

MAP

Monitoring Agri-trade Policy

Directorate-General for Agriculture and Rural Development



India's Role in World Agriculture

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Introduction

India is one of the fastest growing economies of the world and is currently the focus of a great deal of international attention. It is the seventh largest country in the world in terms of its geographical size. Today it has a population of nearly 1.1 billion which makes it the second most populous nation in the world. With current population growth by 2025 India may even have caught up with China according to the UN.

In this MAP we focus on agriculture and especially on agriculture trade. India has a large and diverse agriculture and is one of the world's leading producers. It is also a major consumer, with an expanding population to feed. For this reason and because of its agricultural and trade policy, its presence on the world market has been modest in relation to the size of its agriculture.

India is still a big unknown. While it has been a small net agricultural exporter overall since 1990, in recent years there have been many changes in its agriculture and trade policies and significant changes in its net trade position for many individual products.

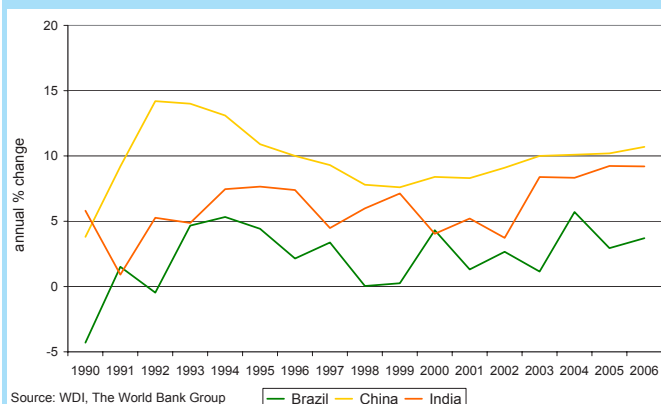
The leading forecasting institutions expect that India will play a bigger role in world markets in future. In a number of markets it is expected to consolidate its position among the world's leading importers (vegetable oils) and exporters (rice). Given the size of Indian agriculture, changes in its balance sheets for key commodities have a potentially large impact on world markets.

Economic developments

India is the third largest economy in Asia after Japan and China, as measured in terms of its Gross Domestic Product (GDP) and it is continuing to grow rapidly.

The Indian economy has seen high growth rates of more than 8% since 2003. In 2005 and 2006 GDP grew at a rate of over 9%. Globally India's growth is surpassed only by that of China. This is expected to continue with growth just under 7% by 2015. Graph 1 compares GDP growth in India, China and Brazil, where growth has been much slower.

Graph 1: Annual Percentage change of GDP in India, China and Brazil



High growth rates have significantly reduced poverty in India. However its GDP per head is still very low (estimated at US\$ 820 in 2006), so it remains classified by the World Bank as a low income country. The World Development Report 2008 states that over one third of the population of India was living below the poverty line in 2004-2005, managing on less than \$1 a day.

Cereals are the staple food in India, providing over half the calories consumed, while pulses are the main protein supplement in the diet. Rising incomes and the influence of globalisation have contributed to changes in the diet with a slight decrease in cereals consumption and an increase in pulses, edible

oils, fruits and vegetables, milk and meat, which is growing from a low base. In the case of edible oils, the fall in prices after the liberalisation of imports further stimulated consumption. However although diets are diversifying, India still lags behind Brazil and China in terms of daily calorie intake per capita.

Table 1: Food consumption – daily calories per capita

	1990-1992	1998-2000	2003-2005
Brazil	2860	3001	3223
China	2696	2917	2957
India	2396	2463	2512

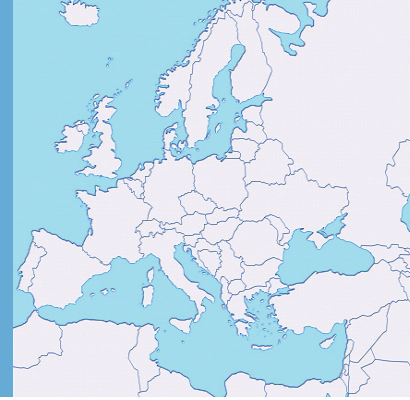
Source: FAOSTAT

Agriculture plays an important, though declining role in the economy. Its share in overall GDP fell from 30% in the early nineties, to below 17.5% in 2006 (graph 2). This is high compared to China and Brazil, at 12% and 5% respectively. Over this period the share of industry has stayed relatively constant, reaching nearly 28% in 2006.

Meanwhile the services sector has grown rapidly (accounting for about 65% of total GDP growth from 2000-2005), to almost 55% of GDP in 2006. The World Bank predicts that the shift towards the service sector will continue at the expense of agriculture, whose share could decline by 30% by 2030.

Despite India's economic development, over 70% of the population still live in rural areas. Agriculture is the key employer with around 60% of the labour force, down from 70% in the early nineties. This compares with 44% in China (2002) and 21 % in Brazil (2004).

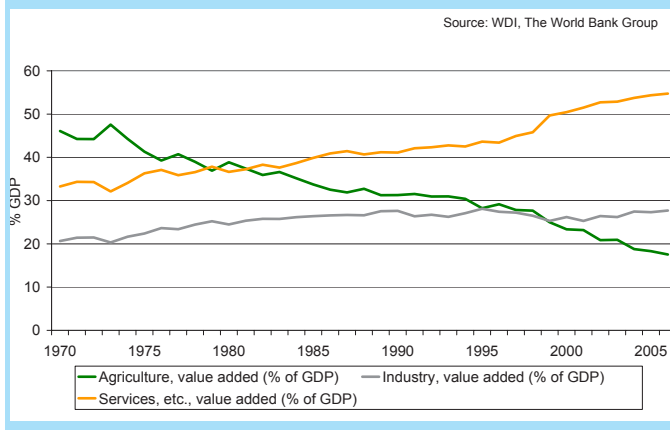
The decline in agriculture in the labour force has not kept pace with its decline in the economy. This stickiness has been attributed to low labour mobility and slow growth



Agricultural policy

in productivity in agriculture. In India agricultural value added per worker has grown by only 15% in real terms from 1990 to 2004. By comparison productivity in China rose by over 60% and more than doubled in Brazil.

Graph 2: Main economic sectors share of Indian GDP



Agriculture structure

India's agricultural area is vast with total arable and permanent cropland of 170 million hectares in 2003-2005. It has the second largest arable area in the world after the United States. OECD in its 2007 agricultural policy monitoring report notes that Indian agriculture is dominated by a large number of small scale holdings that are predominantly owner occupied.

The average size of holding in the late nineties was about 1.4 hectares and continues to decline, as farms are usually divided on inheritance. Out of India's 116 million farmers, around 60% have less than 1 hectare and together they farm 17% of the land. The share of medium to large farms (above 4 hectares) is very small at just over 7% of all holdings, but these farms account for around 40% of the land. The implication is that many of the very small farms are subsistence holdings, with low investment and little productivity growth.

Indian agriculture policy is aimed essentially at improving food self sufficiency and alleviating hunger through food distribution. Aside from investing in agricultural infrastructure, the government supports agriculture through measures including minimum support prices (MSP) for the major agricultural crops, farm input subsidies and preferential credit schemes.

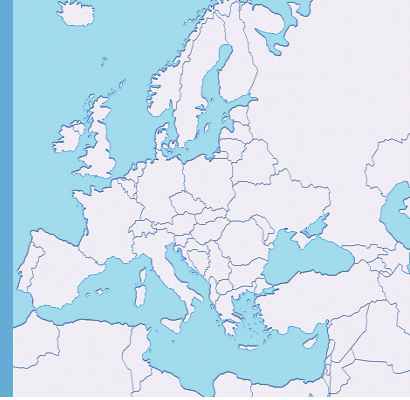
Under the price support policy, MSPs are set annually for basic staples to protect producers from sharp price falls, to stabilise prices and to ensure adequate food stocks for public distribution. In the past guaranteed prices have been below the prevailing market prices, according to the International Food Policy Research Institute (IFPRI) in 2007.

At the same time subsidies on farm inputs including fertilisers, electrical power and irrigation water have led to inefficient use of inputs and indirectly subsidise income. IFPRI concluded that "support for agriculture (from 1985-2002) has been largely counter cyclical to world prices".

OECD appears to reach a similar conclusion. Its 2007 monitoring report points out that the level of agricultural support (covering transfers from taxpayers and consumers) for India "would appear to be slightly below the OECD average but considerably higher than that of the emerging economies reviewed by the OECD". Furthermore the instruments of support used are "the least efficient and the most trade distortive forms of support".

Key agricultural sectors

India is among the world's leading producers of paddy rice, wheat, buffalo milk, cow milk and sugar cane. It is either the world leader or the second largest producer in eight out of its top ten products. Some of these are widely traded while others are more specialist products.



Trade

Table 2 shows the composition of production by value for 2003-2005, when paddy rice was the top sector, followed by buffalo milk and wheat. India is now the largest milk producer in the world and the second largest producer of paddy rice, sugar cane, wheat, cow milk, groundnuts and certain fresh vegetables. But it is also a leading consumer. So although it exports these products the quantities will vary depending on the size of the crop and demand.

Table 2: Top 10 sectors of India & world rank

Commodity	Rank India	World Rank 2005	Production Avg 2003-2005	
			Billion \$	Million T
Paddy rice	1	2	27.5	129.2
Buffalo milk	2	1	25.2	50.5
Wheat	3	2	10.9	69.7
Cow milk	4	2	10.0	37.5
Fresh vegetables	5	2	6.6	34.9
Sugar cane	6	2	5.2	250.0
Potatoes	7	3	3.6	25.0
Groundnuts	8	2	3.4	7.1
Pimento	9	1	3.3	1.1
Buffalo meat	10	9	3.1	1.5

Source: FAOSTAT, world rank calculated by DG AGRI

Meanwhile India is the world leader in such specialist products as buffalo milk, spices (pimento) and bananas, mangoes, chickpeas etc., which are important in the Indian diet and are also exported.

And India is the fifth largest cultivator of biotech crops in the world, ahead of China. In 2006, about 3.8 million hectares of land were cultivated with genetically modified crops, by about 2.3 million farmers. The main GM crop is Bt Cotton, which was introduced in 2002.

Reforms introduced in India in the early 1990s have greatly increased overall trade flows. However it has consistently run a trade deficit unlike China and Brazil (US\$35 billion in 2004-2005).

The EU (27) ranks as India's largest trading partner accounting for about 21% of total Indian trade in 2005, ahead of the United States and China. Meanwhile India is the EU's tenth largest trading partner accounting for 1.8% of total trade. In 2005 its trade deficit with the EU was about €2 billion.

India is one of the leading members of the G-20 within the DDA negotiations. It has a preferential trade agreement with Mercosur since 2005. It is also part of the South Asia Free Trade Agreement (SAFTA) covering seven nations (India, Bhutan, Nepal, Sri Lanka, Pakistan, Bangladesh and the Maldives) which came into effect in January 2006 with the aim of reducing tariffs for regional trade. And it is currently negotiating Free Trade Agreements with the EU and ASEAN.

Turning our focus to trade in agricultural and food products; this accounts for a relatively small share of overall Indian trade. Agricultural exports represent 9% of the value of total exports while the share of agriculture in total imports is just 5%.

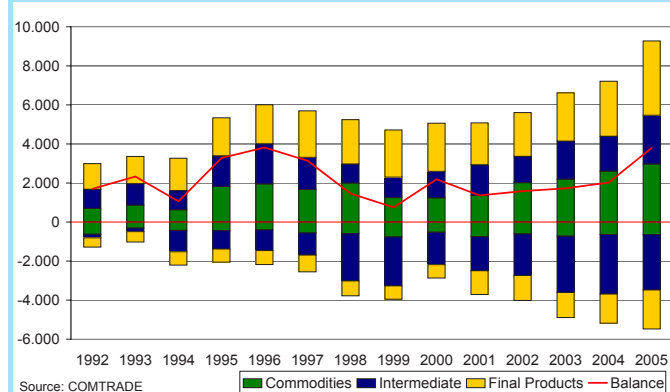
When compared with other main players on world markets and considering the size of the country, Indian agricultural trade flows appear relatively modest. As the key goal of agricultural policy since independence has been to achieve self-sufficiency, trade has been relatively limited. However technological developments and macroeconomic policy reforms have brought increased liberalisation, following the implementation of the Uruguay Round Agreement, and have contributed to changes in agricultural trade.

Indian agricultural exports totalled \$9.3 billion in the year 2005 while imports were worth roughly \$5.5 billion.

Thus India is a net exporter of agricultural food products with a small surplus of just under \$4 billion. Between 1993-1995 and 2003-2005, exports nearly doubled while imports grew almost threefold. The value of exports grew from \$4 to \$7.7 billion while imports rose from \$1.8 to \$5.2 billion (graph 3) within a decade.

The balance of agricultural trade has always been in surplus though there were sharp fluctuations during the nineties. Since 2000 both imports and exports have grown steadily.

Graph 3: Structure of Indian agricultural trade (million \$)

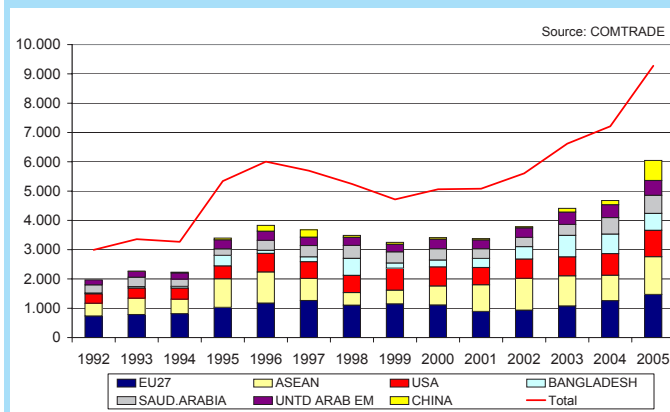


India's main export partners

India is diversifying its export markets (graph 4). The EU remains its top market, accounting for 16% of the value of export sales in 2003-2005, although this is a decline from 21% a decade ago. ASEAN is in 2nd place with 14%, although its share has also fallen.

This trend may be reversed however as India is negotiating Free Trade Agreements with the EU and with ASEAN. Meanwhile trade with neighbouring Bangladesh and China (currently 7.5%) is growing fast. The US market share has remained steady at 10% and also that of Saudi Arabia.

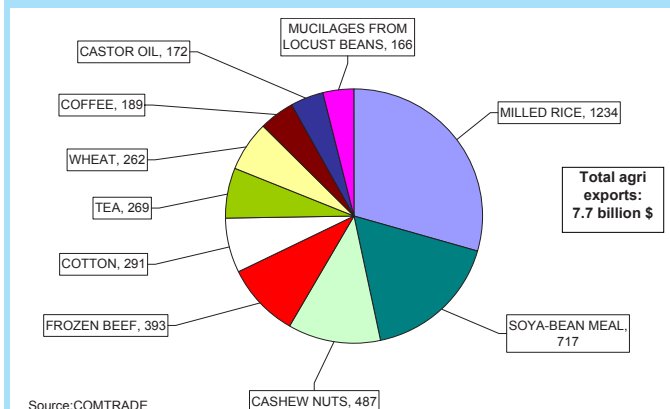
Graph 4: Indian agri-food exports by destination (million \$)



As regards the composition of agricultural exports (shown in graph 3), commodities represent around one third, intermediate products over one quarter and final products account for the remaining 40% of total agricultural exports. The biggest growth was in the export of commodities which increased by 134% from 1993-1995 to 2003-2005.

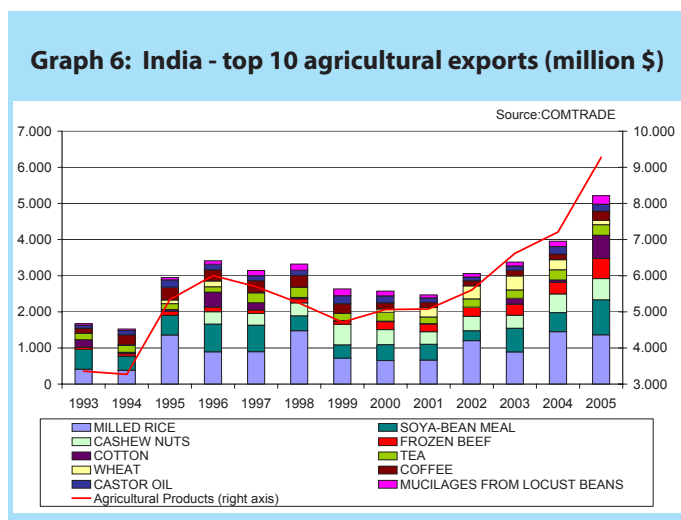
The single biggest export is milled rice, accounting for 16 % of the value of exports in 2003-2005 (see graph 5).

Graph 5: India - top 10 agricultural exports Average 2003-2005 (million \$)



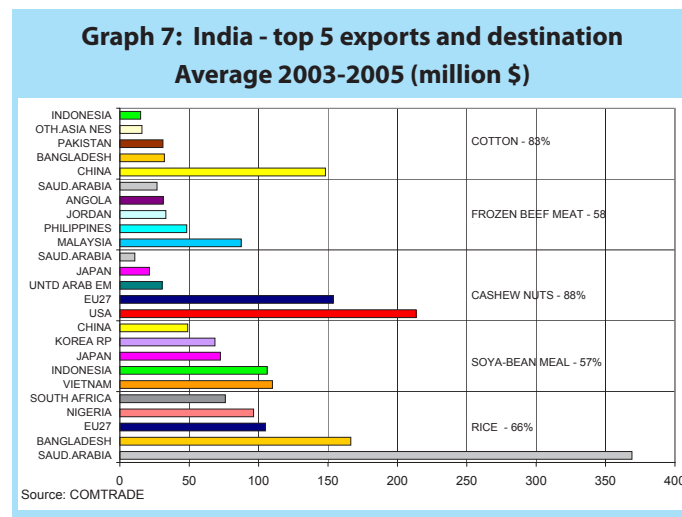
Two other commodities, cotton and wheat, are also within the top 10 exports. Soybean meal, an intermediate product, is the second most important export with 9% of sales. However 6 out of the top 10 are final products, including cashew nuts, beef, coffee and tea which together represent around 14% of the value of exports.

In the nineties the value of exports fluctuated considerably (graph 6). This reflects big swings both in the price and the volume of rice exports, the latter depending on the balance between production and consumption. Despite those fluctuations, since 1999 India's exports have grown steadily. In addition to rice, beef (buffalo meat) and soybean meal exports are also expanding.



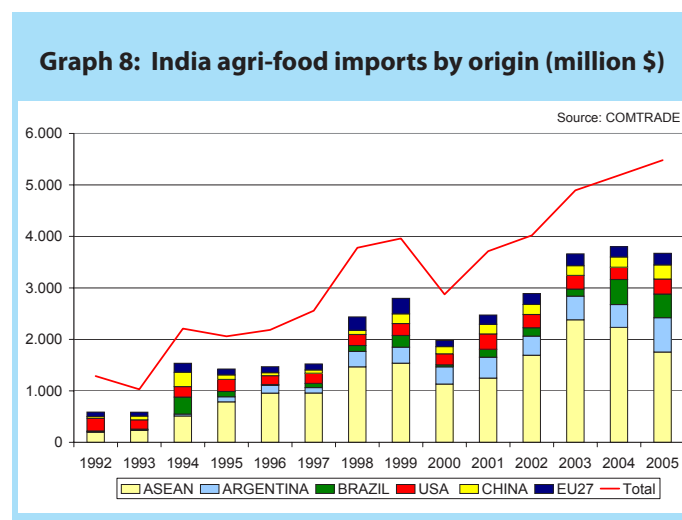
Graph 7 shows the destination of the top 5 exports and concentration in key markets. Saudi Arabia is the single biggest market for rice and is also a big market for buffalo beef and cashew nuts. The EU is another important destination for rice and cashew nuts. Cashew nuts are exported mainly to developed country markets and together the 5 countries shown take 88% of exports.

The cotton market is also heavily concentrated on a few key neighbouring countries, which absorb 83% of exports. China, Bangladesh, Pakistan and ASEAN are important markets for soybean meal and buffalo beef.



A closer look at India's imports

ASEAN is by far the biggest supplier of agricultural products to India, accounting for a massive 40% of its imports in 2003-2005 (graph 8). Argentina and Brazil rank 2nd and 3rd respectively while the EU only has 4% market share (down from 7% a decade ago), ranked at number six in 2003-2005.



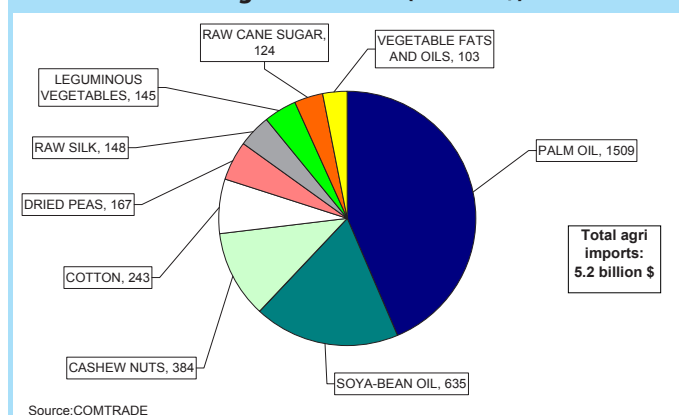
While this is roughly equivalent to the share of imports from China and the United States, it is far below the share enjoyed by Mercosur (supplying about 17% of imports) and ASEAN countries. Over the past decade ASEAN and

Argentina have both substantially increased their market share at the expense of the US, the EU, Brazil and China. Together the top six suppliers now account for over 70% of imports.

India's agricultural imports are focused mainly on intermediate products (referring back to graph 3). These account for 56% of imports; final products are 31%, while the share of commodities is just 13%. The biggest growth has been in intermediate products which increased nearly fourfold over the period.

This reflects the importance of vegetable oils in Indian imports (graph 9). Palm oil is by far the biggest import at 29% of the total. Together with soybean oils, they represent over 40% of imports. Protein rich peas are also within the top 5. The increase in imports of these foodstuffs is driven by population growth. While cashew nuts and cotton are among the top exports, they also appear in the top 10 imports. Cashew nuts are imported for further processing as are silk and cotton, which are used in the Indian textile industry.

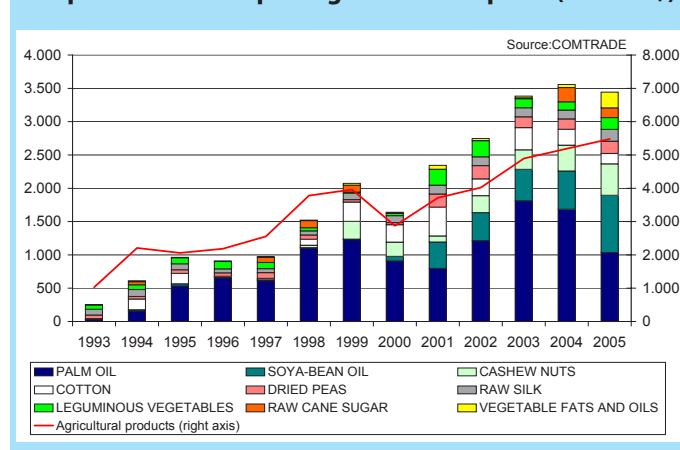
Graph 9: India - top 10 agricultural imports
Average 2003-2005 (million \$)



The evolution of imports is shown in graph 10. In particular the growth in imports of vegetable oils has been dramatic with an increase of over 800% between 1993-1995 and 2003-2005, with soybean oil and other oils and fats taking a growing share of an expanding

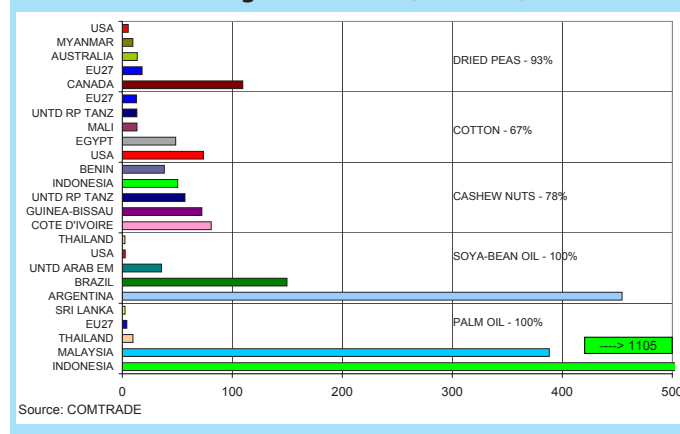
market. The phasing out of the multi-fibre agreement explains the increase in cotton imports.

Graph 10: India - top 10 agricultural imports (million \$)



Given the importance of vegetable oil imports, it is not surprising that India depends on a few key suppliers (graph 11). Palm oil is supplied essentially by 2 ASEAN trading partners, with over 72 % of India's palm oil imports coming from Indonesia and 27 % from Malaysia. This concentration is almost perfectly mirrored in the soybean oil market, with Argentina supplying 72 % and Brazil around 24 %.

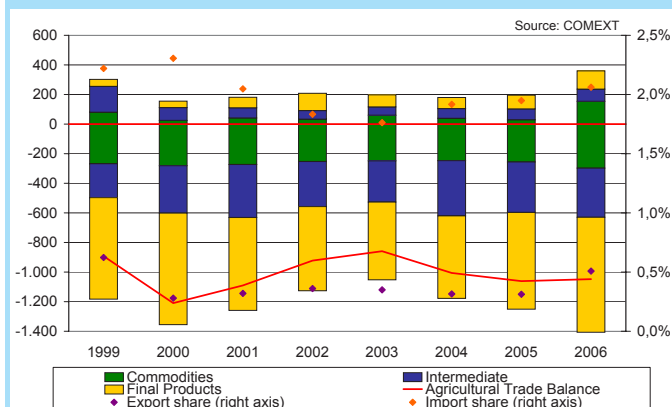
Graph 11: India - top 5 imports and origin
Average 2003-2005 (million \$)



Trade with EU-27

In this section we look at the EU's declared trade with India, based on the EU's COMEXT data expressed in euros. The EU has a deficit of around €1 billion in its trade in agri-food products with India, as shown in graph 12.

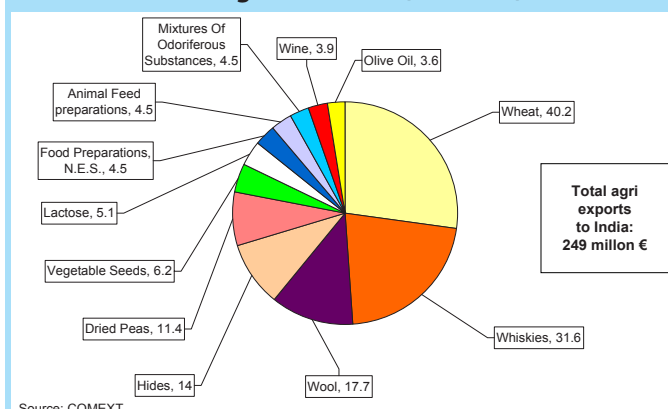
Graph 12: EU-27 structure of agricultural trade with India (million €)



The value of agricultural exports from the EU to India is only about €250 million (average 2004-2006). India accounts for less than 0.5% percent of the EU's total agricultural exports. Meanwhile the EU imports €1.3 billion worth of agri-food products from India, equivalent to 2% of the EU's global agri-food imports. This is just half the value of the EU's imports from China. India ranks as the 12th most important EU supplier.

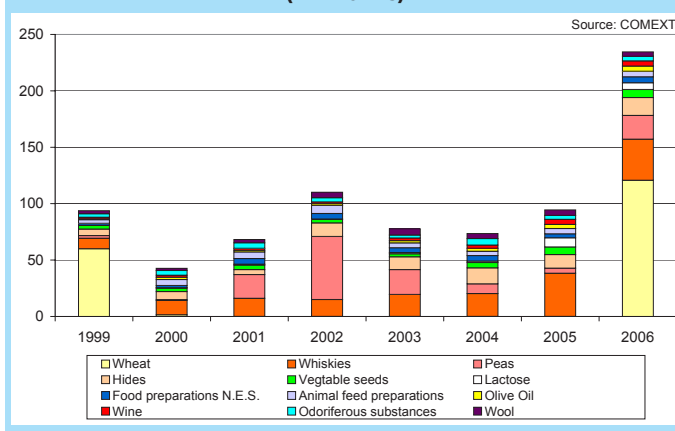
The breakdown of the EU's exports to India is shown in graph 13. In 2004-2006 wheat was the EU's top agricultural export to India, valued at €40 million and accounting for 16% of exports. Scotch whisky exports were worth €32 million, around 13% of exports. Exports of raw wool and hides for further processing in the Indian textile industry were valued at €18 and €14 million respectively. Dried peas were €11 million. Other specialised products are exported to India, such as vegetable seeds (€6 million), wine and olive oil both valued at around €4 million.

**Graph 13: EU-27 main agricultural exports to India
Average 2004-2006 (million €)**



India is an intermittent importer of EU wheat (graph 14). Having been a small net exporter of wheat since 1999/00, India became a net importer in 2006/07. The EU's wheat exports were worth €120 million in 2006, equivalent to one third of the value of exports. Exports of whiskies have grown fourfold from 1999 to 2006 and now account for 10% of export sales. Dried peas accounted for 6% of exports in 2006 but have fluctuated over the period.

**Graph 14: EU-27's main agricultural exports to India
(million €)**



The current average bound tariff for agriculture is 117.2% according to the WTO's 2007 Trade Policy Report for India.

There is often a significant difference between bound and applied tariffs. The current average applied tariff is 40.8% according to the WTO. Applied tariffs are subject to frequent adjustment, depending on domestic supply. For example the wheat tariff was reduced in 2006 as India needed imports to compensate for its poor harvest. Therefore the EU was able to export wheat at zero tariff that year. Meanwhile EU exports of dairy products are currently very low mainly due to high Indian tariffs.

The profile of applied tariffs shows a degree of tariff escalation with the highest tariffs of 150% applied to final products. However tariffs ranging from low or zero to 100% also apply to some final and intermediate products. Today the EU faces tariffs of 100-150 % on exports of high value products such as wine and whiskies. The tariff profile for a number of products is shown in the table below.

Table 3: India's Tariff Structure for selected products (2006)

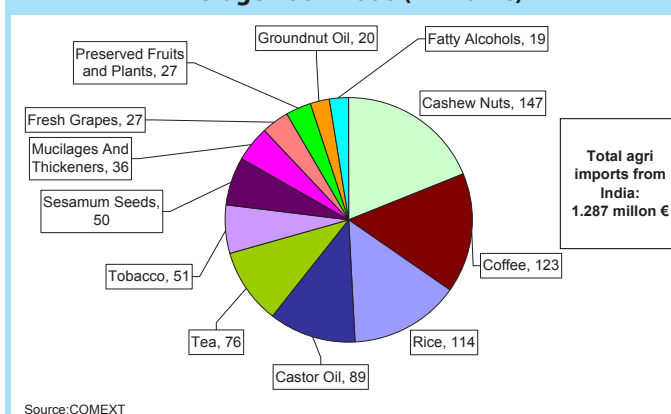
Product	Avg. Bound (%)	Avg. Applied (%)
Animal products	105.0	33.0
Dairy	65.0	35.0
Fruit, vegetables	100.9	31.5
Coffee, tea	133.1	56.3
Cereals	119.4	37.3
Fats and oils	168.9	52.5
Sugars	124.7	48.4
Beverages	127.5	68.9
Cotton	110.0	17.0

Source: WTO

Turning to imports, agricultural products represent about 7% of total EU imports from India, reaching nearly €1.3 billion in 2004-2006 (graph 15). The top 5 are specialised products: cashew nuts, coffee, rice, castor oil and tea and account for 43% of the value of the EU's imports from India (550 million euros). Some of these

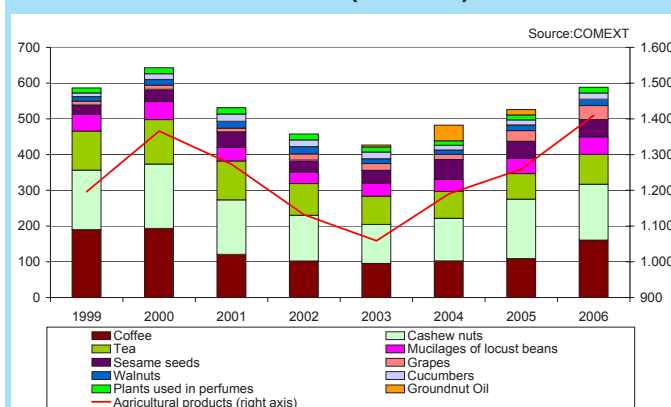
products already enter the EU market duty free (basmati rice) or with a low tariff (5% for oils). Overall 97% of imports from India enter duty free or with a tariff lower than 30%.

Graph 15: EU-27 main agricultural imports from India Average 2004-2006 (million €)



The trend in agricultural imports from India is shown in graph 16. Total imports were valued at €1.4 billion in 2006, up from just over €1 billion in 2003. Coffee was the top import in 2006 but its value has fluctuated considerably since 1990. The value of tea imports has declined over the period by over 20%.

Graph 16: Evolution of EU-27 main agricultural imports from India (million €)

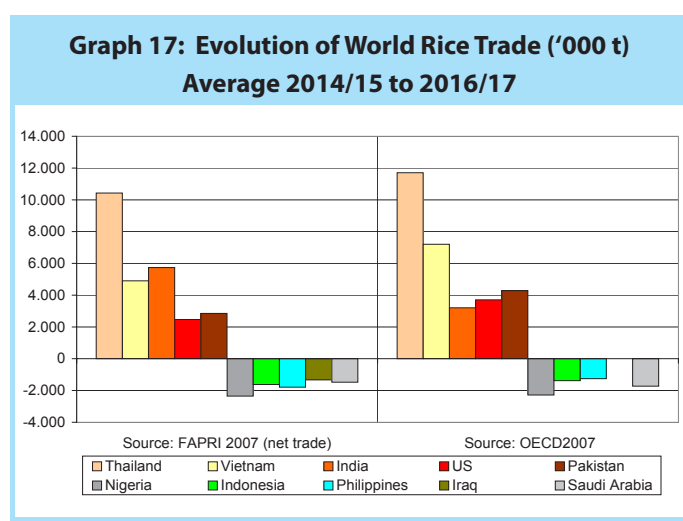


Outlook for agriculture and trade

OECD and FAPRI (Food and Agricultural Policy Research Institute) both expect India to play a bigger role in world markets in future. It is likely to remain a small net exporter overall.

India is forecast to consolidate its position among the world's leading exporters of rice (its top export), though the volume of exports has been erratic since the mid nineties (depending on the size of the crop and on domestic consumption). Currently it is the second largest rice producer after China and the third largest net-exporter after Thailand and Vietnam.

FAPRI expects it to increase its world market share from 16% to 20% by 2015 as area and yields increase and per capita consumption declines. OECD meanwhile takes a more conservative view of production prospects and therefore of export potential. FAPRI's¹ and OECD's projections for the global rice trade (graph 17).



For sugar a big change is expected with India forecast to switch from being a net importer to a net exporter (over 2 million tonnes).

Its world market share is expected to rise from 4% to 6% over the coming decade, thanks to robust growth in production (second only to Brazil's) and a slowdown in consumption growth. For soya meal India's world market position is relatively stable and it is expected to stay at about 6% world market share (FAPRI).

Indian buffalo beef exports are projected to grow as production rises faster than demand, with world market share for beef stable at around 11%. On the dairy side, net exports of butter and SMP will also grow. For butter although there is a strong increase in production, this is in response to surging demand growth, so India remains a small net exporter. On the other hand it becomes a significant net exporter of SMP, with its share of world trade rising from 4% to 6%.

Turning to imports, in 2006/07 India became a net importer of wheat having been a net exporter for the 5 years previously. However it is not expected to be a big net exporter in the coming decade. For dairy there may be opportunities for EU in the future. If an EU-Indian FTA is agreed, then, given changing consumer habits, India is a potential market for EU exports of high quality processed milk products.

Last but not least, India is projected to remain a leading vegetable oils importer, absorbing one quarter of world soybean oil imports and 14% of palm oil imports. Although the share does not increase much over the projection period, this masks an increase in imports from 5 million tonnes to 6-8 million tonnes by 2016/17, given the expansion in world trade in vegetable oils. Indian consumption of vegetable oils has grown faster than production since the mid-nineties and the trend is expected to continue. Combined with the recent hike in prices, this could lead to a doubling of India's vegetable oil import bill in 10 years.

¹ FAPRI uses net trade data



Conclusions

Agriculture occupies a prominent position in Indian policy-making not only because of its contribution to GDP but also because of the large proportion of the population that is dependent on the sector for its livelihood.

The growth in population and wealth has stimulated demand to the extent that domestic production has not always been able to keep up and there is increasing speculation that the Indian economy may be overheating leading to inflation. The downside of the increased import demand and the current commodity boom is that India's food import bill will rise sharply.

However it is clear that India's agricultural sector has made huge strides in developing its potential. The green revolution massively increased the production of vital food grains and introduced technological innovations into agriculture. This progress is manifested in India's net trade position. Where once India had to depend on imports to feed its people, since 1990 it is a net exporter of agri-food products. Its agriculture is large and diverse and its sheer size means that even slight changes in its trade have significant effects on world agricultural markets.

How India will develop is still a big unknown, with the picture changing rapidly. Questions have arisen about India's capacity to compete in global markets under the current farm structure and farm policy. As the service economy grows, the share of agriculture will diminish, which may also have implications for India's stance on trade and agriculture policy in the future.

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