries, of the actual yield of food grains. For other foodstuffs losses are generally greater. In respect of the proportion of crop actually lost, the vital significance of reducing post-harvest losses (or more positively of increasing the proportion of the harvest delivered to the consumer) may be simply illustrated with a single example. It is forecast that by 1985 the cereal deficit of developing countries (excluding cereal exporters) will be in the region of 100 million tonnes. The cereal production of developing countries in the same year is projected to be some 850 million tonnes. Thus a 10 per cent reduction in post-harvest losses would to a large extent eliminate the projected cereal deficit, a 12 per cent reduction entirely so.

117. In this perspective the reduction of post-harvest losses can be seen to be as important as current efforts to increase food yields in developing countries. Up till now plant scientists may be said to have done more for the welfare of the developing world than those concerned with post-harvest systems, and it is clear that the success which has attended efforts to increase food production in developing countries needs to be accompanied by corresponding improvements in the quantity and quality of grain delivered to consumers. Indeed it could be argued that effective measures to prevent food waste after harvest have a more vital role in increasing food supply than further efforts to raise output, since in the absence of such post-harvest measures a large part of the increase in food production will automatically be lost. However, such a view of the matter is unbalanced, since measures to increase food production and reduce the proportion wasted complement each other, and should therefore be undertaken simultaneously.

118. The problems of attempting to reduce post-harvest losses lie in the fact that there are a wide variety of loss-causing factors, the influence of which will vary from crop to crop and from country to country; furthermore these factors themselves will be affected by methods of production, forms of storage and methods of marketing. In addition it is very difficult indeed to identify the factors causing greatest loss, and the stages at which losses occur. Lastly, not only is there the problem of physical loss, but in many cases there is also a nutritional loss which may not readily be apparent. Thus it appears that workers in the post-harvest system face a far greater number of unknowns than do those dealing with other aspects of increasing food supplies.

119. Loss prevention can be seen in terms of three major constraints. Firstly, there is lack of information at all levels, but especially at the level of the small farmer, of the magnitude of losses, their causes and remedies. Secondly, there is the lack of infrastructure, as exemplified by trained personnel, the organised establishment of extension, technical and research services, pesticide availability, credit facilities and legislation, etc., to enable the implementation of loss prevention measures. Lastly, there is a

lack of investment in food loss prevention measures which is likely to be greater than in other areas of raising food supply since the need for such measures is often not very evident, nor can a substantive return on them be demonstrated. As with other aspects of food production, it is difficult to measure the resources, internal and external, devoted to the prevention of post-harvest losses in developing countries, but in 1974 and 1975 annual external aid commitments, bilateral and multilateral, to crop storage and processing in agriculture were \$90 million, of which about three quarters was in the food sector. Even if some of the substantial external commitments under other headings such as rural development and general agricultural development also contain some provision for the reduction of post-harvest losses it appears that external investment in this field is inadequate.

120. This view was endorsed by the FAO Conference in November 1977 which recognised that while activities to prevent pre-harvest losses had been broadly in balance with attempts to increase food production post-harvest problems of grains had seldom received the attention they invited. Noting the need for widespread national 'Save Food' programmes, FAO has formulated a priority programme to reduce food losses of staple foods in LDCs, MSA and FPCs. Since the funds required to implement all national programmes will involve several hundred million dollars, it is extremely doubtful if post-harvest losses can be reduced by 50 per cent by 1985, as is the aim. Nevertheless the FAO proposal that a Special Fund of \$20 million should be established for post-harvest programmes has been approved; it is suggested that \$10 million should be transferred from the FAO 1976-77 Suspense Account, while countries are to be invited to provide the balance.

121. An associated aspect of post-harvest losses is the provision of adequate grain storage facilities. The relationship is really two-way. A reduction in post-harvest losses can be expected to increase available supplies of grains, thereby adding to the requirements for storage facilities. Similarly, improved storage facilities will of themselves tend to reduce post-harvest losses.

122. This matter will be dealt with more fully in a companion paper on world food security. It is sufficient here to note that financing of grain and other food storage facilities is beyond the capacity of many developing countries who will therefore need look to the international community for help. Financing storage facilities is a bankable proposition and assistance could be sought from the IBRD and regional development banks. For the least developed and MSA countries concessional assistance both to reduce post-harvest losses and for the provision of storage facilities might come from IFAD, the World Food Programme (WFP) or from the International Development Association (IDA). There are possibilities for the co-financing of measures to reduce post-harvest losses by the FAO Special Fund and other agencies, while international and bilateral agencies could co-finance the provision of additional storage facilities.

123. As with fertilizers and pesticides, there are probably important opportunities for regional co-operation in the reduction of post-harvest losses, since neighbouring countries with broadly similar agricultural economies and climatic conditions should be able to pool experience and, to some extent, facilities. In this connection, mention may be made of the Regional Workshop on Post Harvest Losses sponsored by the Commonwealth Secretariat, which was held in Accra in April 1977. In addition to the four Commonwealth countries which participated in the Workshop there was also representation from the Ivory Coast, Mali and Senegal. One of the recommendations of the Workshop, noting that there was scope for inter-country co-operation in West Africa, was that there should be (i) movement of personnel between countries, (ii) a regional centre for the dissemination of information (ECOWAS, FAO, or IITA were logical starting points), and (iii) that agencies should devote more of their resources to an integrated and co-operative effort.

(vi) Research, Extension and Training

124. The World Food Conference stressed the need for increased emphasis on research, extension, education and training as vital elements in plans for increasing food production. The importance of research is underlined by the fact that it has been claimed that expenditure on research in developing countries provides 2 to 3 times as much growth as can be attained from any other form of investment.¹ Thus research is likely to pay handsomely.

125. Three types of agricultural research as regards developing countries may be distinguished. Firstly, there is national research in the countries concerned. This is the most important quantitatively, and the most likely to yield significant returns for the countries concerned. In developing countries this kind of research is almost always undertaken in the public sector, apart from any carried out by multinationals, most probably in respect of staple export crops. Secondly, there is the research undertaken by the international research institutes under the aegis of the Consultative Group on International Agricultural Research (CGIAR). Since the World Food Conference the number of specialist international research centres has increased to eleven, of which the International Rice Research Institute (IRRI) and the International Maize and Wheat Improvement Centre (CIMMYT) may be cited as two of the oldest established and most successful. The third form of research is that by developed countries undertaken in or on behalf of developing countries. Very roughly, the levels of expenditure in these three areas of research activity in 1970 (at 1970 values) have been estimated as follows:-

- (i) national public sectors in developing countries \$235 million;
- (ii) international research centres \$10 million; and
- (iii) by developed countries on behalf of developing countries \$115 million.

This gives an approximate total for the three types of research of some \$360 million.

126. Agricultural research has played a major role in more than doubling the grain yields of developed countries in the past four decades, and, to the extent that the "Green Revolution" has achieved success in developing countries, the vital role of agricultural research must be acknowledged. It has been estimated that in 1970 out of a total world public sector expenditure on agricultural research of \$1,560 million, only \$235 million, or 15 per cent, was in developing countries. Furthermore, it was calculated that

¹ Investment in Agricultural Research, Robert Evenson, Yale University, October, 1973. Quoted in The World Food Problem, E/CONF.65/4 (1974), Chapter V.

developing countries only spent on average 0.25 per cent of their agricultural GDP on agricultural research, whereas the average for developed countries was 1 per cent, and for some the proportion was as high as 2 per cent.

127. Two features emerge very clearly from these figures. In the first place developing countries will need to increase their expenditure on agricultural research very substantially if they are to achieve the increases in yields which are vital to raising their food production. Secondly, in an area which is of vital importance, the developing countries are spending least on research, although increased research spending would almost certainly yield higher returns than elsewhere in the world.

128. The need for increased agricultural research is greatest in the developing countries themselves. Although the spotlight in recent years has been on the international research centres financed by the Consultative Group on International Agricultural Research, the great bulk of research on developing countries' agricultural problems needs to be carried out at the national level. This is because agriculture is largely location - specific, and in general plant varieties cannot easily be transformed from one climatic zone to another. There are exceptions to this rule such as hybridisation, but nonetheless the best results are obtained where plants have been developed for rather limited geographic areas. Differences in rainfall, altitude, length of day, length of growing season, and temperature ranges are frequently critical, and appropriate varieties of plant need to be evolved to meet local conditions. There is also the question of biological resistance of plants to local diseases and insect pests. Frequently plant varieties developed successfully for certain areas are found to succumb to new plant diseases and insect attacks when transferred to other regions. Even when new varieties of plant can on occasions be successfully transferred from one area to another, applied research is still required at the national level to evaluate the success or otherwise of the transfer, and to explore further possibilities of plant development.

129. What are the costs of the successful development of national agricultural research institutes likely to be? It is unrealistic to cost the establishment of an ideal system, since for many countries, even with elements of concessional assistance, such costs could not be borne. At the World Food Conference it was suggested that between 1970 and 1985 developing countries should aim to increase the proportion of their agricultural GDP devoted to agricultural research from 0.25 per cent to 0.50 per cent. On the now somewhat questionable assumption that agricultural production in these countries would rise by 4 per cent annum, it was estimated that developing countries by 1985 would have annual resources of \$900 million (in terms of 1970 dollars), from their own budgets to finance agricultural research. Compared with 1970 this would have represented a near quadrupling of resources. In fact a more realistic assumption of only 3 per cent per annum growth in agricultural production up to 1985 results in only \$780 million being available for research by 1985, roughly three times the 1970 sum. World-wide inflation, both past and prospective, renders these figures of little value in present day conditions, but it may be reasonably concluded that to reach significant levels real expenditure on agricultural research by developing countries by 1985 needs to be increased at least three-fold, but preferably four-fold, as compared with 1970.

130. It is doubtful whether present expenditure on research at the national level is increasing at anything approaching the desired rate. Apart from the provision of buildings, plant and equipment, one of the biggest obstacles to increasing research in developing countries is the shortage of trained personnel, and here developed countries could make a valuable contribution by training many more scientists. But beyond this what is required even more of developed countries is a long term commitment to support agricultural research in developing countries. A not unreasonable target might be for developed countries to make available, say, half a billion dollars each year for the next decade to support agricultural research in developing countries. Alternatively, developed countries might undertake to put up for agricultural research over a number of years the same amount as developing countries themselves actually devote to agricultural research.

131. The international community has responded fairly generously in the last few years to the research requirements of the new regional research centres supported by the CGIAR, which in turn is sponsored by FAO, the World Bank, the UNDP, and a number of national governments, regional organisations and some private foundations. Compared with 1972 when only about \$15 million was used to fund the operations of the five research centres, expenditure by the Group in 1976 at its 11 centres was \$64 million, while the budget for 1978 is some \$88 million. Although regional research centres are important, and the two which have been in existence for a long time have high-yielding Mexican wheat and semi-dwarf rice, important elements in the "Green Revolution", to their credit, their importance may have been over-emphasised in recent years at the expense of national research centres. The main advantages of these centres are the calibre of the staff they can attract and the scale of operations they can undertake. On the other hand they are expensive to run, in terms of scientist-man-years, and the same expenditures in national research systems would provide for twice as many scientist-man-years. For this reason it is suggested that expenditure on these centres (or on new ones) should not be expanded in real terms very much more between now and 1985.

132. Nevertheless, the present limitations of the international research centres are leading to intensive investigation as to how the agricultural technologies developed in these centres can be successfully transferred or adapted to the frequently very different economic, ecological and climatic conditions prevailing in the developing countries. The CGIAR is giving the matter considerable attention, and a partial solution of the problem evolved by some of the centres has been to move some of their work to national research systems through "outreach" programmes and technical assistance projects. In this way the innovations and improvements originated in the centres can be tested in and adapted to the local conditions in different developing countries. For these transfer techniques to be successful, however, requires the host governments to provide other complementary services, a task frequently beyond the capability of LDCs and the MSA countries. It has also been suggested that because of the disparity between the resources of the international research centres and the national ones, there should be more linkages between the work of the two types of centre in matters such as research training, seminars, identification of priorities, and farming systems. Such developments are likely in the next few years.

133. Research expenditure in developed countries on behalf of developing countries was estimated at about \$115 million in 1970. The World Food Conference suggested that this figure might be increased to \$200 million or \$250 million by 1985 (these were 1970 values, and should certainly be at least doubled to take account of recent inflation). There is a lack of

information about current levels of agricultural research work being undertaken in or by developed countries on behalf of developing countries. The shortage of funds for the establishment of new research centres in developing countries, occasioned by the present depressed state of the world economy, may have been accompanied by a greater readiness by developed countries to undertake projects on behalf of developing countries in their own research centres. In this way under-utilised capacity may be more intensively used, employment of scientific personnel may be increased and opportunities to train staff for developing country research institutes can be expanded. Some of the more "advanced" research work such as post-harvest technology, the development of pesticides, and processing of food crops, can probably be handled capably in developed countries, and at a relatively low cost compared with the heavy capital costs likely to be incurred in establishing new research centres in the developing countries. Thus, in order to keep their aid budgets lower than they would otherwise be, developed countries may increase their expenditure of this type quite considerably. In short, the work undertaken by developed countries on behalf of developing countries may be very valuable and cost-effective, but it may also represent an attempt by developed countries to evade the greater financial demands that would arise were they to undertake to support more direct agricultural research in developing countries.

134. Whenever research is undertaken, it is probably true to say that it usually takes far too long for the results of research to reach the farmer in developing countries. Here the efficiency of the extension services is critical. Not only is it essential that there should be adequate numbers of competent personnel to pass new knowledge on to peasant farmers, but it must be demonstrated to farmers that the practical application of the results of research to crops is a paying proposition. If necessary, assistance should be made available (on a short-term basis) to farmers to enable them to take advantage of the results of applied research. In this way they will learn that the results of research, when properly applied, also bring financial benefit to themselves as well as an increased supply of food to the community. If small farmers are convinced of the superiority of new forms of production, with their consequent economic benefits, then experience suggests that they will adopt the new techniques of production willingly and rapidly.

135. A weakness of agricultural research until quite recently has been an over-emphasis on export crops at the expense of basic foodstuffs. Since the world food crisis of 1973-74, however, there appears to have been a conscious attempt to direct a larger proportion of research expenditure specifically to improving the output of food crops. Even within the context of increased research expenditure on food, there is still a need for further diversification. Up till now the bulk of research has been done on grains, but the time is now approaching when some fundamental research should be directed to root crops since these are the staple diet of about a tenth of the world population. An enormous area of Africa would become available to increase world food production if the tsetse fly could be eliminated from Central Africa. The development of a tsetse fly control programme could be undertaken by international agencies in co-operation with developed countries, with the actual implementation of the programme being undertaken by affected developing countries supported by resources of the developed world. A most promising area for the application of research in the post-harvest stage is fish, both in its preservation and processing and in the adaptation of unfamiliar species for human consumption.

136. The need for adequate extension services in developing countries has already been stressed, and it is evident that the training of more staff and an expansion in extension services in most developing countries is a matter of the utmost urgency. Nevertheless, studies¹ indicate that developing countries, in terms of extension workers per dollar of production, have a relatively high investment in extension activities. Unfortunately this is matched by the low level of resources devoted to research. There is reason to believe that substantial extension services linked to weak research systems have not been very productive. This underlines the need for the research services in developing countries to be strengthened.

¹ Investment in Agricultural Research and Extension: A survey of International Data, R. Evenson and Y. Kislev, Yale University 1975.

VII. Postscript - The Fourth Session of the World Food Council, June, 1978

137. The Report of the Fourth Session of the World Food Council, held in Mexico City in June 1978, became available just as this paper was going to print. The Mexico Declaration of the Council reviewed developments in the world food situation, in particular the implementation of the Manila Communiqué issued after its Third Session in 1977. As was to be expected, the Mexico Declaration covered rather familiar ground, and the achievements of the World Food Council in the preceding year to which it was able to point were rather limited, the most significant perhaps being the operational establishment of the International Fund for Agricultural Development in 1978, and the Council's stimulation of considerable additional contributions to the International Emergency Reserve. However, the Council acknowledged that the rate of progress in solving fundamental food problems was far too slow.

138. The proceedings of the Fourth Session of the Council seem to have been rather low-key, and its discussions and recommendations appear to have attracted little interest on the part of the world press. It is difficult to take an optimistic view as to the degree of implementation in the future of the recommendations the Council made, which in some of the main areas of its responsibility were from new standpoints; discussion of some familiar problems also broke new ground.

139. During the proceedings it was felt that the basic development assistance target of 0.7 per cent of gross national product needed to be re-stated; under the heading of increasing food production the first recommendation noted that developed countries should take urgent steps to reach this target. Other recommendations were that developing countries should, in the appropriate regional fora, review the constraints to increasing food production, while donors, in existing fora, should examine ways in which they could support developing countries more effectively. The international financial institutions should also address these same issues. The Food Priority Countries were invited to formulate food and nutrition plans, while the Secretariat of the Council was to see if bodies could be found to carry out analysis of internal resource flows to food and agriculture; thus the external support to be given to food production could be re-assessed. Lastly, all countries should participate in the 1979 World Conference on Agrarian Reform and Rural Development. In summary the recommendations were an invitation to all concerned with food production to become much more actively involved.

140. In the sphere of nutrition the emphasis was put on more equitable income distribution so as to result in correspondingly more equitable food consumption levels. The goal of eradicating Vitamin A deficiency and endemic goitre within a decade should be adopted, and in future all major development projects should contain an assessment of their impact on nutrition.

141. To improve food security developing countries needed to be able to satisfy their import requirements without impairing their economic development, while food deficit countries should have access to reserves in times of shortages. International financial institutions and governments ought to

consider special financing measures to allow developing countries to undertake stockholding obligations; the establishment of food reserves on a regional or sub-regional basis was also necessary.

142. As regards food aid the Council recommended that a new Food Aid Convention covering 10 million tonnes of cereals a year should be negotiated. Signatories to the present Food Aid Convention should try to raise their contributions in a new Convention and other countries should also be asked to participate. Discussion in the Council indicated that developing countries would like to see food aid increase to about 15 million tonnes a year; this view was, however, contested by donor countries. The recommendation on the International Emergency Reserve emphasised that it should be a continuing reserve with yearly replenishments. With respect to the contribution of trade to the solution of the food problem the Council noted with concern the increase in protectionist trade practices, and called upon developed countries in the MTN to act in accordance with their commitment to developing countries in the Tokyo Declaration. The Negotiating Conference on the Common Fund should be resumed as soon as possible, and developed countries were asked to extend the Generalised Scheme of Preferences to processed agricultural commodities.

143. Some of the more important points highlighted in the discussion which preceded the adoption of the Mexico Declaration of the Council were:

- (a) In 1977 food production in developing countries went up by only one per cent, and the rise in world food output of 2 per cent was small after the large increases of 1975 and 1976.
- (b) There was a need for an improvement in future in assessment studies, notably with regard to the rice situation and fisheries, the reduction of food losses and internal investment in developing countries. Changes in the proportions of the developing world's population which were malnourished were important; it was desirable, therefore, for future reviews to give more detailed information, including estimates of the numbers regarded as slightly, moderately or severely under-nourished, so that severe undernutrition could be dealt with first.
- (c) There could be a marked easing of food problems as the result of a reduction in world expenditure on arms.
- (d) The importance of agricultural research was emphasised; in particular improved national research capacity was desirable. However, existing mechanisms to strengthen international co-operation were probably adequate, and there did not really seem a need for new mechanisms.
- (e) The three sponsoring agencies - the World Bank, FAO and UNDP - which had decided to wind up the CGFPI were asked to report periodically upon the assistance which they had undertaken to provide to the WFC following

the disbanding of the CGFPI. Meanwhile it was agreed that some of the functions of the CGFPI would be undertaken by the WFC, in particular the co-ordination of the mobilisation of additional resources, and the analysis of resource flows to increase food production in developing countries.

- (f) There was still an inadequate allocation of external assistance to the Food Priority Countries (FPCs).
- (g) The World Bank's lending to agriculture and rural development in the fiscal year 1978 was estimated at \$3.3 billion as against only \$0.96 billion in 1974.
- (h) The most recent estimates of official external assistance to agriculture indicated a larger increase in 1977 than had been indicated in the earlier report to the Council. It was now estimated at \$6.7 billion in 1977 as against \$4.8 billion in 1976 and \$5.4 billion in 1975. The 1977 level was therefore 24 per cent above the 1975 level and 13 per cent higher in real terms.
- (i) Accelerated action was required at the country level, and the Council should act as a catalyst to bring together developing and donor countries as well as the appropriate international institutions.
- (j) Several donor countries gave details of their external assistance plans. France, for example, was going to increase its aid to multilateral agencies by 25 per cent. The United States intended to raise its financial aid to food and agriculture by 23 per cent in 1978 and by a further 40 per cent in 1979. West Germany was increasing its financial aid to agriculture by 17 per cent in 1978.

APPENDIX - STATISTICAL TABLES

TABLE 1: World area and population, 1974

	Area (million hectares)		Population (million)	Area per head of population (hectares)	
	Total	Arable		Total	Arable
<u>Developing countries^a</u>					
Africa	2,382	191	310	7.7	0.6
Asia	2,097	348	1,286	1.6	0.3
Other countries	2,151	141	320	6.7	0.4
Total	6,630	680	1,916	3.5	0.4
<u>Developed countries^a</u>					
North America	1,934	250	234	8.3	1.1
Western Europe ^b	385	97	363	1.1	0.3
Other countries ^b	957	66	153	6.3	0.4
Total	3,276	413	750	4.4	0.6
<u>Centrally planned countries</u>					
Asia	1,144	135	865	1.3	0.2
E. Europe and Soviet Union	2,342	279	360	6.5	0.8
Total	3,486	414	1,225	2.8	0.3
World total	13,392	1,507	3,891	3.4	0.4
Of which					
Total developed countries	5,618	692	1,110	5.1	0.6
Total developing countries	7,774	815	2,781	2.8	0.3

^a Market economies.

^b Israel, Japan and South Africa.

Source: FAO Production Year Book 1975.

TABLE 2: World production of basic foods
(million tonnes)

	Average 1966-1970	1973	1974	1975 ^p	1976 ^p
<u>WHEAT</u>					
Developing countries	58	71	72	80	95
Developed countries	119	133	139	143	154
Centrally planned countries	138	173	149	132	169
Total	315	377	360	355	418
<u>COARSE GRAINS</u>					
Developing countries	130	138	144	150	152
Developed countries	261	310	280	313	311
Centrally planned countries	177	228	230	186	241
Total	568	676	654	649	704
<u>RICE (milled)</u>					
Developing countries	69	119	110	125	120
Developed countries	10	15	15	17	15
Centrally planned countries	44	80	89	98	98
Total	123	214	214	240	233
<u>TOTAL CEREALS</u>					
Developing countries	257	328	326	355	367
Developed countries	390	458	434	473	480
Centrally planned countries	359	581	468	416	508
Total	1,006	1,267	1,228	1,244	1,355
<u>MEAT</u> ^a					
Developing countries	18	19	20	21	23
Developed countries	46	52	55	57	60
Centrally planned countries	32	37	39	41	39
Total	96	108	114	119	122
<u>FISH</u>					
Developing countries	24	28	23	22	23
Developed countries	25	20	28	27	28
Centrally planned countries	14	18	19	21	22
Total	63	66	70	70	73
<u>FATS AND OILS</u>					
Developing countries	13	15	16	18	19
Developed countries	17	19	21	18	21
Centrally planned countries	10	10	11	11	11
Total	40	44	48	47	51

^a Beef and veal, mutton and lamb, pigmeat and poultry meat. ^p Preliminary.
Sources: FAO: Commodity Reviews and Commonwealth Secretariat.

TABLE 3: World exports of grain

	1965	1970	1973	1974	1975 _p	1976 _p
<u>QUANTITY (million tonnes)</u>						
<u>WHEAT^a</u>						
World total	56	57	82	65	80	68
Of which Developing countries _b	8	3	4	2	2	3
<u>COARSE GRAINS</u>						
World total	41	49	74	75	76	89
Of which Developing countries _b	8	12	10	14	10	11
<u>RICE</u>						
World total	8	9	9	9	9	10
Of which Developing countries _b	5	4	3	3	3	4
<u>TOTAL GRAINS</u>						
World total	105	115	165	149	165	166
Of which Developing countries _b	21	19	17	19	15	19
<u>VALUE (US\$ million)</u>						
<u>WHEAT^a</u>						
World total	3,466	3,551	8,577	11,074	12,434	10,312
Of which Developing countries _b	459	170	428	390	387	483
<u>COARSE GRAINS</u>						
World total	2,342	2,784	6,667	9,522	10,189	11,100
Of which Developing countries _b	440	627	868	1,620	1,303	1,295
<u>RICE</u>						
World total	1,067	1,229	2,106	3,422	3,106	2,741
Of which Developing countries _b	641	448	581	1,104	945	1,102
<u>TOTAL GRAIN</u>						
World total	6,875	7,564	17,350	24,018	25,729	24,153
Of which Developing countries _b	1,540	1,245	1,877	3,114	2,635	2,880

_a Including flour in wheat equivalent. _b Market economies

_p Preliminary.

Source: FAO Trade Year Books and Commonwealth Secretariat.

TABLE 4: Imports of grain into developing regions ^a

(thousand tonnes)

	1965	1970	1971	1972	1973	1974	1975	1976
<u>Wheat and flour</u> ^b								
Africa	1,744	2,852	3,483	3,743	4,570	4,589	6,278	5,460
Latin America	5,121	5,672	6,282	6,987	8,724	8,579	7,199	9,087
Near East	4,427	4,941	7,842	4,839	5,335	7,786	8,351	7,027
Far East	10,746	8,902	7,779	6,985	11,207	11,511	14,575	13,047
Other developing countries	118	140	142	150	141	129	133	137
Total	22,156	22,507	25,528	22,704	29,977	32,594	36,536	34,758
<u>Rice</u> ^c								
Africa	736	698	869	794	973	980	607	828
Latin America	561	383	470	417	383	682	579	564
Near East	373	469	645	518	468	864	1,004	1,014
Far East	3,787	5,037	4,300	4,769	5,024	3,075	2,992	3,405
Other developing countries	57	77	88	94	108	86	106	104
Total	5,514	6,664	6,372	6,592	6,956	5,687	5,288	5,915
<u>Maize</u>								
Africa	291	391	621	465	464	794	942	740
Latin America	402	1,417	667	907	2,502	2,921	4,033	2,630
Near East	246	260	317	460	423	803	783	926
Far East	370	884	1,041	1,281	1,423	1,257	1,444	1,856
Other developing countries	-	-	-	-	-	1	1	1
Total	1,309	2,952	2,646	3,113	4,812	5,776	7,203	6,173
<u>Other grains</u> ^d								
Africa	261	263	315	326	539	641	549	407
Latin America	304	494	638	930	832	1,644	1,767	1,002
Near East	188	524	952	328	624	577	582	688
Far East	186	125	195	555	1,816	1,388	949	695
Other developing countries	1	1	1	1	1	2	-	3
Total	940	1,407	2,101	2,140	3,812	4,252	3,847	2,795
<u>All grains</u>								
Africa	3,032	4,204	5,288	5,328	6,546	7,004	8,376	7,435
Latin America	6,388	7,966	8,057	9,241	12,441	13,826	13,578	13,283
Near East	5,234	6,194	9,756	6,145	6,850	10,030	10,720	9,675
Far East	15,089	14,948	13,315	13,590	19,470	17,231	19,960	19,003
Other developing countries	176	218	231	245	250	218	240	245
Total	29,919	33,530	36,649	34,549	45,557	48,309	52,874	49,641

^a Market economies.^b In wheat equivalent.^c In milled terms.^d Barley, oats, rye, sorghum and millets

Source: FAO: Trade Year Books

TABLE 5: Value of imports of grain into developing regions^a
(million U.S. dollars)

	1965	1970	1971	1972	1973	1974	1975	1976
Wheat and flour								
Africa	140	224	274	288	540	867	1,135	1,043
Latin America	384	393	460	523	1,078	1,657	1,210	1,568
Near East	309	313	567	366	534	1,709	1,725	1,340
Far East	787	648	573	512	1,360	2,049	2,610	2,032
Other developing countries	9	11	11	14	18	27	26	28
Total	1,629	1,589	1,885	1,703	3,530	6,309	6,706	6,011
Rice								
Africa	96	95	102	101	233	429	236	280
Latin America	85	66	73	65	93	301	247	236
Near East	59	78	99	98	153	504	525	438
Far East	501	758	614	675	1,093	1,174	1,119	988
Other developing countries	10	15	16	17	24	35	40	36
Total	751	1,012	904	956	1,596	2,443	2,167	1,978
Maize								
Africa	21	29	54	34	45	128	151	110
Latin America	31	104	50	67	269	432	606	348
Near East	17	18	24	33	48	137	136	151
Far East	27	66	74	83	130	184	218	240
Other developing countries	-	-	-	-	1	-	-	-
Total	97	217	202	217	493	881	1,111	849
Other grains ^b								
Africa	19	21	26	28	59	92	82	65
Latin America	32	37	47	69	89	242	301	154
Near East	17	31	69	22	73	99	83	109
Far East	12	8	13	41	196	197	156	98
Other developing countries	-	1	-	-	-	-	2	1
Total	80	98	155	160	417	630	624	427
All grains								
Africa	277	369	456	451	877	1,516	1,604	1,498
Latin America	532	600	630	724	1,529	2,632	2,364	2,306
Near East	402	440	759	519	808	2,449	2,469	2,038
Far East	1,327	1,480	1,274	1,311	2,779	3,604	4,103	3,358
Other developing countries	19	27	27	31	43	61	68	65
Total	2,557	2,916	3,146	3,036	6,036	10,262	10,608	9,265

^a Market economies.

^b Barley, oats, rye, sorghum and millet.

Source: FAO: Trade Year Books.

TABLE 6: Estimated supplies and consumption of wheat
(million tonnes)

	Average 1961-62 to 1965-66	Average 1966-67 to 1970-71	Average 1971-72 to 1975-76	1974-75	1975-76	1976-77 ^p	Forecast 1985-86
Developing countries ^a							
Production	48.9	58.2	74.8	72.5	81.4	95.0	111.7
Exports	4.4	2.7	2.9	2.5	3.4	5.9	3.5
Imports	19.7	24.1	31.2	36.1	35.1	31.6	62.0
Apparent consumption	64.2	79.6	103.1	106.1	113.1	120.7	172.4
Stocks ^b	1.0	0.6	0.8	0.8	1.6	1.5	..
Developed countries ^c							
Production	103.7	118.4	132.5	138.7	142.7	153.5	165.3
Exports	44.4	44.2	58.6	60.4	60.6	49.3	82.5
Imports	16.7	17.3	17.6	17.2	14.6	12.7	18.0
Apparent consumption	76.0	91.5	91.4	95.5	96.7	116.9	98.8
Stocks ^d	45.6	51.0	33.1	28.8	36.8	57.5	..
Centrally-planned countries ^e							
Production	101.6	138.4	151.4	148.9	131.7	168.7	221.1
Exports	3.3	6.4	4.3	5.0	1.9	3.8	5.0
Imports	15.0	11.0	16.8	13.0	17.8	14.7	11.0
Apparent consumption	113.3	143.0	163.8	156.9	147.6	179.6	227.4
Stocks	..	..	..	..	..	..	..

^a Near East, Far East, Africa, Latin America. ^b Argentina. ^c Western Europe, Japan, United States, Canada, Australia, New Zealand, South Africa. ^d Australia, Canada, EEC (for 1961-62 to 1965-66, the original six only), United States; end of respective seasons. ^e Soviet Union, Eastern Europe, China. ^p Preliminary.

Sources: FAO: Commodity Review and Outlook 1972-73, 1975-76 and 1976-77 and IBRD: Price Prospects for Major Primary Commodities (1976).

TABLE 7: Estimated supplies and consumption of coarse grains ^a
(million tonnes)

	Average 191-62 to 1965-66	Average 1966-67 to 1970-71	Average 1971-72 to 1975-76	1974-75	1975-76	1976-77 ^p	Forecast 1985-86
Developing countries ^b							
Production	108.9	130.4	139.0	143.5	147.9	152.1	197.0
Exports	7.0	10.4	10.2	12.9	10.0	10.7	15.0
Imports	2.6	4.2	9.6	12.2	11.1	10.1	25.0
Apparent consumption	104.5	124.2	138.4	142.8	149.0	151.5	207.0
Stocks ^c	..	0.2	0.2	0.2	0.2	0.3	..
Developed countries ^d							
Production	219.1	260.8	306.6	279.7	312.9	310.9	398.0
Exports	25.3	31.6	55.4	54.8	61.1	57.5	64.0
Imports	28.8	37.1	44.5	50.1	40.9	48.9	42.0
Apparent consumption	222.6	266.2	245.6	275.0	292.7	302.3	377.0
Stocks ^e	..	48.2	33.7	22.5	23.6	38.5	..
Centrally-planned countries ^f							
Production	142.4	176.9	208.1	230.4	200.3	251.9	278.0
Exports	1.4	1.0	0.7	0.2	2.0	3.3	3.0
Imports	1.6	1.5	11.5	7.2	20.9	12.5	15.0
Apparent consumption	142.6	177.4	219.0	237.4	219.2	261.1	290.0
Stocks	..	..	..	..	..	..	..

^a Maize, barley, oats, rye, sorghum and millet. ^b Near East, Far East, Africa, Latin America. ^c Argentina. ^d Western Europe, Japan, United States, Canada, Australia, South Africa. ^e EEC (for 1961-62 to 1965-66, the original six only), Australia, Canada, United States, and from 1966-67, South Africa. ^f Soviet Union, Eastern Europe, China, North Korea, North Vietnam. ^p Preliminary.

Sources: FAO: Commodity Review and Outlook 1972-73, 1975-76 and 1976-77 and IBRD: Price Prospects for Major Primary Commodities (1976).

TABLE 8: Estimated supplies and consumption of milled rice
(million tonnes)

	Average 1961-62 to 1965-66	Average 1966-67 to 1970-71	Average 1971-72 to 1975-76	1974-75	1975-76	1976-77 ^p	Forecast 1985-86
Developing countries							
Production	93.2	102.8	116.4	114.4	125.1	124.4	161.9
Exports	4.6	3.4	3.1	2.6	2.5	4.4	3.0
Imports	5.0	5.1	6.0	6.0	5.4	5.8	11.5
Apparent consumption	93.6	106.5 ^b	119.2	117.8	128.0	127.2	170.4
Stocks	..	17.8 ^b	11.0	12.0	14.0	..	..
Developed countries							
Production	13.8	15.5	14.6	15.0	16.7	15.1	17.5
Exports	1.5	2.3	2.7	2.6	2.7	2.7	5.0
Imports	1.0	1.1	0.9	0.9	0.9	1.2	1.2
Apparent consumption	13.3	14.3 ^b	12.8	13.3	14.9	13.6	13.4
Stocks ^a	..	7.2 ^b	2.6	1.0	1.0	..	..
Centrally-planned countries							
Production	61.9	68.5	81.3	82.5	90.5	90.7	100.2
Exports	0.7	1.1	1.8	2.2	1.8	1.1	4.7
Imports	0.5	0.6	0.6	0.6	0.7	0.7	-
Apparent consumption	61.7	68.0	80.2	80.7	89.4	90.3	95.4
Stocks	..	..	..	..	..	..	..

^a United States, Japan and EEC.

^b 1970.

^p Preliminary

Sources: FAO: Commodity Review and Outlook 1972-73, 1975-76 and 1976-77 and IBRD: Price Prospects for Major Primary Commodities (1976).

TABLE 9: Estimated supplies and consumption of all grains^a
(million tonnes)

	Average 1961-62 to 1965-66	Average 1966-67 to 1970-71	Average 1971-72 to 1975-76	1974-75	1975-76 ^c	1976-77 ^p	Forecast 1985-86
Developing countries							
Production	251.0	293.1	330.2	330.4	354.4	371.5	470.6
Exports	16.0	16.5	16.2	18.0	15.9	21.0	21.5
Imports	27.3	33.4	26.8	34.3	51.6	47.5	100.5
Apparent consumption	262.3	310.3	360.8	366.7	390.1	399.4	549.8
Stocks	..	..	12.0	13.0	15.8	..	..
Developed countries							
Production	336.6	394.7	453.7	433.4	472.3	479.5	580.8
Exports	71.2	78.2	116.9	117.8	124.4	109.5	153.5
Imports	46.5	55.5	63.0	68.2	56.2	62.8	61.2
Apparent consumption	311.9	372.0	399.9	383.8	404.3	432.8	489.2
Stocks ^b	..	106.4	68.2	52.3	63.4	..	..
Centrally-planned countries							
Production	305.9	383.8	437.5	461.8	422.5	511.3	599.3
Exports	5.4	8.5	6.7	7.6	5.7	8.2	12.7
Imports	17.1	13.1	28.8	20.7	39.4	27.9	26.0
Apparent consumption	317.6	388.4	463.0	474.9	456.2	531.0	612.8
Stocks	..	..	..	..	..	..	..

^a Wheat, maize, barley, oats, rye, sorghum, millet and rice in milled equivalent.

^b Stocks end of season in Australia, Canada, United States and EEC; also in Japan for rice only.

^p Provisional.

Sources: Derived from FAO: Commodity Review and Outlook 1972-73, 1975-76 and 1976-77 and IBRD: Price Prospects for Major Primary Commodities (1976).

TABLE 10: - Consumption of grains
(kg per caput)

	Average 1965-70	1974-75	Projected 1985-86	1974-75 to 1985-86 per cent per year
<u>Wheat</u>				
Developing countries	48	58	68	1.5
Developed countries	114	120	114	-0.5
Centrally-planned countries	129	128	160	2.1
World	89	93	104	1.0
<u>Coarse Grains</u>				
Developing countries	71	73	82	1.1
Developed countries	339	349	434	2.0
Centrally-planned countries	156	191	204	0.6
World	166	166	182	0.8
<u>Rice</u>				
Developing countries	70	70	67	-0.4
Developed countries	18	17	15	-0.9
Centrally-planned countries	57	64	67	0.4
World	54	57	58	0.2
<u>Total Cereals</u>				
Developing countries	189	201	217	0.7
Developed countries	471	486	563	1.3
Centrally-planned countries	342	383	431	1.1
World	309	316	344	0.8

Sources: FAO: Commodity Reviews and IBRD: Price Prospects for Major Primary Commodities (1976).

TABLE 11: International prices of grains
(US dollars per tonne)

	Actual				Projected	
	Average 1970-72	1974	1975	1976	1980	1985
<u>Current prices</u>						
Wheat ^a	66.1	208.7	181.3	149.1	225.0	325.0
Rice ^b	232.2	438.7	382.5	315.5	484.0	679.0
Maize ^c	68.8	154.9	129.0	132.8	156.0	219.0
<u>Constant 1975 prices</u>						
Wheat	116.8	235.8	181.3	146.9		
Rice	406.9	495.7	382.5	310.6		
Maize	122.1	175.0	129.0	130.8		

^a Canadian No.1 Western Red Spring, in store Thunder Bay.

^b Thai milled rice, 5 per cent broken, f.o.b. Bangkok.

^c Up to March 1975 U.S. No.3 Yellow, thereafter optional No.3.

Source: World Bank: Commodity Trade and Price Trends (1977 edition) and (for 1980 and 1985 projections) IBRD: Price Prospects for Major Primary Commodities (1976).

Annex I - The Most Seriously Affected (MSA) Countries

The Most Seriously Affected (MSA) countries are:

Afghanistan, Bangladesh, Benin, Burma, Burundi, Cape Verde Islands, Cameroon, Central African Empire, Chad, the Comoros, Egypt, El Salvador, Ethiopia, Gambia, Ghana, Guinea, Guinea-Bissau, Guyana, Guatemala, Haiti, Honduras, India, Ivory Coast, Dem. Kampuchea, Kenya, Lao, Lesotho, Madagascar, Mali, Mauritania, Mozambique, Nepal, Niger, Pakistan, Rwanda, Senegal, Sierra Leone, Somalia, Sri Lanka, Sudan, Tanzania, Uganda, Upper Volta, Western Samoa, Yemen Arab Republic and Yemen Democratic Republic.

Annex II - The Least Developed Countries (LDCs)

The Least Developed Countries (LDCs) are:

Afghanistan, Bangladesh, Benin, Botswana, Burundi, Cape Verde Islands, Central African Empire, Chad, The Comoros, Ethiopia, The Gambia, Guinea, Haiti, Lao, Lesotho, The Maldives, Mali, Malawi, Nepal, Niger, Rwanda, Somalia, Sudan, Tanzania, Uganda, Upper Volta, Western Samoa, Yemen Arab Republic and Yemen Democratic Republic.

Annex III - The Food Priority Countries (FPCs)

The Food Priority Countries (FPCs) are:

Afghanistan, Bangladesh, Benin, Burma, Cameroon, Cape Verde Islands, Central African Empire, Chad, Egypt, El Salvador, Ethiopia, Gambia, Guinea, Guinea-Bissau, Guyana, Haiti, Honduras, India, Indonesia, Dem. Kampuchea, Kenya, Lesotho, Lao, Madagascar, Malawi, Mali, Mauritania, Mozambique, Nepal, Niger, Pakistan, Philippines, Rwanda, Senegal, Sierra Leone, Somalia, Sri Lanka, Sudan, Tanzania, Uganda, Upper Volta, Yemen Arab Republic and Yemen Democratic Republic.

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