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Outlook for the Grain Market

by Nick Butler, London

With all the indications suggesting that the current imbalance between supply of and demand for grain will continue for the foreseeable future, and with a steady surplus both keeping prices down and forcing on governments measures to reduce output and stocks, attention is turning to South East Asia, a region which, due to the rapid growth of both its population and per capita income, seems to offer the best prospects of medium and long-term increases in demand. How realistic are the hopes that South East Asia will be able to absorb a substantial part of the world's grain surplus?

Of all the Third World areas it is South East Asia which offers the brightest prospect of a medium and long-term increase in the demand for grain. In the Latin American region, indigenous supplies and potential are adequate to keep the major countries self-sufficient with a surplus available for export. Africa, though characterized by enormous potential demand, lacks the resources to make that demand effective either by agricultural development or by imports. Even Nigeria, once seen as a possible consumer of substantial quantities of traded grain, is finding that falling oil revenues set a limit to import capabilities. With only one or two exceptions any increase in consumption in the continent will be on the basis of improvements in home production or concessionary supplies.

In India, once a major grain importer, the remarkable advances in production techniques over the last decade have established something close to self-sufficiency as a normal outcome. India will still provide something of an outlet for the world grain trade but only on an irregular and erratic basis, as the balance to internal shortfalls.

By contrast, in South East Asia a combination of circumstances indicates a potential market equal in extent to that provided by the centrally planned economies in the last decade. A handful of countries – Japan, South Korea, the Philippines, Indonesia, Malaysia, Thailand and Singapore could provide the opportunity for trade running into tens of millions of tons of grain each year.

The first factor in the calculation is the rate of population growth. As a whole, the region has one of the fastest population growth rates in the world. Table 1 shows the current and prospective populations on the most recent World Bank estimates.

The figures take account of some decline in the growth rates from those seen in the recent past but still show an addition to the total population of almost 40 per cent over twenty years.

High population growth is not of course a feature unique to South East Asia. What is rare is the combination of such growth with a positive expansion of per capita income in each of the countries concerned over the last twenty years, which is the second factor in the calculation (see Table 2).

The third factor arises from the increase in personal disposable income which is offered by these growth rates. Food consumption levels in South East Asia are still low on average – in some cases barely above the minimum standards of nutritional requirement. Average figures of course conceal wide variations from one area of a country to another and at different times during the year but they do show the general scope which exists for increasing the level of consumption.

Table 3 shows the levels of daily per capita calorie intake on the most recent estimate of the UN Food and Agriculture Organization.

The scope for increased demand associated with current and prospective per capita income, considered in conjunction with the demand arising from population growth itself must strengthen the prospects of the area as the focus of growing food consumption.

Agricultural Sector

From the trader's standpoint the most crucial factor is the way in which food demand will be met both in terms of content and source. In all the countries, including even Thailand which exports agricultural produce, the

growth of the agricultural sector has been sacrificed to the pressures of industrialization for the last two decades. In the 1970s in particular agriculture declined as a source of national income, and as a provider of national food requirements.

Table 4 shows the pattern of change and Table 5 the growth of cereal imports as an indicator of the extent to which increased consumption has been import based, and funded by exports of industrial products and manufactured goods.

The major proportion of any increase in grain demand in South East Asia will come in the form of animal feed use. Rice is so well entrenched as part of the diet and so readily and inexpensively available that there appears to be little prospect of substantial demand for breadmaking wheat. By contrast both the development of living standards and the insecurity of a key element of the present diet make some addition to the total demand for meat inevitable. Meat consumption begins from a low base. As Table 6 shows, fish is still the predominant element in the diet of the region.

Increase in Grain Imports

That combination of factors and hopes is the basis for the optimistic belief of some grain traders, particularly in the United States but also in Australia and Europe, that South East Asia will provide the salvation of an industry which could otherwise remain in a condition of semi-permanent slump relieved only by a major crop failure.

By the end of the century, according to this view, exports to the Pacific nations will dominate the US grain trade. Japan alone will be importing 30 million tons and the other countries perhaps 15 million tons between them. On top of that will be added the Chinese market. Taken together such consumption levels would match at least current US production capabilities.

How realistic is the optimism and what is the timescale involved? To construct even a general forecast one must consider separately each of the factors involved.

Population numbers alone cannot provide an adequate forecasting tool by which to assess future levels of demand. By 1990 the population of the seven countries will be around 480 million, and by 2000 over 550 million, even assuming some slowing of the current rate of growth. Not all, however, will be adding to the demand for animal feed grain through the consumption of meat. In a number of countries such as Indonesia, which will see its population grow by a third in twenty years, tens of millions of people seem certain to remain

Table 1
Population
(millions)

	1982	Average growth rate (% p. a.) 1980-2000	2000
Japan	118	0.4	128
South Korea	39	1.4	51
Indonesia	153	1.9	212
Malaysia	15	2.0	21
Thailand	49	1.9	68
Singapore	3	1.0	3
Philippines	51	2.1	73

Source: World Bank: World Development Report 1984.

Table 2
GDP Per Capita

	GDP growth (% p. a.)		GDP per capita (% p. a.) 1960/82	GDP per capita (US dollars) 1982
	1960/70	1970/82		
Japan	10.4	4.6	6.1	10,080
South Korea	8.6	8.6	6.6	1,910
Indonesia	3.9	7.7	4.2	580
Malaysia	6.5	7.7	4.3	1,860
Philippines	5.1	6.0	2.8	820
Thailand	8.4	7.1	4.5	790
Singapore	8.8	8.5	7.4	5,910
India	3.4	3.6	1.3	260
Egypt	4.3	8.4	3.6	690
UK	2.9	1.5	2.0	9,660
West Germany	4.4	2.4	3.1	12,460

Source: World Bank: World Development Report 1984

Table 3
Calorie Intake
(Calories per capita per day, 1981)

	Nutritional requirement	Actual intake	Actual as % of requirement
Japan	2,340	2,740	117
South Korea	2,350	2,931	126
Indonesia	2,160	2,342	110
Malaysia	2,230	2,662	121
Philippines	2,260	2,318	116
Thailand	2,220	2,303	105
Singapore	2,340	3,078	133
United States	2,631	3,647	138
West Germany	2,625	3,538	133

Source: World Bank. Nutritional requirements are as defined by the FAO.

Table 4
Agriculture in the Economy

	Growth of output (1970-82, % p. a.)		Agriculture as % of GDP	
	Agriculture	Industry	1960	1982
Japan	-0.2	5.6	13	4
South Korea	2.9	13.6	37	16
Indonesia	3.8	10.7	54	26
Malaysia	5.1	9.2	36	23
Philippines	4.8	8.0	26	22
Thailand	4.4	9.3	40	22
Singapore	1.6	8.9	4	1

Source : World Bank.

Table 5
Volume of Cereal Imports
(1,000 million tons)

	1974	1982
Japan	19,557	24,336
South Korea	2,679	5,538
Indonesia	1,919	1,912
Malaysia	1,017	1,447
Philippines	817	1,287
Thailand	97	133
Singapore	682	1,819

Sources : FAO, World Bank.

Table 6
Per Capita Consumption of Livestock Products and Fish
(grammes per day)

	Total	Fish	Meat
Japan	173	89	28
South Korea	66	32	13
Indonesia	20	10	4
Malaysia	111	67	22
Thailand	78	35	26
Philippines	78	34	19
Singapore	167	23	67

remote from the sort of development implied by a westernised agricultural sector – the consumption of meat in processed forms. Demand for animal products will concentrate on the cities and the surrounding areas with many in the rural communities continuing to consume what is available locally through subsistence farming. Efforts to improve the efficiency and productivity of such farming will continue but even the

most committed supporters of that process do not expect to see integrated national distribution networks incorporating every rural community established within the next two decades.

Role of Urbanisation

One of the delineations which the process of development will create within the societies of the region will almost certainly be a sharp distinction in the patterns of food production and consumption between the populations of the urban and the rural areas.

Leaving aside Japan, where a national distribution system does exist, demand for meat products will be concentrated in the cities of South East Asia, many of which are growing to enormous proportions.

It is of course in these cities that the greatest wealth from development will be accruing. By 2000 at least half of the population of South East Asia is likely to be living in urban areas. The growth in food demand will therefore be biased towards livestock products for consumption by the urban population.

The growth of GNP per capita for the urban population is likely to exceed the average for each country. Therefore even if current rates of growth are maintained, income per head in the urban population will rise sufficiently to permit increased expenditure on food.

Income Elasticity of Demand for Grain

The question of whether the rapid growth of the 1960s and 1970s will continue is thus less crucial than it might appear from calculations of individual demand, though it remains important because of the implications which grain imports carry for the balance of payments of every country concerned.

On the assumption that growth rates in the region maintain their levels of the last three to four years – well below the average of the last twenty years but still high in world terms, one might anticipate per capita income growth of 2-3 per cent per annum on average, perhaps 4 per cent per annum in the urban areas. The link to food demand then requires some estimate of the income elasticity of demand – the most difficult calculation of all given the lack of reliable historical data.

Taking such examples as are available, in particular the case of Japan which progressed through a similar stage of development, with comparable levels of per capita income some fifteen to twenty years ago, one can estimate, though without excessive confidence, that the income elasticity of demand might be of the order of at

least 0.8 until per capita incomes reach the level of 3,000 dollars per annum in terms of the figures used in Table 2.

This suggests that overall food demand in the region is likely to increase by at least 3 per cent per annum between 1980 and 1990 and by a further 30 per cent before the end of the century, with the prospect of a greater increase if the distribution of income and income growth were to be more even.

Dietary Changes

Though rice will remain the staple diet, its share of total calorie intake will fall as income is used to buy other forms of food. Meat and fish will provide any improvement in the diet both in terms of quantity and quality. As things stand, fish is by far the dominant source of protein. Over recent years, however, successive reports have cast doubts on the ability of fish stocks to sustain the growth in per capita demand which income and population growth are creating. After rapid growth in the 1960s and early 1970s of well over three per cent per annum, the growth of the world fish catch fell from the mid seventies and is now barely 2 % per year. Table 8 shows the development of fish catches by each of the South East Asian countries.

Table 7
Urbanisation

	Urban population as % of total		Growth rate of urban population (%) 1960-82	Urban population 1982 (millions)
	1960	1982		
Japan	63	78	2.1	92
South Korea	28	61	4.6	24
Indonesia	15	22	3.6	34
Malaysia	25	30	3.3	4
Philippines	30	38	3.6	19
Thailand	13	17	3.4	8
Singapore	100	100	1.5	3

Table 8
Fish Catch

	Percentage growth of total catch 1973-81	Growth of catch 1980-81	Catch 1981 (million tonnes)
Japan	0.7	2.2	10.6
South Korea	6.2	13.1	2.4
Thailand	-0.2	-7.8	1.6
Philippines	3.0	6.0	1.65
Malaysia	7.5	8.0	0.8
Singapore	-1.7	0.4	0.01
Indonesia	4.9	1.2	1.9

As well as the decline in the growth of the fish catches, legal limitations on fishing areas are bound to have a detrimental effect on availability for a number of the countries concerned.

During the second half of the 1970s several of the countries, including Indonesia, Malaysia and the Philippines imposed 200-mile limits to protect their waters. The imposition of such zones by other countries has inevitably meant that for many of the nations dependent on fish a greater proportion of the total catch has to come from inshore waters in the future. The fact that the bulk of the catch still comes from outside territorial waters for each and every country including Japan, makes the general trend towards extensions of territorial limits a continuing threat. Indonesia takes only a quarter of its fish from inshore waters, Thailand 13 per cent and Japan and South Korea less than 2 per cent each.

There is also a clear need identified by each of the various international agencies involved for careful conservation of fish stocks, both in inshore waters and beyond. According to the FAO the 1970s saw a continued increase in the number of fishing grounds being exploited beyond the maximum sustainable yield. The immediate pressures of demand in South East Asia and the Soviet Union in particular have led to public responses from both Japan and the USSR which suggest that the danger of continued overfishing is not yet fully appreciated.

To maintain the proportion of fish in the South East Asian diet at its current level would require an acceleration of the total catch – a trend in sharp contrast to the record of the recent past. Simple lack of supplies, or a rise in prices, is likely instead to force a change in diet. In the more developed countries of the region in particular the cost of maintaining expensive fishing fleets for limited returns may be judged excessive when set alongside the costs of developing new food supplies to meet common needs.

The process may be slowed by reluctance to accept the direction of change but it seems certain that in ten years' time, if not sooner, fish will no longer hold the commanding position in the diet of the region. Pork and poultry rather than beef are likely to supply the balance of demand. Such meat demand as exists is already biased in that direction, and beef has only a minimal share of the market, and of the traditional diet. Most of the beef now consumed in the region is part of the non-commercial food market with animals reared for local consumption only in the rural areas of Indonesia or Thailand.

The most important factor, however, is the lack of availability of suitable grazing land for cattle. Beef production is likely therefore to remain limited and to decline as a percentage of total demand except in the implausible circumstances of an increase in imports of meat products. Feed for poultry and pork will be required and provides the opportunity for the grain trade. Although the development of intensive production is not likely to proceed as rapidly as it has in Europe or the United States, with relatively inefficient production methods leading to additional demand for grain (a higher ratio of feed input to each unit of output), the involvement of Japanese, European and American companies in the sector might encourage the use of the most efficient methods in a relatively short time.

Outlook for the Future

It is legitimate to be wary of over-precise numerical forecasts given the scale of the various uncertainties involved. At present imports into the region are limited and heavily concentrated on Japan which takes 18 million tons of coarse grains and 5 million tons of wheat. In all, the region imports about a tenth of total world wheat trade of 97 million tons, and something over a quarter of world coarse grain trade of 88 million tons. But an orderly progression, with imported grain supplying the needs of a substantial indigenous livestock sector by the end of the century is far from certain or predetermined. First, real balance of payments problems may deny any or all the countries involved the resources necessary to establish a large-scale reliance on commodity imports. Competition for western markets in labour intensive manufactures and in a succession of electronic products is fierce and involves not just the South East Asian countries concerned but also countries in Latin America, parts of Africa and in other parts of Asia. Only a rapidly growing world economy with Europe, the United States and Japan itself open and receptive to trade and economic restructuring will allow all the countries concerned to prosper. Even then, and certainly in conditions short of that rapid growth, there is no guarantee that all the countries of the region will continue in the heady manner of the last decade. One or two may acquire an advantage which attracts capital and concentrates technical progress in a way not envisaged after the general and widespread successes of the last two decades.

Political Instability

Beyond the general problem, individual economies face particular difficulties. The political stability which some economists seem to take for granted cannot be

guaranteed. In the Philippines the events following the assassination of Benito Aquino in August 1983 showed the fragility of a populous society divided by custom and religion.

In Thailand the almost annual changes of government create a sense of normality in disorder but the nature of the surrounding countries and the dependence even now on a few key crops and products means that the sense of order and progress established since the mid seventies could be disrupted badly in particular circumstances. For Indonesia the fall in the price of oil has reduced export earnings and investment capabilities and may have removed one of the elements concealing the iniquities and divisions in a society where the urban-rural distinctions are at their sharpest. Dramatic population growth creates basic requirements for employment, land and food which even the essentially pragmatic Suharto regime will not be able to accommodate if oil export revenues really have peaked. The future of Hong Kong, and the prospects for political stability in continued exported growth in Japan and South Korea are beyond the scope of this study but the air of uncertainty surrounding both in recent years only adds to the risk that the easy answer to the problems of surplus in the grain market offered by continuing dynamic growth in seven or eight countries in one region may be over-optimistic.

Self-sufficiency

The third risk which might arise even if growth persists is that the individual countries of the region will be reluctant to permit the further decline in the level of their self-sufficiency in key supplies. The Japanese literature on the need to avoid import dependence, whether in oil or food, is now substantial and the strength of the argument has been diminished only marginally by the fall in prices.

Given a surplus of rice on the world market each of the countries may choose to restrict imports of grain and to encourage the use of rice through a mixture of tariffs and subsidies.

Imported grain would then remain the exception rather than the norm, and a feature of the diet of the minority rather than a feature of a new staple diet for all.

Economic circumstances in the region and in the rest of the world will be the main conditioning factors. A recovery without a further leap in oil prices would facilitate trade and would encourage a transition to a new pattern of food consumption. Instability or a slump in trade would put imported food beyond the means of many of the countries of South East Asia.