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**India's Evolving Food Economy and Trade Prospects
for Australia and New Zealand**

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INDIA'S EVOLVING FOOD ECONOMY AND TRADE PROSPECTS FOR AUSTRALIA AND NEW ZEALAND

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ABSTRACT

Following a short-lived crisis in 1990/91, major reforms were introduced to liberalise the Indian economy and help it to integrate more freely with the global economy. The period since then has seen many changes in India's economic performance and in its links with the rest of the world. This paper examines how the patterns of India's food production, consumption and trade, as well as and its food security, have been changing in recent times alongside its faster economic growth, greater integration with the global economy and generally rising affluence levels. After a brief overview of India's economic and trade policy reforms and their impact on economic growth and trade patterns since the early 1990s, the paper proceeds to focus on the effects the reforms have had on India's food and agricultural sector. As a side-focus, the observed changes in the production and consumption of the major food items are then linked to India's trade patterns to shed light on its evolving agricultural and food trade with, and future trade prospects for, Australia and New Zealand, both major agricultural exporters. Achieving and maintaining food security has been a major plank of India's development efforts since independence. The book examines how India's strengthening links with the global economy have been affecting its objective of food security.

Key words: India, food consumption, Australasia, trade, demand system

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1. INTRODUCTION, MOTIVATION AND ORGANISATION OF THE STUDY

Since the early 1990s, the Indian economy has been growing rapidly both by its own historical standards and relative to many other economies, developed and developing. This has engendered several structural changes both within the economy and in its relationship to the rest of the world. While the observed transformation in many areas is policy-induced – and desirable – some are more like ‘side-effects’ that need deeper analysis and may call for policies to deal with them. The Indian economy is still largely dependent on agriculture; this dependence is not so much in terms of agriculture’s share in the gross domestic product (GDP) – currently 17 percent, and steadily declining, as the share of services increases. In terms of labour employment and absorption, however, agriculture still accounts for around 60 percent of all employment in the economy (Chatterjee 2008). Agriculture is also significant because of its obvious connection with food security and human nutrition – an issue of national priority since planned economic development began in India in the 1950s.

This paper has three interrelated aims: to examine, first, how India’s recent economic reforms have impacted on its agricultural sector, with particular reference to its food production and distribution; second, how India’s economic growth of recent years has impacted on the patterns of food consumption in urban and rural sectors, and how these changes together have impacted on India’s trade patterns involving cereal and non-cereal food products. A special focus of this objective is to link these changes to India’s trade with Australia and New Zealand, both significant net exporters of food products, to identify the potential growth areas. The third objective of the chapter is to address the wider issue of the impact of India’s increasing global integration, via trade and international investment, to its food and nutrition security.

The paper is organised in the following way: the next section briefly surveys India’s economic reform policies since the early 1990s, and notes some of their major outcomes. Section 3 first takes a quick look at India’s food grains production and availability, per capita, over time; it then examines the impact of the recent reforms on India’s food policy and institutions responsible for implementing these policies. Section 4 considers India’s trade policy reforms since the 1990s; section 5 goes on to analyse how India’s agricultural trade has evolved over this reform period, with a particular focus on how Australia and New Zealand fit into this evolving trade pattern. Section 6 expands on the Australia-New Zealand focus by linking the observed recent changes in India’s food consumption to its imports from these two countries; this enables an assessment of the future trade prospects of the two countries in the Indian market. Section 7 examines the wider issue of India’s food and nutrition security alongside its rapid economic growth and increasing integration with the global economy. The paper ends on the concluding observations of section 8.

2. RECENT ECONOMIC REFORMS IN INDIA

2a. The background and a broad overview

Three decades of planned economic development till the early 1980s saw the Indian economy achieve an annual average rate of GDP growth of around 3.5 percent – the so-called ‘Hindu rate of growth’. Economic policies pursued in the different areas over this period were conservative and protectionist, with the aim of reducing dependence on external trade - imports in particular - and foreign investment. Indeed, as will be shown in section 5 below, these policies have helped India emerge, in recent years, from being a net food importing country to a food exporting one. A curious aspect of this transformation – also to be noted later – has however been a general decline in food security and nutritional standards of many Indians. Some of the unwanted outcomes of the protectionist policies have, over the years, included an overvalued exchange rate; proliferation of inefficient, high-cost, manufacturing industries; high landed costs of essential imported inputs requiring subsidisation of exports to make them competitive; deterioration in agriculture’s terms of trade vis-à-vis industry, and a heavy fiscal burden to sustain the protectionist structure. Although some reform measures were introduced in the 1980s to promote growth and to open up the economy - with moderate success - it was not until the early 1990s, when India faced some serious constraints, that it purposefully made a break from its long-practised policy regime.

As detailed below, it was mainly the high and rising fiscal and the external imbalances that were building up through the 1980s that proved to be the catalyst for the wide-ranging economic reform of the early 1990s. An extensive literature (e.g. Ahluwalia and Little, 1998; Bardhan, 1984, 2006; Bhagwati 1993; Srinivasan 2003) has critiqued these and other aspects of India’s development policies and their outcomes.

Gross fiscal deficits stood at around 10 percent of GDP by the early 1990s. The costs of servicing the debt kept growing too, and reached over 4 percent of GDP in 1990-91. Added to this was the steep rise in oil prices in the period leading up to the Gulf Crisis of 1990, and the exchange rate came under intense pressure as the non-resident Indian (NRI) and other offshore investors started withdrawing their investments with the Indian banks and other financial institutions. India’s foreign exchange reserves declined to a level that could cover no more than two weeks’ imports, and the prospect of India defaulting on short term foreign debt looked imminent. An Extended Financing Facility of US\$4.8 billion was arranged with the International Monetary Fund, and a programme of extensive economic reforms was initiated in 1991. The sum borrowed was soon repaid, but the reforms that radically altered the very ideological basis of economic policy-making in India have continued apace.

2b. The reform package and some broad macroeconomic outcomes

Given the background in which the new policy regime was initiated over the period 1991-93, its aims and scope were largely predictable. These were to: address the structural imbalances that contributed to the large and growing fiscal and balance of payments deficits; begin a process to liberalise international trade and direct investment, including foreign investment;

manage the exchange rate in a manner that helps it to be more responsive to market forces, and to take steps to make the rupee convertible - initially for current account transactions. The details of these policies are well covered in the literature (e.g. Srinivasan 2003, Joshi and Little 1996). Some of the major outcomes of the reforms are noted briefly below.

The growth rate of real GDP from 1992/93 to 1999/2000 was 6.4 percent, rising slightly to around 6.7 percent between 2000/01 to 2003/04, and 8.8 percent between the second quarter of 2003/04 and the second quarter of 2007/08. In the financial year 2005, India achieved a GDP growth rate of 9.2%, which rose slightly to 9.7% the following year, but fell to 8.7% in 2007. Per capita income growth rose to 3.9 percent over the decade to 2002, after a decline in 1991/92. It has continued to trend upwards to reach over 7% in the financial year 2006/07 (Govt. of India 2006-07). Remarkably, this acceleration in growth was achieved without increased inflation over nearly a decade to 2004. In the financial year 2005, inflation, as measured by the consumer price index, rose however to 4.4%, and in the following three years it has accelerated to reach over 8% in July 2008 (*The Economist* 20th September 2008, p. 113), due in some measure to rising prices of food and fuel.

Per capita income is now around US\$2,570 at the purchasing power parity exchange rate (World Bank 2008). A large and growing 'middle class' of some 200 million people with the ability to command a more diverse bundle of consumer goods, including food, has emerged (Bijapurkar 2003). The precariously low foreign exchange reserves, which was the main trigger for the radical policy departure in 1991, has turned quite strong, despite the large trade deficits. The increased flow of foreign capital, both direct and portfolio, as well as NRI remittances has pushed the reserves to over US\$300 billion in March 2008 (Reserve Bank of India 2008). The fiscal deficits of both central and state governments have also been improving, albeit slowly, and currently stands at 6.3% of GDP, including net lending and subsidies to food, fuel and fertiliser sectors and recurrent Pay Commission awards (*The OECD Economic Outlook 83: India*). The achievement on the poverty alleviation front – a vital aspect of all development efforts – is somewhat controversial. The most recent estimates of the World Bank, based on the revised poverty line of US \$1.25 a day, show that around 42% of India's population are poor (World Bank 2008). One rather curious aspect of these findings is that the rate of poverty decline in India was faster (from 59.8% to 51.3%) over the nine years (1981-90) immediately preceding the major reforms, than over the first fifteen years (1990-2005) of the reform which saw the rate decline to 41.6% by 2005. The Indian government estimates however put the poverty figures and their decline over time at much lower levels (see Govt of India 2000, for example).

3. AGRICULTURAL AND FARM SECTOR REFORMS AND OUTCOME

3a. Food grains production – a quick look

A quick look at the changing pattern of India's food economy over the period since the early 1950s would, at this point, be instructive. Indian planners had an almost obsessive concern to achieve self-sufficiency in food. Given the frequency with which India experienced large scale food shortages and famines over the period of British rule, this concern is not difficult

to understand. Over the period 1950/51 to 2005/06 as a whole, India's population grew at an annual average rate of 2.1%, while the production of food grains grew by 2.5 % a year. This led to a steady increase in the per capita availability of food grains and a decline in India's dependence on imported food grains. However, something rather unusual happened over the period since 1990 when India pursued major economic reforms, and achieved a much higher growth rate of GDP. The annual growth of food grains production over the period 1990-2006 fell to 1.2%, against an annual population growth rate of 1.9%, leading to a decline in their per capita availability by some 13% – from a peak of 468 grams a day per head in 1990/91 to 412 grams in 2005/6 (Govt of India 2006; Patnaik 2007).

But, at the same time, India has emerged, more recently, years, as a net exporter of food grains which have come to account for a large proportion of its agricultural exports, thanks in no small measure to WTO-compatible subsidies paid to exporters. We examine India's agricultural trade issues and policies in greater depth below in sections 4 and 5.

3b. Food and agricultural policies and institutions

The economic reform package of 1991-93 did not contain any specific policies for the agricultural sector directly, but changes taking place in other sectors of the economy have had several significant effects on Indian agriculture, both in respect of production and consumption. Two main objectives of agricultural policy in India since the early days of planned development have been to (a) increase food production, and (b) improve food availability for the consumers. The overarching aim of these policies, it is useful to remember, was to ensure food security through mainly domestic arrangements. Policies used to achieve these objectives included (i) the use of minimum support prices (MSPs) via regular and guaranteed procurement of specific food grains; (ii) the use of open market operations to maintain seasonal and year-to-year price stability; (iii) the maintenance of buffer stocks of food grains, and (iv) the use of the public distribution system (PDS) to make food grains available at affordable prices to ensure a degree of food security for poorer people in particular.

The administrative set up to implement these measures consisted mainly of two institutions, viz. the Commission on Agricultural Costs and Prices (CACP), which sets the appropriate MSP, and the Food Corporation of India (FCI) which is responsible for procuring the food grains, at prices that are not below the MSP. The minimum support price, revised annually, for fair-to-average quality (FAQ) grains has been used by the government to procure wheat and rice in the surplus areas during harvest either directly from the farmers or from farmers and millers, the latter through a system of levies on the millers (Jha et al 2007, p.4). The grains so procured are stored by the FCI for distribution to State governments to ensure adequate supplies through the subsidised PDS. Sufficient buffer stocks are maintained by the FCI to support the PDS, and to permit exporting any surpluses, when appropriate.

The economic reforms of the 1990s have resulted in a more open economy that has reduced the protective structure supporting industry. This has helped improve agriculture's domestic terms of trade, thus providing greater incentives for investment in this sector. More importantly, with reduced border controls, the MSPs have, for the first time, started taking

international prices into consideration. The more liberal import regime made the generally-lower domestic MSPs of food grains face more competition from often cheaper imports. This led to intense lobbying by (big) farmers to increase the MSP to protect domestic farming against cheaper imports. The procurement prices of wheat and rice were raised sharply through the 1990s. While this benefited a small proportion of farmers who received the higher MSPs, it had a seriously detrimental effect on the consumers who faced a sharp rise in the prices of wheat and rice, their staple diet.

One consequence of this rather perverse incentive structure in an economy seeking to become more open had been burgeoning buffer stocks of wheat and rice procured at raised MSPs. At the same time, wholesale and retail prices of wheat and rice in the private markets rose through the 1990s as larger government procurement combined with a stagnant per capita production of these crops started having their impact. All this have combined to result in the ominously paradoxical development of a decline in per capita cereal consumption, against the backdrop of India's faster economic growth, as will be analysed below. These developments have been addressed in a number of studies (Chand 2005, Radhakrishna 2005, Landes and Gulati 2004, Ray 2008). In more recent times, however, wheat and rice MSPs have experienced smaller nominal annual increases, and an actual decline, in real terms, of 14% and 11% in wheat and rice MSPs respectively since 2001 (Jha et al 2007, p.7). Nevertheless, growth in wheat and rice outputs and government procurements have continued to slow, and trade in food grains to fluctuate rather dramatically in recent years, as will also be noted later. All this have been compounded by the rise and fall of the rupee against most major currencies over the last few years causing landed costs of imported grains to, also, fluctuate. The impact of all these changes is dealt with in appropriate sections of the paper.

4. AGRICULTURAL TRADE POLICY REFORM

4a. A gradualist approach to freeing up agriculture

The wide-ranging economic reform policies introduced in 1991 included, in addition to already-noted exchange rate depreciation, and partial convertibility of the rupee for current account transactions, reduction in canalisation (i.e. importation via the state monopolies) of exports and imports; selective abolition of import controls; abolition of export control on all but a few selected items, and expansion in the number of items available for easier foreign participation and investment with less stringent regulation. These initiatives signalling the change in policy-intent, was followed in 1992 by a detailed export-import policy package covering the period up to 1997. The reforms to be implemented in this period included the aim of eliminating restrictive licensing arrangements, and reducing quantitative restrictions (QR) on imports and exports generally, and reducing basic tariffs significantly. With the exception of the items on banned, restricted, and state monopoly lists, all products could be freely imported without needing a licence. The reduction in the weighted average tariff rates was sizeable – from over 72 percent in 1991-92 to around 25 percent in 1996-97. Maximum tariff rates, likewise, have been reduced in steps from over 300 percent to about 40 percent for most items, with reductions in countervailing duties too.

4b. International commitments and agricultural trade liberalisation

Agricultural trade barriers, not addressed in the 1991 package, have also come to be gradually reduced in the subsequent trade policy changes. India's agricultural tariffs are *ad valorem*, and the simple average of bound tariffs was 115% in 2004, trade-weighting raise this to 159%. Applied tariffs however average 59%, making the binding overhang high (Gopinath and Laborde 2008). The specific changes affecting agricultural items include curtailment of the regulatory activities of the State Trading Corporation, enhanced market access for many agricultural items through the removal of quotas; easing of tariffs and of licensing arrangements, and allowing private sector participation in the import of food items.

Under the URRA of 1994, India proceeded to address issues affecting market access, domestic support, export competition, subsidy and sanitary and phytosanitary standards (SPS) to liberalise agricultural trade. The bound rates of agricultural tariffs came to be set between 0 and 100 percent for primary products, 150 percent for processed products, and 300 percent for edible oils, later reduced to 100 percent. Having lost the balance of payments waiver that permitted trade restrictions, India proceeded to accelerate the removal of QRs. By April 2001, India completed the removal of QRs on agricultural imports (www.ers.usda.gov/Briefing/India/policy.htm), thus making it possible now to import virtually all items subject to the applicable tariffs and to SPS. The average bound tariff for agricultural items in the year 2002/03 was 115 percent, with a much lower applied tariff rate of 33 percent. Peak tariffs for non-agricultural imports have been reduced from 30 percent in 1991 to 12.5 percent by 2006. To protect the small farmers and small scale agribusinesses, tariffs on agricultural products had not initially been reduced quite so dramatically, but tariffs on many agricultural products are now set well below the WTO bound rates. For example, applied rates on pulses, wheat and corn are set at 0 percent (as at January 2008) – against bound rates of 100 percent for the first two items, and 70 percent for corn. Likewise, the applied rate for oilseeds is 30 percent, against its bound rate of 100 percent. Only in respect of rice the applied rate is the same as the bound one, at 70 percent (Landes 2008).

4c. New Initiatives to promote agricultural exports

To achieve better export outcomes, Indian trade policies in recent times have included export incentives of different types. Thus, imported inputs required in an exporting activity are liable for a lower import tariff; export restrictions on most products have been removed, and some exports are given subsidies permitted under the WTO rules. Government support for infrastructure and finance is also made available to set up export-oriented agro-processing zones. To assist export promotion, Special Economic Zones (SEZs) are being created where export-oriented production will be permitted under relaxed rules for import and foreign collaboration

The trade policy announcement covering the period 2004-09 emphasised the need to boost India's export performance with the aim of doubling the share of global trade to 1.7 percent by 2009. Reduction in tariff rates and streamlining of procedures to reduce transaction costs would be used to achieve these goals.

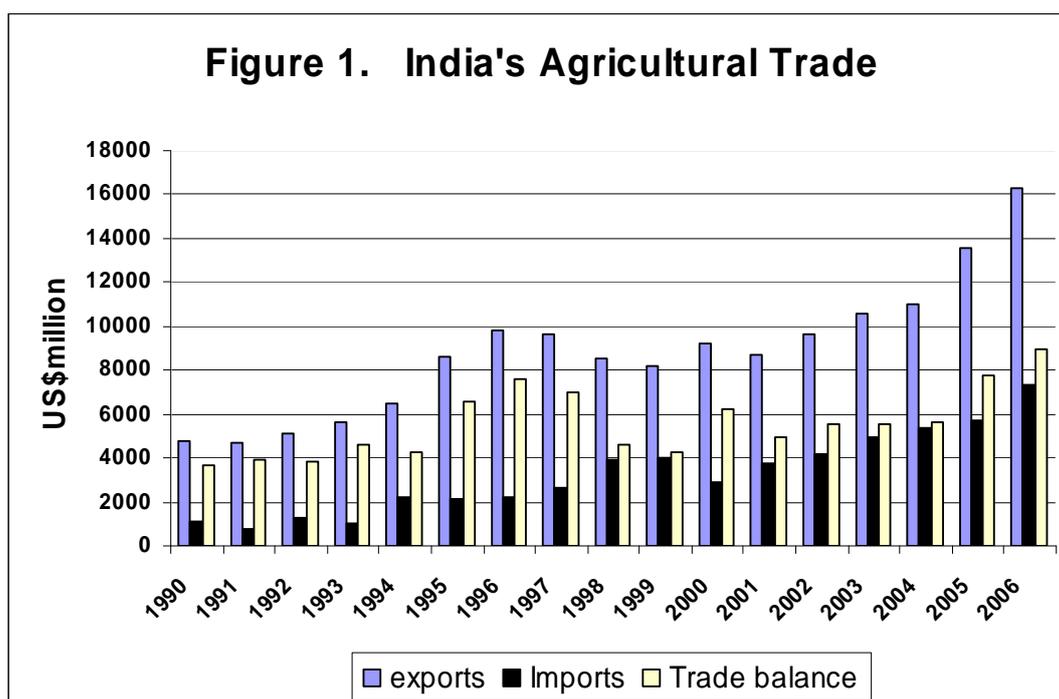
In the agricultural areas, new schemes to boost exports of fruits, vegetables, flowers and minor forest products have been announced. Foreign investment of up to 100 percent will be allowed to set up and develop free trade and warehousing zones (FTWZs) with the aim of making India a “global trading hub”.

Table 1: India’s total trade (US\$million)

Year	Exports		Imports		Trade Balance	
	Total	% Agr & Food ^a	Total	% Agr & Good	Total	Agr & Food
1990	17940	26.6	23799	4.5	-5859	3685
1991	17900	26.0	19509	3.8	-1610	3909
1992	20711	24.7	24452	5.2	-3741	3826
1993	22237	25.2	23304	4.4	-1067	4569
1994	26330	24.5	28655	7.7	-2325	4255
1995	31699	27.3	36592	5.7	-4893	6547
1996	33469	29.4	39113	5.8	-5644	7587
1997	34794	27.7	41429	6.4	-6636	6985
1998	33207	25.6	42425	9.2	-9218	4616
1999	36672	22.4	49713	8.0	-13042	4257
2000	45250	20.3	51377	5.7	-6128	6264
2001	44306	19.7	51908	7.3	-7602	4957
2002	52471	18.4	61118	6.8	-8647	5510
2003	63035	16.8	77201	6.5	-14166	5570
2004	79834	13.8	108248	5.0	-28414	5629
2005	103404	13.1	149750	3.8	-46346	7803
2006	126126	12.9	185385	3.9	-59259	8943

^a Agr & Food = HS01-24 + HS41 +HS51 + HS52.

Source: *COMTRADE* as reported by India.



Source: COMTRADE

5. FOOD AND AGRICULTURE IN INDIA'S TOTAL TRADE

5a. Growth in total trade and trade in agricultural products

India's international merchandise trade has expanded considerably since the policy reforms of the early 1990s. Between 1990 and 2003, total trade more than tripled, from \$41 billion to \$140 billion (Table 1). Imports grew slightly faster than exports over this period, and India's trade deficit increased from \$5.9 billion in 1990 to over \$14 billion by 2003. Between 2003 and 2006, merchandise trade grew at an even faster rate, exports doubling and imports growing by over twice, making the trade deficit widen more than fourfold in three short years.

India's trade in agricultural commodities also grew rapidly over this period, although not quite as fast as total trade. Agricultural trade showed an increasing surplus since 1990, with growth in both exports and imports. Total agricultural trade had increased from \$5.8 billion in 1990 to \$15.7 billion in 2003; over the next three years, this upward trend accelerated, and total agricultural trade reached over \$23.4 billion (Table 1 and Figure 1). Exports of agricultural commodities grew at a slower pace than did total exports, and its share of the latter declined from almost 27% in 1990 to 17% in 2003, and a further four percentage points by 2006. Agricultural imports, in contrast, grew more rapidly than did total imports and agriculture's share of total imports rose from under 5% to almost 7% over 1990-2003, but declining over the next three years to less than 4%, despite the significant increase in the absolute value of agricultural imports in that period (Table 2, Figure 1). This of course was the consequence of the very rapid growth in total imports from 2003 to 2006.

Agriculture's trade balance (surplus) had been showing a declining trend since peaking in 1996, reflecting the strong growth in agricultural imports since that time. It improved however over the three years to 2006, despite the continuing increase in the value of agricultural imports (Table 1, Figure 1). There have however been some rather unexpected developments in regard to India's cereal production, procurement and trade in recent times. These have, potentially at least, serious long term implications for India's food and nutrition securities. We address these issues in section 7 below.

Our demand analysis reported below points to increasing consumption shares of dairy products, other animal products, processed foods, and fresh fruits and vegetables as food expenditures rise. To what extent are these trends observed in India's recent patterns of agricultural imports? This is the issue we examine below.

5b. The consumption-import nexus in agricultural trade: a first look at Australasia as India's trade partners

We find that edible oils (HS15) have been India's major agricultural import since the mid-1990s, comprising over 40% of India's total agricultural imports since 1998 (Table 2). The major products within this commodity group in 2003 were palm oil (71% of total imports of HS15 – the principal suppliers were Indonesia and Malaysia), and soybean oil (22% of HS15 imports - Argentina and Brazil were the main suppliers). It is worth noting that India reduced the duty on crude edible oil to 15% in August 1998, and, in the year 1998-99, edible oil imports registered an increase of 111% over the previous year (from 2.2 to 4.4 million tonnes), making India the largest vegetable oil importer, ahead of China (Jafri 2008). As a share of agricultural imports, the category HS 15 has however been on a declining trend since 2003, reaching 31% in 2006. There have been further reductions in the applied tariff rates on a number of items of edible agricultural imports, including edible oils, pulses and maize, in early 2008 (Landes 2008), ostensibly to cushion the impact of rising inflation. How these come to affect imports of these items would remain to be seen.

The other major import commodity group has been pulses (lentils, chickpeas, dry peas etc). Taking edible oils and pulses together, India has emerged during the 1990s as the world's major importer of these commodities. Here too, setting India's applied tariffs well below WTO's bound rates has been a major factor in the observed import surge. Non-food agricultural commodities accounted for around 20% of India's agricultural imports in recent years, with cotton being the major single commodity in this group. Along with edible oils, cotton is one of the few groups shown in Table 2 whose share of total agricultural imports has tended to increase since 1990, peaking in 2001. Since then however, its share has been on a declining trend, reaching 6.4% by 2006. Given the predominance of edible oils in India's recent agricultural trade - which, despite the recent decline in its share, is still the single largest item of agricultural import - the principal suppliers of those products have also been the major sources for India's agricultural imports.

As indicated by the limited volume of imports, despite increasing consumption, India has managed to remain largely self-sufficient in dairy and other animal products, and in fruits and vegetables, over the 1990s. This is in line with India's long-standing policy of

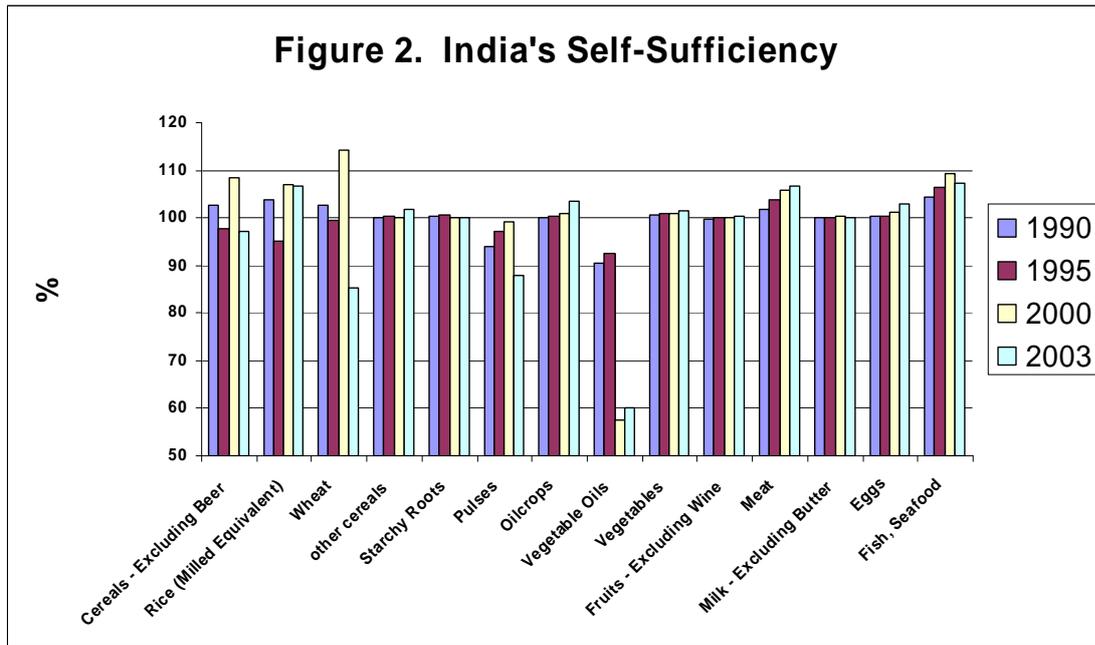
minimising trade dependence in respect of foods and some other selected items. Thus, imports of these products make up a very low share of total food imports. Fruits made up 9% and processed foods 6% of total agricultural imports in 2003. These shares had fluctuated around a declining trend until 2001, but have since then been on an upward trend reaching over 11% by 2006. However, dairy products had only a 0.6% share of total imports in 2003; and for meat and fish, and vegetables other than pulses, the shares were much lower still. These are no higher over the next period although imports of these products from Australasia offer a slightly different picture, as we discuss below.

Table 2: Composition of India's agricultural imports (%)

Year	Animal /Veg Fats	Hides, Skins	Wool	Cotton	Pulses	Fruit & Nuts	Cereals	Other Processed Foods	Other ^a	Total
	HS15	HS41	HS51	HS52	HS0713	HS08	HS10	HS9, 16-23		
1990	18.5	9.8	12.2	2.9	27.3	12.2	3.1	9.8	4.2	100
1991	18.6	10.1	12.9	2.3	16.2	19.9	0.6	13.5	5.8	100
1992	8.6	7.2	10.5	8.0	10.2	17.0	23.6	10.5	4.4	100
1993	10.7	10.9	12.9	2.4	18.1	21.6	5.6	12.7	5.1	100
1994	12.7	5.4	6.3	8.3	9.0	14.6	0.1	40.8	2.9	100
1995	36.2	6.3	8.6	8.6	10.1	15.5	0.2	10.1	4.5	100
1996	42.1	5.8	9.0	1.6	11.8	14.3	5.1	7.1	3.3	100
1997	33.8	5.5	7.2	2.5	12.9	13.6	10.0	11.3	3.1	100
1998	51.9	3.8	3.4	3.8	4.9	10.0	7.2	12.1	2.9	100
1999	52.5	3.8	3.1	7.9	2.3	10.4	5.3	10.8	3.9	100
2000	51.5	6.6	3.8	10.1	3.8	13.4	0.3	6.8	3.6	100
2001	42.0	5.8	3.8	12.8	18.6	6.7	0.0	7.2	3.2	100
2002	47.4	4.8	4.7	8.3	14.7	9.4	0.0	7.3	3.4	100
2003	51.2	4.5	4.8	9.6	11.1	9.4	0.0	6.2	3.2	100
2004	45.9	4.9	4.3	8.0	8.0	11.6	0.0	13.9	3.4	100
2005	40.1	5.2	4.6	7.7	11.0	13.8	0.0	13.7	3.7	100
2006	31.0	5.1	3.9	6.4	13.8	11.3	17.7	7.1	3.9	100

^a Other includes live animals, meats, dairy, fish etc.

Source: *COMTRADE* as reported by India

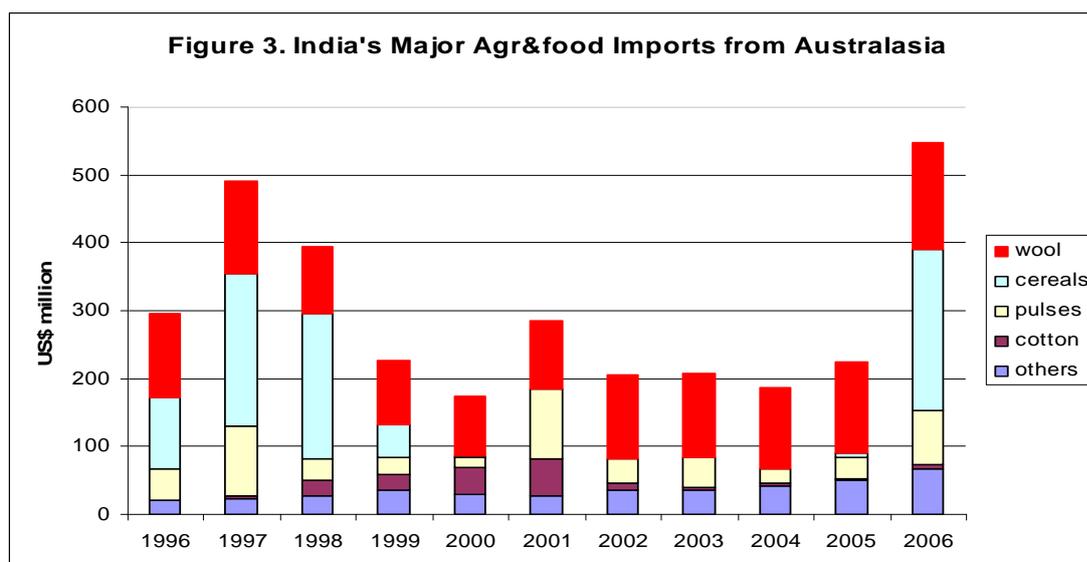


Source: FAO food balance sheets. Self-sufficiency = production/domestic supply including net imports.

5c. India's agricultural imports from Australasia

Since the early 1990s, India's agricultural imports from Australia and New Zealand, both in value and share terms, had shown declining trends. Combined, both countries contributed 20% (US\$260 million) of India's imports in 1992, but just 4% (\$208 million) by 2003 (Table 3); perhaps not surprising as India's import growth has been driven by increased demand for, primarily, vegetable oils and pulses. In the three years from 2003 to 2006, however, the total value of imports from Australasia has been on an increasing trend; their share too had increased - marginally from 2004 to 2005, and then jumped sharply in 2006. This, last, change has been helped, to some extent, by the increase in India's cereal imports from Australia from under a million dollars, on average, in 2000-03, to \$81 million, on average, in 2003-06. As already indicated, this aspect of India's agricultural trade is addressed later in the paper. When viewed against the observed proportionate decline in India's agricultural imports overall from 2003 to 2006, the steady improvement in the share of Australasia in this market is particularly impressive. Even if we leave out the impact of cereal imports from Australia in 2006, both countries saw their exports to India trending significantly upwards from 2003 to 2006; Australia gaining a 187% (138% without cereals) increase, and New Zealand 65% in three short years (Table 3 and Figure 3).

By commodity, the major agricultural imports from Australasia are mainly non-food – wool, cotton, and hides and skins, but also pulses. These four commodities accounted for 90% of India's total agricultural imports from Australasia on average over 2000-2003 (Table 4), declining to just over 65% in the next period. This trade has been a fluctuating one however, with wool exports to India varying between \$88 and \$137 million, and cotton between almost zero and \$54 million, since 1995. Of the food items other than pulses, over recent times, cereals have only been important during the mid-1990s (and again in 2006), when Australia increased its wheat exports in response to India's domestic shortfalls.



Source: COMTRADE.

Table 3: Australasia's share of India's agricultural imports

Year	Total imports (US \$million)	From: (US \$million)		Australasia's Share of Total (%)
		Australia	New Zealand	
1990	1083	134	46	16.6
1991	750	64	42	14.1
1992	1283	223	37	20.3
1993	1032	109	43	14.7
1994	2199	119	41	7.3
1995	2099	110	39	7.1
1996	2251	255	46	13.4
1997	2658	455	41	18.7
1998	3890	378	45	10.9
1999	3967	205	49	6.4
2000	2930	138	41	6.1
2001	3780	238	48	7.6
2002	4142	160	47	5.0
2003	4989	168	40	4.2
2004	5377	142	44	3.5
2005	5741	175	50	3.9
2006	7306	483	66	7.5

Source: COMTRADE as reported by India.

Of the foods that have shown an increasing share of Indian household expenditures – fruits, animal products, including dairy, and processed foods – imports of these from Australasia totalled \$16.7 million, on average, over 2000-2003, or just 7.6%, of India's total agricultural imports from Australasia (Table 4). The performance of these items improved over the next three years in both absolute terms and relative - reaching \$31.5 million or nearly 10% - of India's total agricultural imports from Australasia. In absolute terms, the three items – fruits, other processed food and meat and fish – have continued to perform significantly better over the time period covered in Table 4. In share terms, two out of the three items registered steady improvement, while the item other processed food had a slight decline in the period 2003-06. Instability in India's annual imports of these foods from Australasia is evident since 1995 – such imports fluctuated between \$0.7 million to \$18 million for dairy, between \$0.03 million and \$16 million for fresh fruit and nuts, from \$1.3 million to \$15 million for processed foods, and between zero and \$0.60 million for meats and fish. These increases are encouraging signs for the prospects of food-exporting Australasia in the fast-growing Indian market in areas where domestic consumption is likely to keep growing too. Their shares, admittedly, remain small, indicating perhaps the degree of competition exporters face in a more-open Indian agricultural import market.

Table 4 also shows Australasia's performance in the non-food agricultural imports of India. Between 1996-99 and 2004-06, Australasia's share of India's wool imports has fallen from 71% to 53%, from 68% to 19% for cereals, from 23% to 6% in the case of pulses and from 54% to 29% for dairy products. To the extent that these broad commodity aggregates are differentiated by country of origin, this could reflect changes in India's consumer preferences. But loss of market share could also indicate loss of competitiveness, or India's trade preferences, or increased competition from subsidised exports from elsewhere.

Table 4: India's recent agricultural imports from Australasia by commodity

Commodity	Imports from Australasia (US \$ mill)			Australasia's Share of India's Total Imports (%)		
	1996-99 ave.	2000-03 ave.	2004-06 ave.	1996-99 ave.	2000-03 ave.	2004-06 ave.
All agriculture	368.6	220.1	319.9	12.3	5.7	5.2
Wool	113.1	109.8	137.4	71.0	66.3	53.0
Cereals	147.9	0.8	81.0	68.0	31.5	18.7
Pulses	51.1	48.8	44.3	22.8	10.4	6.4
Cotton	13.1	27.4	4.2	7.6	7.2	0.9
Hides & skins	12.1	13.5	16.0	8.5	6.4	5.2
Dairy	8.1	6.9	4.7	53.5	50.9	29.0
Fruits & nuts	4.1	6.2	14.4	1.1	1.7	1.9
Other processed food	1.9	3.5	12.0	0.8	2.0	1.8
Meat & fish	0.1	0.1	0.4	0.8	0.8	1.7

a. Dairy = HS0401-0406 + HS2105 + HS3501-3502; Meat & fish = HS02 + HS03; all other commodities defined as in Table 2.

Source: *COMTRADE* as reported by India.

6. GROWING AFFLUENCE, CHANGING FOOD-HABITS AND TRADE PROSPECTS FOR AUSTRALIA AND NEW ZEALAND

6a. Rising incomes and changing food habits in rural and urban India

Since the changing nature of consumer preferences in India has significant implications for its trade patterns, especially in agricultural products, as indicated above, it is useful to relate the observed changes in food preferences to changes in household incomes, and assess how they might be influencing Australasia's trade in the Indian market. An extensive and readily available literature records the pattern of changes in India's food consumption in recent decades (for example, Chatterjee et al 2006 and 2007; Kumar and Mathur 1996; Meenakshi and Ray 1999, Ray 2008, and Suryanarayanan 1997). We use the findings of some of these studies to focus on our own investigation here.

Empirical work involving the structural shifts in India's consumption patterns usually make use of the wealth of household level information contained in the regularly conducted National Sample Surveys (NSS). These Surveys report, amongst other information, the monthly per capita consumption of the principal food items by rural and urban households, and also the expenditure shares of the households on the food items. We use, selectively, the findings of Chatterjee et al 2006 and 2007, and Ray 2008, to investigate the nature of the changes in India's food consumption patterns over the period, 1987/88 to 2001/02, which includes the first decade of India's recent economic reforms. The datasets used in these studies are from the 43rd (July 1987 to June 1988), and the 57th (July 2001 to June 2002) rounds of the NSS.

Table 5 reports the changes in the monthly per capita consumption (kgs.) of the principal food items between 1987/88 (Round 43) and 2001/2 (Round 57) in the rural and urban areas respectively. The following features are worth noting. First, cereals consumption is generally much higher in the rural areas than in the urban, mainly due to the higher consumption of rice by the rural household. The reverse is the case for meat/fish/eggs and fruits/vegetables. Second, there has been a marked decline in the consumption of all the cereal items over the period, 1987/88 – 2001/2, in both rural and urban areas, with the reduction being particularly sharp in case of the smaller cereal items. Third, there has been a switch in preferences towards non-cereal items such as meat/fish and fruits/vegetables. The figures reported in Table 5 are all-India average values; Ray 2008 reports these averages for the States, and they reveal a similar picture.

As the lower part of Table 5 reports, the food expenditure share is generally higher in the rural household than in the urban and, in most cases, this differential increased sharply during the period. In view of the Engel's Law, which postulates an inverse relationship between a household's budget share of food and its aggregate expenditure outlay, the latter feature suggests a differential income growth between the rural and urban areas over the 1990s, the latter achieving higher income growth.

Table 5: All-India Mean Consumption and Expenditure Shares

Food Items	Urban			Rural		
	1988	2002	Change (%)	1988	2002	Change (%)
	(Round 43)	(Round 57)		(Round 43)	(Round 57)	
<i>Consumption/Capita (kg/30 days)</i>						
Rice	5.65	4.85	-14.2	7.35	6.79	-7.7
Wheat	4.57	4.03	-11.70	4.80	4.05	-15.7
Other Cereals	0.83	0.56	-32.5	2.59	1.38	-46.8
Total Cereals	11.05	9.44	-14.5	14.74	12.22	-17.2
Pulses	1.06	0.86	-18.8	0.97	0.77	-20.9
Dairy	4.52	5.25	16.2	3.34	3.94	17.9
Edible Oils	0.56	0.69	23.6	0.35	0.51	45.4
Meat/Fish/Eggs	2.01	2.49	23.8	0.91	1.50	65.6
Veg/Fruit	11.46	13.44	17.3	6.99	9.48	35.6
Sugar/Spices	1.63	1.46	-10.4	1.53	1.34	-12.7
<i>Share of Total Food Expenditure (%)</i>						
Rice	16.33	14.06	-13.9	24.97	21.32	-14.6
Wheat	9.07	8.70	-4.1	10.99	9.58	-12.8
Other Cereals	1.80	1.18	-34.4	5.87	2.83	-51.7
Total Cereals	27.20	23.94	-12.0	41.83	33.73	-19.3
Pulses	6.16	5.66	-8.1	6.48	6.31	-2.6
Dairy	13.23	15.71	18.7	9.87	12.02	21.8
Edible Oils	8.65	6.55	-24.4	7.41	6.53	-11.9
Meat/Fish/Eggs	5.37	5.58	4.0	4.27	5.34	25.1
Veg/Fruit	12.29	15.03	22.3	10.32	14.56	41.1
Sugar/Spices	8.12	7.44	-8.4	8.73	8.36	-4.2
Processed Food	13.59	13.49	-0.7	8.28	9.31	12.5
Beverages	5.38	6.61	22.8	2.83	3.83	35.5
<i>Share of Total Expenditure (%)</i>						
All Food	66.1	50.0	-24.4	72	60.9	-16.1

Source: Own calculations based on NSS Rounds 43, 57.

While some, such as Rao, C.H. (2005), have interpreted these movements as evidence of urbanisation and increased household affluence, others such as Mehta and Venkatraman (2000), have argued that such changes have been involuntary, reflecting the loss in access to common property resources by the rural poor. Whatever the underlying factors causing these changes, these have led to significant declines in calorie consumption, as Chatterjee et al 2007 and Ray 2008 also report.

These findings imply that, with increasing affluence, Indian consumers' demand for non-cereal food items will keep increasing and, at least a proportion of the increased demand, would need to be sourced from imports, and are therefore of interest to food exporting countries like Australia and New Zealand.

To ascertain how much of these observed changes has been due to changing food habits and preferences, rather than to inflation and changing relative prices between the food constituents, Chatterjee et al 2006 conducted an econometric investigation into household demand patterns, using the Quadratic Almost Ideal (QAI) Demand System. The econometrics of the actual estimation procedure (detailed in Chatterjee et al 2006) is not of direct relevance to the discussions here, so only the relevant results derived from the estimation are used below to shed light on the trade prospects of Australia and New Zealand in the Indian market as the Indian economy continues to grow, and its general level of affluence to improve.

6b. Expenditure elasticities and marginal household budget shares of food items

The QAI demand system estimates for elasticities, based on data from NSS rounds 43 and 55 (these two rounds are both "thick" rounds, i.e. based on large samples, and therefore mutually comparable) for 17 major States, show considerable agreement on the main qualitative features of the results amongst these States. The expenditure elasticities for urban households exceed unity for processed foods, meats, fish and eggs, and dairy products, while those for vegetables and fruits, and beverages, are close to unity. The cereals had the lowest elasticities. The conditional elasticity of processed food in 2002 was almost double its 1988 estimate, the result possibly reflecting increased mean incomes over the period. The findings are somewhat similar for rural households, with above-unity elasticities estimated for dairy products, meats, fish and eggs, processed food, wheat and beverages. For this collection of foods, the 2002 elasticities, with the exception of meats, fish and eggs, were greater than their 1988 estimates. As with urban consumption, the lowest elasticities were for traditional cereals, which were also considerably lower than the 1988 estimates.

Marginal expenditure shares for each food item are given by the product of the conditional expenditure elasticity and the expenditure share. The computed results indicate how consumption patterns may continue to evolve in the future as food expenditures rise. For a given increase in food expenditures of urban households in 2002, the largest shares of that increase are estimated to be allocated to dairy products

and processed foods, followed in importance by vegetables and fruit, rice and meats, fish and eggs.

The results are rather similar for rural households, with the largest share of the increase allocated to dairy products, followed by rice, processed foods, For urban households, the marginal expenditure share for processed foods doubled from 1988 to 2002. In rural regions, the marginal shares increased noticeably for dairy, processed foods, fruits and vegetables and for wheat.

Given that the unequal distribution of income in both rural and urban India has not lessened noticeably through the period of economic reform and faster growth, it is helpful to gain some insight into the demand responses of households at different income levels. Expenditure elasticities for selected items of food were therefore computed by deciles of income from three regionally distant States, with different food habits. The elasticity estimates reveal some common features, despite the regional differences in food consumption. The expenditure elasticities of rice and wheat decline sharply as one moves up the decile groups, with these items displaying mild inferiority at the top decile. This may provide a partial explanation for the observed diversification of food habits away from rice and wheat over the 1990s, since over the reforms period, the higher decile groups experienced greater income increases than those in the lower deciles. In contrast, the non-cereal items - dairy and meat, fish and eggs - have high elasticities right across the decile spectrum. This suggests an explanation of the significant increase in their consumption over the 1990s, as alluded to earlier.

6c. How might Australia and New Zealand fit into India's growing food market?

These results clearly identify the consumption items that experienced the largest shares of the observed increase in food expenditure, and had the highest expenditure elasticities. These are dairy products, processed foods, meat, fish and eggs, and fruits and vegetables. In all likelihood, as the general level of affluence keeps improving over time, India's food consumption patterns will keep changing along similar lines – a more varied diet, with more non-cereal foods. With an established land use pattern and limited surplus land in India, such increases must be largely met through increased imports of these products. With the complete removal of QR by 2001, tariffs are now the only instrument for restricting imports. A 35 % tariff was imposed on items from which QR was removed, this has now been reduced further, as reported earlier. Not unexpectedly, imports of all these items have increased significantly over the period 1990-2006, as Tables 3 and 4 report. The year 2006 is the most recent year for which information is available; being also five years from the completion of import tariffication, it is likely to reflect better the impact of the removal of QR on the selected imports beyond an initial transition period.

With the opening up of the Indian import sector, import sources have come to expand, and competition to increase. Prior to the reforms, when the demand for these products

was more modest, and imports of them were subject to QR, the import volumes were small, and the leading import sources shared those volumes in a particular manner. With the growth in imports over time, competition must have become more intense and the search widened for import sources. The major suppliers in more recent years could also reflect India's trade agreement partners. In particular, the South Asian Preferential Trade Agreement (SAPTA), which commenced in 1995, groups India with six other countries including Nepal, Bangladesh and Pakistan. The latter three countries have come to feature more as India's trade partners in respect of the items in which Australia and New Zealand may have an interest. The relative shares of these countries could be partly driven by preferences given by India and may not reflect underlying comparative advantages. Of all SAPTA members, India has offered the largest number of tariff preferences, even though the majority of these are for non-agricultural products.

The fact that Australia and New Zealand have got what in most cases is no more than a toehold in the large and growing Indian market may be considered disappointing. However, as noted earlier, over the latest three years for which information is available, the shares of both countries have improved both in total trade and in respect of the food items for which demand has been growing more rapidly. These are markets that need to be targeted for better results over time. Indeed, Australia has in recent times taken several initiatives, in collaboration with Indian businesses, to increase its food and beverage exports, including fruits, to A\$250 million over the next five year period (www.domain-b.com/economy/trade/20060201). As major exporters to the world of dairy products, meat, fish, fruits and vegetables, both Australia and New Zealand have comparative advantage in these areas; they also have an established reputation as exporters of quality processed foods. With a greater focus, the Indian market could yield significant dividends.

7. SOME EMERGING ISSUES IN INDIA'S FOOD ECONOMY

7a. Production, procurement and availability of food grains

A decline in India's per capita availability of food grains over the period 1990-2007 has been alluded to in section 3a above. The reasons for it are rather complex. Let us first acquaint ourselves with a few salient facts about India's food consumption, availability and production. A few issues and recent developments in regard to India's agricultural trade in a 'globalising world' will then be examined with a view to making an assessment about the future of the food sector of the large and fast-growing, but poor, economy of India's.

First, consumption: while the evidence that Indian diets have been becoming more varied is convincing, as detailed above, it is also a fact that the per capita production, availability and consumption of cereals, and with it, the intake of calories, have all been either fluctuating or falling over the two decades to 2005, especially since the early 1990s. The Draft XIth Five Year Plan document (2007) of the Indian Planning

Commission observes: “the significant point is that, overall, per capita intake of calories and protein has declined consistently over a 20-year period from 1983 to 2004/5. ...rural calorie consumption per day has fallen from 2221 to 2047, an 8% decline. Similarly, the urban calorie consumption fell by 3%, from 2080 to 2020”.

Moving on to the interlinked issues of production, procurement and availability in recent years, the output of rice fell from 88.5 million tonnes in 2003/04 to 83.1 in 2004/05, and then rose to 91.8 million tonnes in 2005/06, but fell again, a little, to 93.4 million tonnes in 2006/07. Wheat output however has stagnated around 70-72 million tonnes over the period 2002/03 – 2005/06, having declined from a peak of 76 million tonnes in 2001/02. In the two years to 2007/08, it has recovered to around 75 million tonnes annually (*Economic Survey 2007-08*).

While domestic availability is sourced mainly from domestic output, it depends also on other sources such as net imports and net changes to public stocks of food grains. India’s food policy has always had a strong government involvement in the form of the PDS, as discussed in 3b above. The Government of India’s *Economic Survey 2007-08* summarises the objectives of food management in India as follows: “procurement of food grains from farmers at remunerative prices, distribution of food grains to the consumers particularly the vulnerable sections of the society at affordable prices, and maintenance of food buffers for food security and price stability”.

As observed earlier, the PDS, with a network of nearly half a million fair price shops (FPS), had long been the backbone of India’s food safety net and a major instrument in the government’s anti-poverty programme. In mid 1997, this universal system was changed to make it a Targeted PDS (TPDS) which introduced the distinction between “below poverty line” (BPL) and “above poverty line” (APL) households in setting the quantity and issue price of the subsidised food grain items. This was further tightened in December 2000 with the introduction of another food-based welfare scheme, the *Antyodaya Anna Yojana* (AAY), which made the TPDS even more targeted – in favour of the very poor, i.e. the destitute, who constituted some ten million, out of around 65 million BPL households, covered by the TPDS.

The increase in the MSP of wheat and rice through the 1990s, referred to earlier, together with reduced disbursements from the FPSs, exacerbated the problem faced by the government’s burgeoning grain buffer stocks which peaked at 64.7 million tonnes in June 2002. The following two years saw the stocks ease, with lower quantities procured by the central government, and larger disbursements, including provisions for drought relief. This led the government to restrict exports of rice and wheat from August 2003.

There was then a sudden reversal in India’ net trade in food grains – from being a net exporter of wheat of some 12 million tonnes (with budgetary subsidies) between 2001/0/02 and 2004/05, India has, again, become a net importer. With tighter domestic availabilities in 2005/06, the State Trading Corporation was authorised to

import half a million ton of wheat in that year. This increased to 5.5 million tonnes in 2006/07, as the central government pool of grains was considered inadequate to meet its supply commitments to TDPS and other welfare schemes. The domestic availabilities improved in 2007/08, but a smaller quantity of 1.8 million tonnes of wheat still needed to be imported to ensure adequate supply for the central pool.

The cost of food subsidy – being the difference between the ‘economic cost’ of wheat and rice and their prices at the FPS and other welfare outlets – has also increased sharply in recent years. This is borne largely by the central government. Several changes have been introduced to some long-standing arrangements in India’s food economy which, as already noted, is now more open to international competition. Some of these changes are examined below in the context of a global food scenario facing the Indian economy.

7b. Globalisation, decentralisation and global and domestic trade in food products

The procurement of food grains was ‘decentralised’ with the introduction of the Decentralised Procurement (DCP) Scheme in 1997. Ten States and a Union Territory have since then been procuring and storing food grains to distribute them under the TDPS within their jurisdictions. The prices charged at the FPS are the issue prices set by the Central Government, the difference between these and the economic costs incurred by the States in this operation being passed on to the State Governments as subsidy. The results of this scheme have been mixed, some States having procured large quantities, some not so large (*Economic Survey 2007-08*). The overall impact of the procurement system on supply, demand, prices and trade will be small, according to Jha et al.

In another recent move, with the encouragement of the Central Government in 2003, most States have amended the Agricultural Produce Marketing Committee (APMC) Act to permit private businesses to procure food grains directly from the farmers, obviously in competition with the Governments. Evidence is emerging that private trade has come to procure more wheat than the Government for the first time since the FCI was created (<http://ww.rupe-india.org/42/failure.html>). The Essential Commodities Act that has long required the government to control the storage, movement and prices of essential commodities, including food grains, has also been amended to allow private sector participation in these activities. Critics of these policies argue that the Government, by keeping its MSP lower than what the private traders are willing and able to offer, has made it easier for the private sector to purchase wheat from the farmers. An appropriately higher MSP, they point out, would have enabled the Government to procure more wheat from the farmers; this would have minimised the import needs and cost the Government less, on the whole (*India Together*, 21 May 2007, <http://www.indiatogether.org/2007.may/agr-whimport.htm>).

7c. Enter the multinationals: India as a food processing hub

As has been observed above, India's food economy is no longer as dominated by the public sector institutions and rules as it used to be for over four decades since the 1950s. Indeed, it would be fair to say that the government has been gradually reducing its involvements, and encouraging and assisting the private sector to play a more active role in all areas of the food economy. Globally, trade involving raw and processed food has always been large. With faster economic growth of some of the more populous countries, including China and India, in recent times, food trade has assumed even greater importance from both demand- and supply-side influences.

As this paper has recorded, India's food economy has made major strides since its Green Revolution in respect of food grains in the 1970s. India's centuries-old dependence on food grains has gradually diminished, and exports started to build up. India's food processing sector however has not kept pace with this increased self-reliance experienced by the food economy in general. While China processes around 40% of its agricultural produce, Thailand 30%, Brazil 70% and Malaysia 80%, value addition to agricultural produce in India is only around 20% (SME Rating Agency: www.dnb.co.in/Food%20Processing/overview.asp).

It is common knowledge that much of this business is dominated, globally, by large multinational corporations (MNCs). For example, 30 companies account for one-third of the world's processed food; five companies control 75% of international grain trade; and six companies manage 75% of the world's pesticide market (*The Guardian*, January 17, 2005, <http://www.guardian.com.uk>). The industries processing food, of course, needs to acquire the necessary raw materials. They often seek a vertically integrated production system that connects them to the local farmers and the suppliers of other inputs, directly in competition (often unequal), with other purchasers of these goods and services. In the Indian food grains market, as noted above, private sector participation has been steadily increasing. This has seen several foreign-owned MNCs, such as Glencore, Toepfer and Cargill, as well as Indian-owned companies, like the Reliance group, buying wheat directly from the farmers in recent years. This activity has come to coincide with the government having to import wheat for the first time in several years to replenish its buffer stocks to ensure adequate supplies to the food-based welfare programmes. India's (reducing) food security has come to be seen as an issue of concern in consequence of these developments.

7d. The present and the future of India's food processing sector

The estimated size of India's food processing industry is US\$70 billion; it employs 1.6 million people; its share in world trade is 1.7%, and it is India's 5th largest manufacturing industry (India Brand Equity Foundation, October 2007: www.IBEF.org). The industry has six key sectors: dairy; fruits and vegetables; meat and poultry; fisheries; packaged foods, and beverages, all with relatively low, but growing, penetration levels in India's household food budgets. India's export of processed food was US\$7.9 billion, or 5% of its total exports in 2004-05.

The Reserve Bank of India (2008) records show that FDI flows into the food processing industries have been around \$711 million up to March 2004 – a relatively small amount, again, but growing, as indicated by the presence of a large number of MNCs in the Indian market. Among the more high profile foreign companies are Unilever, Cadbury, Nestle and Pepsi. These companies face competition from strong Indian product brands of companies such as Reliance, Dabur and Haldiram. Another feature of this sector that is also changing fast is the dominance in it of small and medium sized (unorganised) producers, which account for around 70% of the output (50% in value) of the sector as a whole.

Recognising the potential of the sector, the Central Government set up a separate ministry, The Ministry of Food Processing Industries, in 1998 to oversee and facilitate the growth of a wide-ranging food processing sector with the participation of both indigenous and foreign participants, in an environment of collaboration. The national aim is to raise the level of food processing from 2% to 10% by 2010, and to 25% by 2025. To this end, generous tax incentives, as well as full repatriation of profits and capital, and an easier approval process for foreign investment have been put in place. All this would suggest an increasing presence of large processing firms in India's food business.

In addition to processing food, there is also the interest of large multinational retailers in domestic markets as large as India's to contend with. Retailers such as Tesco, Ahold, Carrefour, Metro and Wal-Mart, for example, already have a presence in many a developing economy which they, and other retailers like them, have been seeking to expand and extend. Wal-Mart has been involved in seeking "to partner with India's Reliance Industry Ltd (RIL) to build super market stores in 784 Indian towns, 1600 farm supply hubs, and move the produce with a 40-plane air cargo fleet" (Shiva, July 26th, 2006). If these efforts were to succeed and proliferate, there will be even more intense competition at the starting points of India's food supply chain, viz. the farmers and growers of farm products.

8. GROWTH, DEVELOPMENT, HUNGER AND FOOD SECURITY: INDIA'S BURNING QUANDARY

The elaborate discourse of this paper around India's food economy in some of its selected ramifications provides detailed information on several relevant issues; it also raises some serious questions. One of these questions must be how the changes that are already afoot in India's food sector are going to affect the lives and livelihoods of India's vast population.

While India's faster economic development and its achievements in some other areas have, in recent times, drawn the world's admiring attention to it, there remain other aspects of its performance that are decidedly less glamorous. For example, India is still home to the largest number of the world's hungry people, with over 200 million people who are food-insecure (Menon et al 2008). India's score of 23.7 in the Global Hunger Index (GHI) is 66th out of 88 countries. This places India below countries such as

Cameroon, Kenya and Sudan, all of which have lower per capita income than India. Estimates of calorie deficiency in the Indian population, as reported in Menon et al (2008), varies between 20 and 34%, depending on the average calorie requirement figure chosen, and whether average food *availability* or actual food *consumption* per head is used in the calculation of the calorie intake. Even the lower figure, used in the GHI calculation, translates into a very large number of people who are regularly undernourished in India. As Ray (2008) points out, the calorie norm, useful as it is, does not, of course, indicate anything about the considerations of a “balanced diet” which should be within the rising aspirations of economies experiencing ‘development’, not just per capita income growth. Perhaps, even more alarmingly, the situation in regard to calorie deficiency has been deteriorating over time since the late 1980s, as Ray (2008) has, also, detailed. The reasons for this deterioration occurring, paradoxically, with India’s faster economic growth and increasing integration with the global economy are many and varied; some of these have been explored in this chapter. The solutions to the problem however must include easier and affordable access to basic food items, such as India had in place over many years. The need to achieve this most basic of human needs, freedom from hunger and malnutrition, must be incontrovertible.

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