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INDIA CROP SECTOR: SITUATION AND OUTLOOK

August 26, 2010

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INDIA CROP SECTOR: SITUATION AND OUTLOOK

India has a large population with a growing economy. Economic reforms in the 1990s stimulated economic growth with annual growth rates of 7%, mainly driven by the services sector. The agricultural sector has been slower to grow as the government tries to balance two objectives: expanding food production with maintaining affordable domestic prices. In recent years total crop production has generally exceeded domestic demand, resulting in significant exports of corn and rice. However, India remains a net importer of vegoils and pulses. This issue of the Market Outlook Report examines the situation and outlook for India's crops and explores prospects for Canada's agriculture and agri-food industry, especially in relation to pulses.

BACKGROUND

Economy

India has been developing an open-market economy since the early 1990s. Liberalizing its trade policies and encouraging foreign investment during this period has allowed India to experience growth at more than 7% annually.

More than half of India's workforce is directly employed in the agricultural sector, but it is the service sector that has been the major driver of economic growth accounting for more than half of India's economic output. India has successfully capitalized on a well-educated workforce, many of whom are fluent in English, to provide software and other high technology services to customers worldwide.

India's Prospects for Economic Recovery

The global financial crisis of 2008 negatively affected India's economy as growth in its Gross Domestic Product (GDP) fell from 9% in 2007, to 7.4% in 2008, and 6.1% in 2009. However, India's economic slowdown was lessened by cautious banking policies and a relatively low dependence on imports. Domestic demand for durable goods further provided support for an economy that might otherwise not have fared that well under the strain of the global financial crisis.

To further ensure economic stability, the Indian government temporarily abandoned its deficit reduction strategies. The government provided subsidies for fuel and fertilizer, job guarantees for rural workers, a debt waiver program for farmers, and other stimulus expenditures. India's commitment to the use of fiscal stimulus as a means of ensuring economic stability is expected to run well through 2010. Meanwhile, any future deficit reductions would likely involve the privatization of

INDIA: AT A GLANCE

Size:	3,287,263 square kilometres – 7th largest country in the world
Population:	1.17 billion people – 2nd largest population in the world
Economy:	GDP per capita - US$2,941 purchasing power parity or US$1,031 nominal (2009)
Employment:	10% unemployment (2009)
Inflation:	10.7% inflation (2009)
Poverty:	25% of the population lives below the poverty line (2007)
Technology:	545 million cell phone users (2010) – 2nd highest in the world
Internet:	81 million internet users

Source: estimates from CIA World Factbook and International Monetary Fund

some government-owned industries as a means of generating additional revenues for the government.

India's finance ministry forecasts economic growth could reach 8.75% by the end of 2010, and possibly 10% by 2014. If such economic growth were to come to fruition, India would have the fastest growing economy in the world but, with that, possibly undesirable inflation that often accompanies a rapidly expanding economy. Already, with lower crop production this past year due to drought conditions, food inflation is estimated at 18% and expected to increase.

Toward Agricultural Self Sufficiency

As indicated earlier, India has been moving toward an open-market economy, particularly in the non-agricultural sectors. However, India is still regarded as a relatively closed market with respect to agricultural imports. Agricultural imports are generally seen in a negative light because more than 50% of labour force is employed in agriculture, many of whom feel that imports take away from their livelihood.

Crop failures in the 1960s and 1970s, resulted in dependency on large scale imports and food aid. This contributed to India's drive for food self-sufficiency, which has been achieved to some extent by imposing restrictive import duties. Despite efforts at self-sufficiency, per capita availability of food grains has been decreasing, and this has prompted the Indian government to consider enacting the *National Food Security Act*, which would provide subsidies on wheat and rice for families living below the poverty line.

In general, import duties have declined in recent years, but the average bound rate still exceeds 100% and the average applied rate is about 35%. Import duties are a good source of revenue for government, in addition to protecting a domestic industry. The domestic industry is also protected with non-tariff barriers such as sanitary and phytosanitary requirements.

Agricultural Productivity

To support increased crop production, the Indian government provides subsidies for electrical power, fertilizer and irrigation water. The costs of these subsidies reached US$10 billion in 2003 (United States Department of Agriculture (USDA)). The electrical subsidy alone accounts for more than two-thirds of total input subsidies. The rising costs of the subsidies are of increasing concern. However the subsidies do have additional benefits, especially at election time, because they are seen as highly supportive of domestic industries. In particular, a major player in the domestic fertilizer industry is a cooperative of some 50 million farmers who wield considerable clout with government.

With regards to the fertilizer subsidy, this subsidy has undergone increased scrutiny in recent years as productivity gains are not what they should be. It is reasoned that too much urea oversaturates the plants without replenishing the other nutrients essential to plant growth, specifically phosphorus, potassium, sulfur, magnesium and calcium. In fact, as soil fertility declines through such misuse, even more fertilizer is required to maintain yields.

In response to concerns about soil degradation through the misuse of fertilizer, the Indian government plans to provide subsidies that would encourage a more balanced approach to soil fertility. At the risk of drawing criticism from the urea fertilizer lobby, the government plans to apply subsidies to the other essential nutrients such as sulphur, phosphorous and potassium. These other nutrients are not available domestically and would likely require significant increases in fertilizer imports.

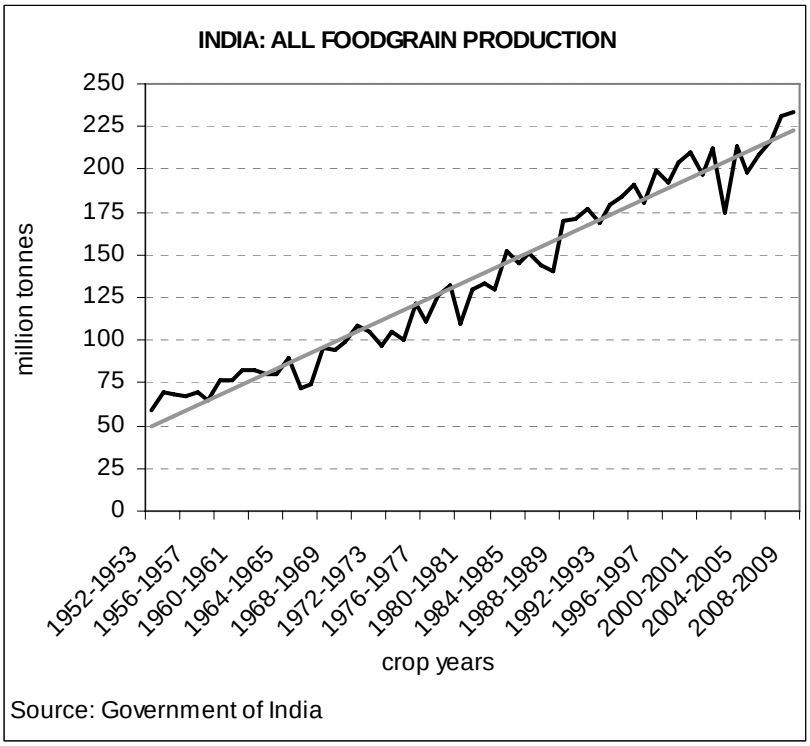
An important factor in the sustainability of Indian agriculture is the availability of water for irrigating farm land. Over the past 40 years, India has put about 8 million hectares of land, or about one-third of its arable land, under irrigation. India has also established hydrological stations to collect data which are then used for forecasting rainfall and for

INDIA: GENERAL AGRICULTURE

Major crops:	rice, wheat, oilseeds, cotton, jute, tea, sugarcane, lentils, onions, potatoes, dairy products, sheep, goats, poultry, fish
Livestock:	India has the world's largest buffalo population, and second largest cattle population.
Economy:	17.5% of GDP is related to agriculture
Employment:	52% of labour force
Farms:	50% of farms are less than 2.5 acres.
Land Use:	48.83% arable land

Source: CIA World Factbook, Government of India – Ministry of Agriculture

dealing with excessive moisture. The ability to adequately maintain irrigated farm land is now in question as water levels at India's major water reservoirs continue to drop. It appears that the amount of water coming from India's mountain ranges has decreased such that even generous summer rains would likely not compensate for a reduction in ice melt, ultimately affecting agricultural productivity in regions reliant on irrigation.



Source: Government of India

Buffer Stocks

The Indian government maintains buffer stocks of wheat and rice to prevent serious food shortages and to stabilize food prices. Buffer stocks also enable the government to take advantage of higher domestic prices as they arise. The strategy has, for the most part, been effective although detractors often cite the "paradox of poverty amongst plenty", referring to the phenomenon of hungry citizens during periods of large government-held stocks of grain.

For rice in 2009, stocks declined significantly due to drought conditions. However, wheat stocks reached record levels that year, and they are expected to increase during the upcoming crop year.

For wheat, except for minimal exports (government-to-government) to Nepal, the Indian government has effectively banned wheat exports since 2007 to increase local supplies and to stabilize prices. Despite record high stocks and an expected record wheat crop, there appears to be no movement on lifting the ban on exports. For the time being, the Indian government plans to lease additional storage space to accommodate burgeoning stocks and it will likely earmark subsidized wheat for welfare programs.

In addition to buffer stocks, the Indian government also maintains minimum support prices for many foodgrains, including wheat, corn and rice. These prices are set at levels that still encourage market forces to play a role in resource allocation.

Imports of Pulse Crops

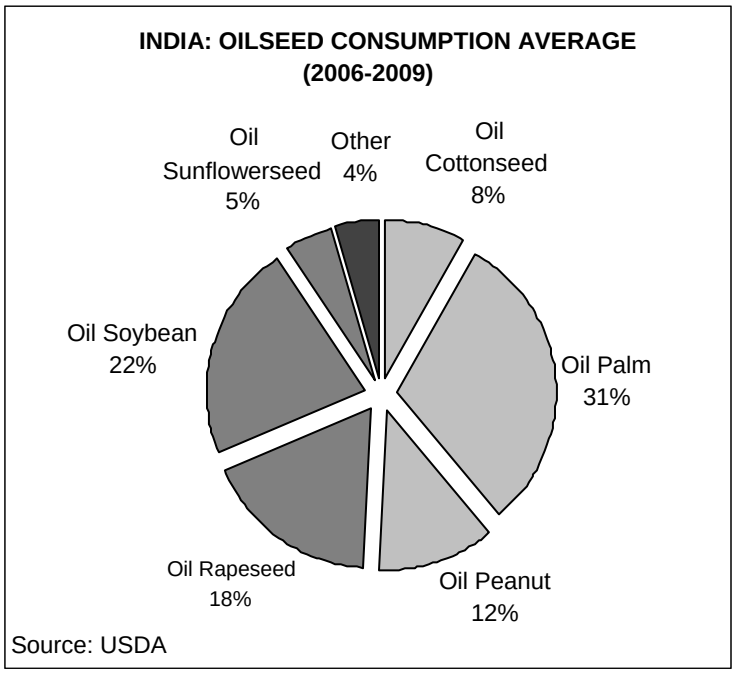
India's imports of pulse crops (dry peas, lentils and chickpeas) continue to increase. In 2007, India imported a record 1.7 million tonnes (Mt) of dry peas compared to an annual average of about 0.5 Mt for the 5 previous years. To ensure adequate domestic supplies of pulse crops, exports were banned and an import duty of 10% was removed in June 2006.

Given persistently high prices and that the demand for pulse crops is expected to exceed production by about 3 Mt, the ban on exports has been extended until March 31, 2011, and imports of pulse crops will remain duty-free during this period.

Public sector trading companies and the agricultural cooperative, National Agricultural Cooperative Marketing Federation, are reimbursed for any losses they incur when imported prices exceed local prices, to a maximum of 15%. The Indian government has also extended the import subsidy on pulses until September 30, 2010 as a means of easing local prices and further ensuring adequate domestic supplies.

Increased Vegoil Consumption

Vegoil consumption in India has nearly doubled in the last five years, making India the second largest consumer of vegoil after China. Despite that growth, India's per capita vegoil consumption is a relatively low 13.4 kilogrammes (kg) for 2010-2011, versus the world average of about 21 kg.



Vegoil consumption is expected to keep increasing due to steady population growth and a good supply of vegoils, of which about half is imported. However, to reduce food inflation and to ultimately lower consumer prices for basic foodstuffs, India has removed the import duty on vegoils. The result has been a dramatic increase in the import of palm oil and a steady decline in soyoil as consumers switched to the lower cost alternative. Currently, more than 70% of India's edible oil imports are comprised of crude palm oil and RBD (refined, bleached and deodorized) palm olein.

The soybean crushing industry, faced with lower vegoil prices, higher soybean prices, and poorer returns on soymeal, has reduced the pace of soybean crush accordingly. But reduced crushing activity has left India with record high stocks of uncrushed oilseeds, estimated at 18 Mt, and a shortage of oilmeal for the domestic livestock industry and for export. In response, India's edible oils industry has requested a 10% import duty on crude palm oil, and a 17.5% import duty RDB palm olein to encourage domestic oilseed crushing.

Investment in Agriculture and Agri-food

The steady increase in personal incomes in India has contributed significantly to the expansion and diversification of food demand in India. However, investment in the agricultural sector remains relatively low compared to the other sectors. The lagging investment in agriculture is consistent with existing regulatory policies, poor infrastructure, and weak institutional support for agricultural markets.

India's agricultural sector has traditionally been characterized by many small, non-integrated processing and marketing firms that use outdated technology. These shortcomings highlight the opportunities to build upon one of the largest global agricultural markets for trade and investment. These opportunities are being facilitated by the removal of restrictions on firm size, and on the restrictions on transport and storage infrastructure that affected essential commodities such as wheat and rice.

Taxes on agricultural products are being reduced and simplified, and private investment is increasing. Foreign direct investment is not permitted, but joint ventures with Indian firms have allowed outside money to flow into the Indian economy.

SITUATION AND OUTLOOK

For 2010-2011, India's production of major field crops, including pulse crops, is forecast at a record 251 Mt. This is significantly more than the 231 Mt harvested in 2009-2010 when drought conditions seriously affected yields of drought-sensitive crops such as rice, rapeseed, and soybeans.

Wheat

The production of Indian wheat, which is similar to U.S. wheat in terms of protein content and bread-making qualities, has been increasing in recent years. However, the potential for growth in wheat production is restricted by the limited availability of newer, higher-yielding varieties and the limited availability of irrigation.

INDIA: GRAIN AND OILSEED* SUPPLY AND DISPOSITION						
June-May Crop Year	2005 -2006	2006 -2007	2007 -2008	2008 -2009	2009 -2010	2010 -2011f
			million tonnes			
Carry-in Stocks	**14**	**14**	**17**	**20**	**35**	**34**
Production	**210**	**211**	**229**	**234**	**217**	**236**
Imports	0.10	6.75	1.99	0.04	0.33	0.32
Total Supply	**225**	**233**	**248**	**254**	**252**	**270**
Exports	**6**	**7**	**9**	**5**	**4**	**5**
Feed Use	9	10	11	11	11	12
Crush/Food	195	198	208	203	203	217
Total Domestic Use	204	208	219	214	215	228
Total Demand	**210**	**215**	**228**	**219**	**219**	**233**
Carry-out Stocks	**14**	**17**	**20**	**35**	**34**	**37**

* rapeseed, soybean, sunflower, millet, wheat, corn, rice, barley, sorghum
f: forecast
Source: USDA

For 2010-2011, wheat production is forecast by USDA at 80 Mt, down slightly from the previous year's record. With record high domestic supplies, and a continued ban on exports, domestic consumption is also expected to reach a record high level in 2010-2011. Carry-out stocks are forecast at 16 Mt, up slightly from the previous year's record.

Over the medium term, the Organisation for Economic Co-operation and Development (OECD) and the Food and Agriculture Organization of the United Nations (FAO) calls for steady growth in India's wheat market. By 2018, production and consumption are expected to reach 88 Mt and 90 Mt, respectfully. The supply deficit would be filled with imports or by drawing down government-held supplies.

Coarse Grains

Corn production in India has steadily increased due primarily to the higher yields generally associated with the use of hybrid varieties. Sorghum production, on the other hand, has declined as farmers have shifted seeded area to more profitable crops such as soybeans and cotton. Millet production, which is heavily dependent on monsoon rains, continues to fluctuate from year to year. Barley production, a small winter crop grown primarily in northern India, is relatively stagnant. Although there is a move toward growing more malting varieties for the beer industry, most of the barley grown in India is of the six-row variety and generally unsuitable for malting.

India is marginally more than self-sufficient in coarse grains and exports small amounts of corn on a fairly regular basis. For 2010-2011, coarse grain production is forecast at 41 Mt, up considerably from 33 Mt in 2009-2010 when yields were reduced by drought conditions. Domestic consumption is forecast at 38 Mt, up from 33 Mt in 2009-2010.

Over the medium term, the OECD-FAO calls for good growth in India's coarse grains market. By 2018, production is expected to reach 45 Mt, and consumption is pegged at 44 Mt. India is expected to export small amounts of corn and, to a lesser extent, barley during the upcoming decade.

Oilseeds

For 2010-2011, production is forecast at 17 Mt, up from 16 Mt in 2009-2010. At the same time, consumption is forecast at a record 17 Mt, up from 15 Mt during the previous year.

For the medium term, the OECD-FAO calls for steady growth in India's oilseeds market. By 2018, production is expected to reach 22 Mt, along with a corresponding increase in consumption.

Pulse Crops

India is the world's largest producer of pulse crops, which are an important source of protein in the Indian diet. For 2010-2011, production is forecast at 14.8 Mt, up marginally from the previous year's production of 14.7 Mt.

For 2010-2011, a decline in production during the *kharif* season (June-September) due to poor weather has been more than offset by increased seeded area and higher yields forecast for the *rabi* season (October-March). About two-thirds of

India's pulse crops are grown during the *rabi* season.

Despite higher prices, demand for pulse crops remains strong and consumption continues to outpace domestic production. For 2010-2011, imports are expected to exceed last year's import figure of 2.8 Mt.

To dampen increasing pulse crop prices since June 8, 2006, the Indian government has exempted pulse crops from the applicable import duty of 10%. To further ensure adequate domestic supplies, the government has banned the export of most pulse crops, effective June 22, 2006. The government has also authorized certain agencies and trading companies to import pulses, some of which qualify for subsidies of up to 15%.

INDIA: PULSE CROP* SUPPLY AND DISPOSITION

June-May Crop Year	2005 -2006	2006 -2007	2007 -2008	2008 -2009	2009 -2010	2010 -2011f
			million tonnes			
Carry-in Stocks	**0.005**	**0.007**	**0.002**	**0.010**	**0.010**	**0.010**
Production	**12.2**	**13.2**	**14.3**	**14.5**	**14.7**	**14.8**
Imports	1.4	1.7	2.3	2.2	2.8	2.9
Total Supply	**13.6**	**14.9**	**16.6**	**16.6**	**17.5**	**17.7**
Food Use	13.6	14.9	16.5	16.6	17.5	17.7
Total Domestic Use	13.6	14.9	16.5	16.6	17.5	17.7
Total Demand	**13.6**	**14.9**	**16.5**	**16.6**	**17.5**	**17.7**
Carry-out Stocks	**0.007**	**0.002**	**0.010**	**0.010**	**0.010**	**0.009**

* peas, lentils, chickpeas
f: forecast
exports= feed use=0
Source: USDA, FAO, AAFC

However, future pulse exports to India could be affected by a fumigation requirement that has been in place since January 1, 2004. Under a regulation designed to protect domestic production from stem and bulb nematode, pea cyst nematode, and bruchids, all shipments of pulse crops to India are subject to fumigation by methyl bromide at the port of loading. The complication is that methyl bromide is being phased out in most countries due to environmental concerns. Involved parties are currently in discussions to identify a mutually satisfactory resolution to the issue. In the absence of an agreement, the reduction of pulse crop supplies would put inflationary pressure on prices that are already considered too high by Indian consumers.

INDIA: PULSE CROP PRODUCTION AND IMPORTS

	Production	Imports
	million tonnes	
Chick Peas	6.0	0.3
Dry Beans	3.9	0.0
Pigeon Peas	3.2	0.3
Lentils	0.9	0.2
Dry Peas	0.8	2.0
Total	**14.8**	**2.8**

Crop Year: June 2009- May 2010
Source: USDA

Expanded Market Opportunities for Canadian Pulse Crops

Research conducted at the University of Saskatchewan suggests that dehulled green lentils can be used as a substitute for India's domestically grown pulse crops that are used in the preparation of many traditional Indian dishes. Research has found that green lentils are malleable, cook fast and dehull easily, making them ideal for the traditional Indian dishes. Green lentils also have higher protein, beta-carotene and selenium levels than domestically produced pulse crops, and they cook in about half the time.

Pigeon peas are India's largest pulse crop, followed by black gram, green gram and chickpeas. There is an opportunity to replace domestically-grown pigeon peas with green lentils from Canada because the area currently seeded to pigeon peas is under some pressure from soybeans, which take half the time to grow and mature. A 10% reduction in the annual production of pigeon peas in India has the potential to create a market for up to 0.3 Mt of Canadian green lentils, or about one-third of Canada's lentil exports. Green lentils also have a price advantage over pigeon peas, and this would

appeal to Indian consumers who are dealing with serious food price inflation.

Faced with production shortfalls and the threat of continued food price inflation, the Indian government is looking at Canadian-produced yellow peas as a possible replacement for higher priced chickpeas. However, the current price spread between chickpeas and yellow peas is expected to narrow, and this would ultimately limit market opportunities for Canadian exporters. As well, a new French protein subsidy is expected to pay their growers about US$57 per tonne to grow peas. This represents about one-third of the market price and would increase supplies and pressure pea prices worldwide. Currently, India's winter pea crop is developing well and expected to exceed last year's *rabi* harvest, which would also limit opportunities for Canadian exporters.