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CHAOS OR CO-ORDINATION?
FOOD GRAINS AND THE THIRD WORLD

A Note by the Overseas Development Institute

Grain foods are a highly important element in people's diets, but especially so in the less developed countries. The percentage of calory intake coming from high carbohydrate foods is 77 in Asia compared with 40 in North America. In the past year the price of grains on world markets has risen sharply and in some cases has more than doubled. While scarcities and rising prices are bad for all consumers, they hit LDCs hardest because their meagre foreign exchange resources are quickly devoured by high prices for products that they must buy, in many cases to prevent starvation. World stocks of grains are now at their lowest for twenty years and while this autumn's record harvests will avert any worsening of the situation, important questions arising from the events of the past year remain: (a) is the situation evidence of an emerging long-run shortage of grain, or is it the result of one exceptional agricultural year, 1972? (b) how likely are the circumstances of 1972 to recur in future? (c) in any event what can be done by national or international policy to protect LDCs from the worst effects of grain shortages?

The world grain markets and LDCs

The most important food grains in world trade are wheat and rice. The so-called coarse grains, maize, barley, sorghum and rye, are consumed as food in many poor countries but enter world trade chiefly as animal feedstuffs bound for livestock in the developed countries. A high wheat price is detrimental to LDCs as they are net importers as a group. The principal exporting countries are the USA, Canada, Australia, Argentina and, intermittently, the USSR: they supply some 90 per cent of world exports. In 1970 LDCs as a group took 45 per cent of world wheat exports (36 per cent in the Table below, whose coverage is incomplete).

Table 1: Wheat imports by selected LDCs (million metric tons)

	70/71	71/72	prelim 72/73	forecast 73/74
Selected Africa ¹	5.6	5.2	5.1	6.1
Selected Latin America ²	3.7	4.3	6.5	5.9
Selected W. Asia ³	3.5	3.8	2.1	3.2
Selected S. Asia ⁴	4.7	4.2	6.0	6.3
Other Asia	3.0	3.1	2.7	2.7
Total	20.5	20.6	22.4	24.2
World total	56.3	55.5	72.6	66.7

1. Algeria, Egypt, Libya, Morocco, Nigeria, South Africa, Sudan and Tunisia.
2. Mexico, Brazil, Chile, Colombia, Peru and Venezuela.
3. Iran, Iraq, Israel, Jordan, Lebanon, Saudi Arabia, Syria and Turkey.
4. Bangladesh, Sri Lanka, India, Indonesia and Pakistan.

Developed countries dominate the market for coarse grains both as importers and exporters, but a number of LDCs are significant exporters, in particular Thailand, Mexico, and Brazil. None of the ten largest importers in 1970 was an LDC. Africa and Asia are on balance net exporting regions and Latin America markedly so. Only the Near East among less developed regions is a net importer. Very high coarse grain prices can, however, lead to some substitution of maize production for wheat production so a high coarse grain price and high wheat price tend to be associated.

LDCs operate on both sides of the rice market, although on balance they are more important as buyers. Some 45 per cent of rice exports come from LDCs and 80 per cent of rice imports go to LDCs. The largest single exporter is Thailand and it and the USA in 1970 supplied 42 per cent of the market. India, Sri Lanka, Indonesia, Malaysia, S. Korea and S. Vietnam have historically been the largest importers among LDCs. In 1970 they took 70 per cent of all imports.

Rising prices for coarse grains are not in general very important to LDCs. Rising rice prices benefit some exporting countries among LDCs, e.g. Thailand and Burma, but the importance of rice as a food crop in many LDCs also means that rising prices imply considerable hardship for their populations. A high wheat price is unequivocally a bad thing for almost all developing countries.

State of the market

International grain markets are peculiarly prone to violent price fluctuations in the face of changes in supply, because of their residual nature. Less than one-fifth by volume of world wheat production is normally traded and less than a twentieth of rice production is traded. So quite marginal changes in production can cause large percentage changes in the availability of grain for export. For example, the Russian wheat crop failure in 1972 meant a decline of 4 per cent in world production, but equalled 22 per cent of world stocks and a quarter of world import requirements.

Considerable upheavals hit world grain markets in 1972 and 1973. In 1970 wheat stocks stood at record levels of 64m tons, a fifth of world production and almost a third more than world exports. A change in the balance of supply and demand came about in 1972 owing to the co-incidence of a number of harvest failures. Whereas adverse and favourably climatic conditions in different parts of the world usually cancel out, in 1972 they co-incided and reinforced each other.

Russia experienced the worst conditions for grain in a hundred years. There was, for example, a wheat crop shortfall of 13m tons. Drought blighted crops in India, South East Asia and Australia. Only North America had a good harvest. The result was a fall in world production combined with an increase in import demand that reduced stocks to their lowest levels in twenty years and doubled many prices.

Table 2: World wheat and feed grain production, trade and stocks
(million metric tons)

<u>Wheat</u>	71/72	72/73	73/74 (forecast)
Production	323.7	307.5	331
Imports/exports	52.0	72.3	66
Stocks	49.5	29.8	31
<u>Feed grains</u>			
Production	547.5	536.0	565
Imports/exports	48.2	52.7	58
Stocks			

Table 3: Prices of wheat and maize
(£ per metric ton)

	1970/71 average	July 1972	July 1973
Hard winter wheat	71.19	66.51	138.89
Northern spring wheat	73.71	69.20	140.01
maize (yellow corn)	69.07	58.37	124.51

The Soviet Union entered the wheat market to buy 18m tons during 1972 and in a notable coup obtained all its requirements in small lots at a low price. China also doubled imports to some 6m tons. India had been moving towards self-sufficiency in wheat production since its disastrous harvest of 1966 and had accumulated wheat stocks of 9m tons. These were exhausted following its 1972 harvest failure and India was forced into the market for several million tons at prices of over £120 a ton - perhaps £40 a ton more than the Russians paid.

The coarse grain price also rose because of heavy importing by the Soviet Union which bought nearly 10m tons. Previously the USSR slaughtered livestock when feed grains were scarce. Having a new policy of expanding livestock production, however, the USSR went in for substantial imports of feedstuffs instead.

The poor weather conditions in Asia also affected the rice harvest. Production fell from 308m tons to 306m tons in 1971 and dropped a further 5 per cent in 1972. The price was low in any case in 1970 as Japan, with a stock equal to five years supply overhanging the market, was selling it off. The dissipation of this stock by 1973 contributed to the recent sharp rise in prices which have more than doubled in a year.

The prospects

The results of corn and wheat harvests just completed appear to be very good, with record crops in North America. Even record harvests, however, are unlikely to cause substantial falls in prices, in view of the stock situation. The large harvests will be needed to meet demand and rebuild stocks. The immediate prospect is of continuing high prices with perhaps small declines from peak levels. Stocks will take several years to recover to 1971 levels.

Prospects for the Indian rice harvest are also good but little can yet be predicted about the South-East Asian rice crop which depends on the current monsoon.

The most exhaustive study of prospects in the longer run remains the FAO study of 1970 which projected that in 1980, if present policies were persisted in and present prices maintained, there would be a surplus in all cereals markets. Making certain assumptions about rates of population growth and economic growth, the FAO projected a surplus of 18m tons of wheat (4.5 per cent of projected world production), 41m tons of coarse grain (5.3 per cent of world production) and 2.6m tons of rice. Clearly 1972 has upset the base of the projection and there is some evidence that world demand for animal feedstuffs may expand faster than in the FAO projection, but the basic reasons behind the projected surpluses, the increase of yields owing to the introduction of high-yielding varieties and the policy of many countries to press for self-sufficiency in cereal production, remain. Assuming reasonably favourable weather conditions - another year like 1972 with world stocks in their present depleted state would be calamitous - the FAO projection for wheat and grain prospects remains as good as any.

The imbalance in the rice market is projected to be much smaller than for other grains - only 1 per cent of production - so that probability of error is greater for this projection. Much rice is still grown in rain-fed conditions, so adverse weather conditions could easily wipe out the relatively small projected surplus. In addition there is considerable uncertainty about the position of rainland China in the rice market.

What is to be done?

While the current situation, therefore, does not indicate a massive long-run deficit in cereals it does point the need for measures to stabilise the supply situation and prevent a repetition of current conditions in the event of bad climatic years. This is particularly important in the rice market, which is less likely to be in long-run surplus than that of other grains and which provides the staple food of the majority of the populations of LDCs, and in the wheat market where LDCs are, and will remain, net importers.

One necessary measure is for LDCs to build up their own stocks. It seems certain now that India, for example, which is aiming at self-sufficiency in rice production, and is projected to be producing fairly consistent wheat surpluses by 1980, will adopt a policy of large-scale stockpiling with wheat stocks of 10 to 12m tons.

A grain reserve

Many consumer countries are now aiming at self-sufficiency in cereals. If the present large commercial producers seek to restore their stocks to the levels of 1970, world stocks may well prove adequate in future. If, for commercial reasons, the producers do not wish to accumulate such large stocks, or if many consuming countries fail to achieve approximate self-sufficiency, however, world stocks will be inadequate. There would then be a case for an international grain reserve. Dr. Timothy Josling of LSE has made a number of suggestions including that such a reserve might be administered by the World Food Program. This was set up some ten years ago jointly by the UN and FAO, and ninety countries have participated as donors of about \$770 million in cash, commodities and services to poor countries.

How big?

It is not clear at this stage what the optimal size of such an international grain reserve would be. That depends both on the probability attached to the recurrence of years like 1972 and on the policy of producing countries with regard to their own stocks. At the moment setting up of additional reserves of grain would be impossible without pushing prices to unheard-of levels. It could be done in a few years' time under easier supply conditions, and meanwhile discussion is required to see how far co-ordination of national stocks is possible and what the additional requirement for a stock under international management is. The exact purpose of the store needs to be specified: is it an emergency reserve to be released as aid in the event of a disaster, or a stabilisation stock to iron out fluctuations in the world grain markets, and thus available to any consuming country perhaps on differential terms according to ability to pay?

A straightforward stabilisation scheme might encounter fewer political difficulties than an aid-financed emergency reserve, but if the needs of LDCs were to be adequately met, certain conditions would be necessary in its administration. A system of priorities would be necessary, giving famine-prone or poorer countries first call on the reserves in a shortage year, and the needs of poorer countries

should also be considered in determining the kinds and grades of grain making up the reserve.

Location

Many advantages would follow from an international body simply financing stock expansion as required in the grain-producing countries. Storing grain in the poorer consuming countries would be more expensive. This is because, firstly, the costs of storage are higher in tropical conditions, where more extensive measures against pests like rats are necessary, and, secondly, because the grain reserve ought to be mobile if it is to have any advantage over stock accumulation by individual countries, and in most of the consuming LDCs the necessary infrastructure and handling facilities to move millions of tons of provisions are lacking.

Against these efficiency arguments two considerations stand out: it seems probable that many LDCs will go in for investment in storage irrespective of any store in, say, North America. And, apart from the preferability of making any requisite capital expenditure in poor countries, it may well be that the siting of a grain store will affect the distribution of benefits between farmers in different countries.

Producers in countries with storage facilities would have an advantage over those elsewhere because of transport and handling costs. For example, if wheat were available from the USA and India, the former would have an advantage over the latter with respect to orders for a reserve store sited in the USA. In addition, poor countries are unlikely to have the handling facilities to make exports unless these are partially provided under an international scheme.

These are reasons, then, for siting regional reserves in selected LDCs. This would certainly be expensive in the case of wheat as no LDC at present has the infrastructure required to make any reserve adequately mobile. In the case of rice, many significant exporters are LDCs and therefore already have basic handling and storage facilities.

Finance

The distribution of the financial burden among parties to an international grain reserve agreement would obviously be the subject of considerable negotiation. Consuming countries where stores were located might be expected to contribute to costs as these stores would probably replace national ones anyway, and their situation would aid domestic farmers. (The actual ownership of the stores would presumably reside with the international administration if the question of priority of access had been satisfactorily settled.)

As the stores and handling facilities would be greater than domestic requirements warranted, however, a large part of the capital and recurrent costs might be financed by the international agency administering the reserve. This could in turn be financed by subscription from interested parties, preferably on the basis of ability to pay. The large grain-producers might make their subscription in the form of initial grain stocks. In some cases this would involve them in little additional cost if production of grain has been held down by acreage limitation payments.

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