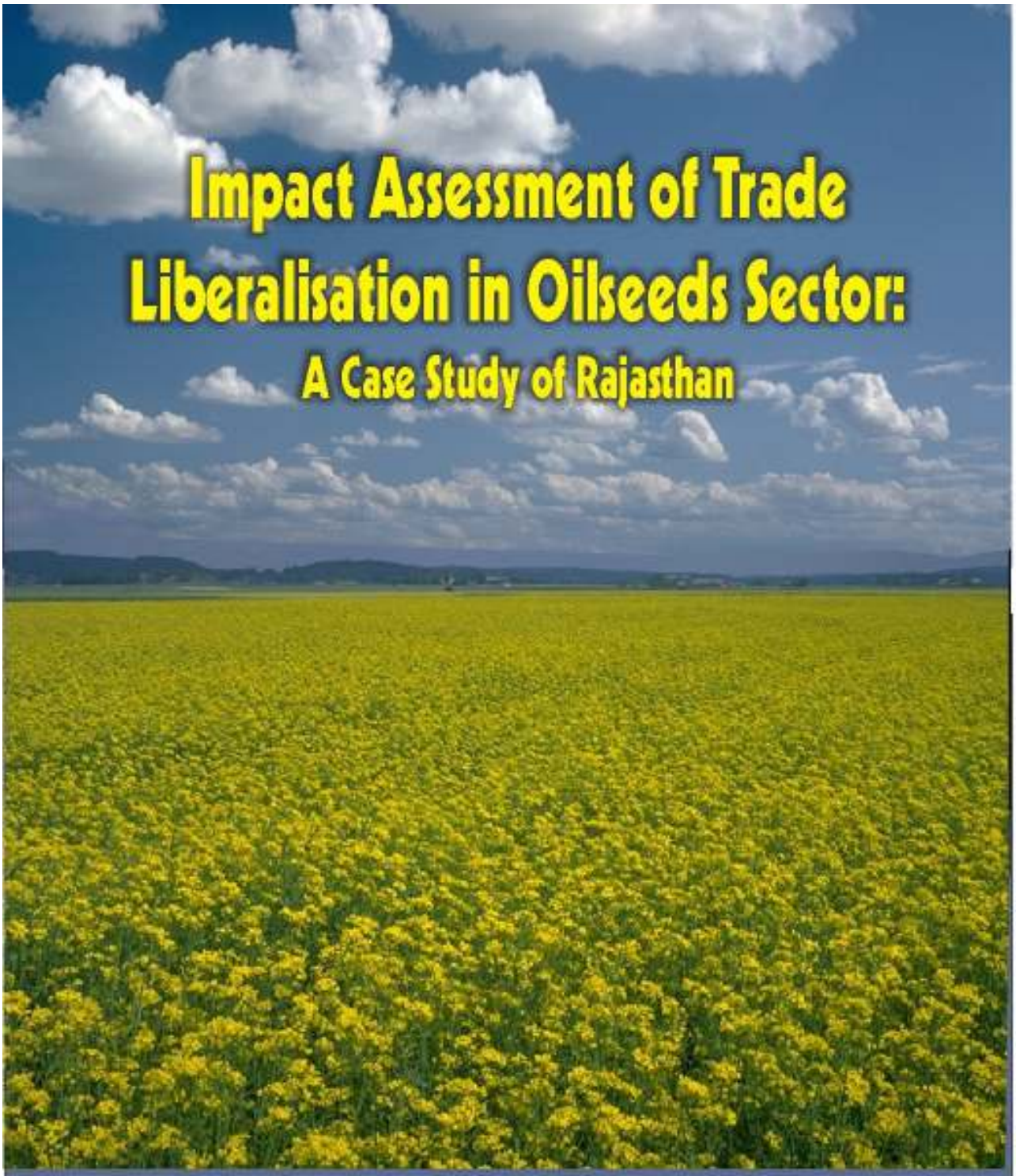

Impact Assessment of Trade Liberalisation in Oilseeds Sector:

A Case Study of Rajasthan

CUTS Centre for International Trade, Economics & Environment
CUTS-CITEE

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A Case Study of Rajasthan

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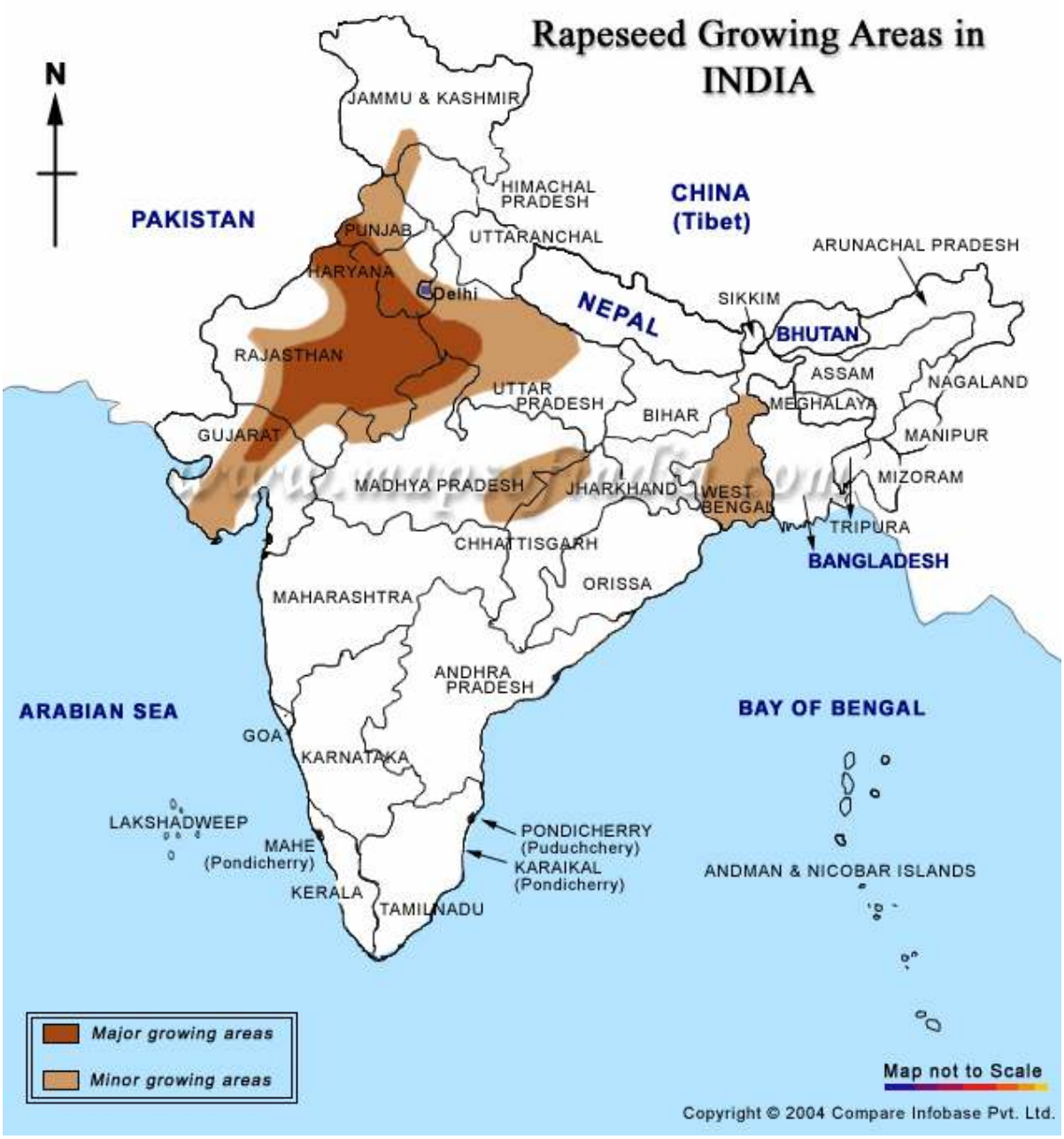
Rapeseed Growing Areas in INDIA
N
JAMMU & KASHMIR
HIMACHAL PRADESH
CHINA (Tibet)
PAKISTAN
PUNJAB
UTTARANCHAL
ARUNACHAL PRADESH
HARYANA
Delhi
NEPAL
SIKKIM
BHUTAN
RAJASTHAN
ASSAM
NAGALAND
UTTAR PRADESH
BIHAR
MEGHALAYA
GUJARAT
MANIPUR
MADHYA PRADESH
JHARKHAND
WEST BENGAL
MIZORAM
TRIPURA
CHHATTISGARH
BANGLADESH
ORISSA
MAHARASHTRA
ANDHRA PRADESH
ARABIAN SEA
BAY OF BENGAL
GOA
KARNATAKA
LAKSHADWEEP
PONDICHERRY (Puduchchery)
MAHE (Pondicherry)
KARAIKAL (Pondicherry)
ANDMAN & NICOBAR ISLANDS
KERALA
TAMILNADU
Major growing areas
Minor growing areas
Map not to Scale
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Abstract

The removal of Quantitative Restrictions (QRs) is a part of trade policy reforms, which, in turn, is related to the rapid change that the Indian economy is undergoing due to economic reforms. Given the rapid developments in the area of international institutional and legal frameworks that have emerged as a response as well as precursors to furthering globalisation have substantially changed the way countries approached economic reforms, including trade policy reforms. Instead of reacting to policy changes adversely, it is necessary for all relevant stakeholders, including producers, intermediaries, and consumers etc. to find answers as to how fast and effectively they can integrate themselves into a globalising/liberalising economy using the springboard of the multilateral trade system that is being created and nurtured under the WTO regime

It will not be feasible, at the same time, to conduct in-depth studies for every item, on which QRs have been lifted. The imperative is to select an item, which is important for a wide cross-section of the society. One group of such items is oilseeds and edible oils. This is a common product for consumption, a basic need and a necessity. Furthermore, the production and distribution activities are not concentrated in a particular region, though may not be evenly spread. Thus, the impact of policy changes would be felt over a wide range of society, in terms of prices, availability, access to the product, ability to buy, competition and employment generation etc.

With this background and context, the present study on oilseeds, particularly rapeseed-mustard and groundnut, the two principal oilseeds crops raised in the state of Rajasthan, was undertaken to identify strengths/weaknesses of this sub-sector of agriculture and to offer policy prescriptions to facilitate the process of integrating Indian economy and in particular, the state economy of Rajasthan in the post-QRs phase, with the emerging Multilateral Trading System (MTS). Though the scope of the present study is limited to oilseeds and edible oil covering only the state of Rajasthan, the same could be replicated for the other sectors or group of items as well as other states of India.

With inputs from background research and with the results of the primary field survey, an in-depth analysis is undertaken to identify main issues affecting international competitiveness of this sector, which were further classified in terms of their effects on import competition and export competitiveness. The analysis also identifies policy/institutional measures to neutralise and/or reinforce the factors of competitiveness. As part of the analysis, policies that govern oilseeds/edible oil sector have been studies and were examined with respect to their compatibility with various WTO instruments. Furthermore, the analysis has focused on understanding how nodal agencies at the local state and national have been interacting on concerned issues pertaining to the identified sector.

Executive Summary

Background & Introduction

India followed the policy of import substitution in the oil seeds and edible oil sector till 1994-95. Persuasion of this inward looking policy till the mid 1990s made India self-sufficient in the production of the oilseeds to meet the consumption demand in the country. This policy environment along with doubling the output and stabilising the oilseeds production in the country, led to diversifying the production to new crops such as soybean, sunflower from the production of rapeseed-mustard and groundnut. India became self-sufficient in edible oils almost upto 98 percent and also a major exporter of oilseeds meal by early 1990s.

The oilseed sector however faced some limitations, which restricted the sector from realising the full benefits of the import substitution policy. There was restriction for interstate movement of the products and the sector was also reserved for the small-scale industry. The processors (miller) were constrained by the low capital base to invest in modern equipment and integrated processing plants to reduce high losses of oil and improve the quality of oil meals, buy raw materials from the cheapest sources on the domestic markets and finally raise their low capacity utilisation rates. The sector also faced inefficiencies associated with the marketing including the supply bottlenecks. Thus this enforced the government to rethink the agriculture policy and pave the way for reforms in the agriculture sector along with the liberalisation of the oilseeds sector in 1994-95.

Within 10 years of liberalisation of the oilseeds and edible oil sectors in India, i.e. by 2004-05, all the quantitative restrictions (QRs) were removed and upper 'bound' (maximum) limits on tariff levels were placed. Monopoly was also removed and imports were placed under the Open General Licence (OGL) system. The rules governing edible oil import became more transparent and responsive to market forces. It was expected that opening of the sector will increase competition and would thus benefit common consumers in the long run with more choices.

However this change in policy towards the market economy affected the Indian economy adversely. Although the policy change benefited the consumers, increase in imports (import rose to 4.30mn tonnes in 2002-03 from 0.10 mn tonnes in 1992-93) led to difficult situation for the domestic producers, especially small farmers and domestic processors. It affected mostly the small inefficient ones who were not able to withstand the pressure of the new and liberalised market environment. Hence, India became the largest importer of oilseed in the world. The share of bills for the import of edible oils in the total agriculture imports increased to 50 percent in 2004-05, while sufficiency level decreased to 53 percent in 2002-03. The question, which became imperative, is how fast and effectively India could integrate itself into the globalised economy to realise the greater benefit of the multi lateral trading regime.

Given the background of the Indian oilseed sector, this paper studies the impact of the reforms in the oilseed sector of Rajasthan. It highlights the strength and weakness of this sub sector of agriculture and also offers policy prescriptions to facilitate the process of

integrating the Indian economy and in particular, the state of Rajasthan in the post QRs phase into the emerging multilateral trading system.

WTO Agreement on Agriculture & its Implications on the Oilseeds Sector of India

In accordance to the flexibilities given to India under the World Trade Organisation (WTO) Agreement on Agriculture (AoA), India was permitted to offer ceiling bindings instead of tariffication, which were not subject to the reduction commitments. India bound its tariffs at 100 percent for primary products, 150 for processed products and 300 percent for edible oils. India initially bound its tariffs for 683 agriculture commodity lines at 6–digit HS classification. India was also initially allowed to maintain QRs in agriculture products on account of balance of payment (BoP) problems. However, due to its improved BoP position during 1999-00, India lost the plea for retention of QRs and accordingly removed QRs on 714 items, including 142 commodities belonging to the category of the agriculture commodities. India further removed the QRs on the remaining 715 items by March 2001, which included 42 groups belonging to agriculture. India did not have any market access commitments and was also not entitled to use the Special Safeguard Measures (SSG) of the AoA.

After QRs were removed in 1999, India was allowed to renegotiate the tariffs bindings on those commodities for which it had very low or zero tariff bindings. The tariff binding levels were suitably revised upward to provide adequate protection to the domestic producers. Out of these low bound tariff lines, bindings on 15 tariff lines, included rapeseed, colza or mustard oil etc, were revised to a level ranging from 45 percent to 75 percent.

Export subsidies of the kind listed in the AoA are not extended to India. The only subsidy available to Indian exporters of agricultural commodities are in the form of income tax exemptions on the profits from export sales and subsidies on cost of freight of certain products like fruits, vegetables and floricultural products. Under domestic support given to agricultural sector, the only measure that is relevant for calculation of the product specific support in India is the market price support since the other two namely the Non-Exempt Direct Payments and other Product Specific Support do not constitute a significant proportion of support. In the 6th WTO Ministerial at Hong Kong, India gained in terms that both the state government and the central government would be free not only to continue with the existing subsidy programs but could also increase the same. India is also allowed to provide transport and marketing subsidies for exporting of agriculture products till the end of 2018.

Under WTO, India can impose a tariff upto 300 percent on import of palm oil, sunflower, cotton & others and upto 100 percent on vegetable oils except for soyabean and rapeseed oil & sunflower and safflower oils for which maximum tariff is fixed at 45 and 75 to 85 percent respectively. Presently, imports of edible oils are made under OGL at 45-85 percent import duty. The maximum tariff ceilings bindings established by India for the oilseed sector is much below the bound tariff for the refined oil like Bleached, Deodorised (RBD) and palmolein. In 1995-98, India's tariff structure was relatively simple and increasingly liberal–with a common applied *ad valorem* (percent) tariff for all oils progressively lowered to uniform rate of 16.5 percent by the middle of 1998. With the surge in import of edible oils, Indian began making frequent tariff adjustments since

1998 onwards with a view to slow the growth of imports and protect domestic oilseed growers and processors from imports and to smooth the effect of fluctuating world prices on domestic consumers. The tariff hikes also made the tariff on soyabean oil increasingly preferential since tariff on palm, rapeseed and sunflower oils could be raised well above the 45 percent tariff binding on soyabean oil. In addition to adjusting tariff, the government established a Tariff Rate Value (TRV) system for palm oil in August 2001 and for soyabean oil in September 2002. The TRV system is intended to prevent under-invoicing (reporting low import prices to evade tariffs) by importers and establishes a government reference price for tariff calculations.

India's Oilseeds and Edible Oil Scenario

Indian vegetable oil economy is the fourth largest in the world, next to the US, China and Brazil, accounting for about 14 percent of the oilseeds area and 8.5 percent of the world's oilseeds production. The oilseeds sector occupies a distinct position in the Indian agriculture sector after cereals, sharing for 13 percent of country's gross cropped area, accounting for 3 percent of Gross National Product and 10 percent of the value of agriculture product. India is also endowed with the diverse agro economical conditions suitable for production of nine important oilseed crops: groundnut, seasame, castor, linseed, safflower, rapeseed-mustard, sunflower, soyabean and niger. India also produces two perennial oilseeds crop–coconut and oil palm, besides the secondary oilseed crops such as maize and cotton. India ranks first in the world in production of groundnut, sesasum, castor and linseed and safflower. It is second in rapeseed production and fourth in the production of sunflower and soyabean. The productivity however has been less than 2/3rds of the world's average productivity.

There has been a significant improvement in the productivity and yield rates in India during the period 1986-2003, with the rate of increase reaching to 133 percent and 76 respectively. The area under the oil seed production rose by 25 percent during the same time. The 9 oilseeds crop in terms of area, production and productivity growth (yield) during 1980 to 2004 period have shown a mixed performance. While the performance of the oilseed sector during the first phase (1980-81 to 1989-90) made the country self sufficient in oilseeds, the second sub period (1999-91 to 1999-2000) has been a clear slow down in out put growth by 1.42 percent, for reasons like slow growth in irrigation availability to such crops etc. Again during the sub period there has been an impressive improvement in yield rates (5.95 percent) giving raise to significant growth in output of oilseeds (6.14 percent). Starting from 1970's the Indian oilseed sector was dominated by the production of groundnut and rapeseed-mustard production. However from the beginning of this century the growth performance is led by soyabean followed by rapeseed-mustard and groundnut.

Oilseeds and Edible Oil Scenario in Rajasthan

Rajasthan is the third largest oilseed producing state in India with a share of 15.1 percent of the total oilseed production in the country. Rapeseed-mustard and groundnut are the two principal oilseeds crops raised in all the 32 districts in the state. Other oilseed crops include soyabean and taramira, sesasum etc. groundnut and soyabean are the major *kharif*

crops largely dependent on rainfall conditions while rapeseed-mustard and taramira is important *Rabi* crop in Rajasthan.

The state claims first position in the production of rapeseed-mustard in India with a share of 45 percent. The area under oilseeds especially under rapeseed-mustard has increased over the years starting from the early 1970's. Application of technology in agriculture as initiated in the country had a positive impact also in this state through increase in the yield per hectare. Along with this there also has been a significant qualitative improvement in the oilseed production in the state. The irrigated area as a percentage of the total area under rapeseed-mustard also increased significantly from 64 percent during triennium ending (TE) to 78 percent in TE 2001-02. In addition to it, use of fertiliser, plant protection and agronomic practices have considerably improved.

The contribution of the oilseeds like groundnut, rapeseed-mustard, sesasum etc. in the incremental output of oilseeds was almost 80 percent and the percentage share has increased subsequently till 1980's. However during 1990's the oilseed complexion in Rajasthan changed with soyabean as *kharif* crop emerging as a significant one, capturing the share in incremental output during TE 2001-02 almost equal with that of rapeseed-mustard. Soyabean became the important crop in the state with its share in the total agriculture output reaching a significant high of 21 percent during TE 2001-02. The share of rapeseed-mustard in total oilseed production declined from 70 percent to 66 percent during the same period.

Rajasthan alone contributed 15.5 lakh tonnes or 49 percent of the incremental production of oilseed between the TE 1980-81 and TE 1990-91 in the country. The significant increase in the oilseed production in Rajasthan during the period 1980-81 and 2001-02 however came about largely at the cost of pulses and to lesser extent of cereals. There has been also replacement of crops within the oilseeds with production of sesamum, linseed and taramira experiencing significant decline in the production in favour of rapeseed-mustard and soyabean. However the cost of production of the oilseeds during the period 1980-81 and 2001-02 did not increased in Rajasthan.

Out of the 21 districts in India, which were predominant in the area and production of rapeseed-mustard production, 12 were from Rajasthan in 1985-86. In 2001-02, out of 28 districts in India producing rapeseed–mustard predominantly 13 were from Rajasthan. Ganganagar district of Rajasthan continued to hold the number one position in the country in terms of both area and production of rapeseed-mustard, capturing 5.23 percent of area and 5.42 percent of the country's total production of rapeseed-mustard. The other districts in Rajasthan important for the rapeseed-mustard production include: Alwar, Bharatpur, Bhilwara, Chittorgarh, Dholpur, Jaipur, Jalore, Kota, Nagaur, Pali, Sawai Madhopur and Tonk.

The area under rapeseed-mustard at the district level in Rajasthan has been instable as district wise rainfall has been uneven and uncertainty affecting the irrigation available and the sowing area under the crop. There has also been switch over from the rapeseed-mustard to other crops offering better remunerative prices to the farmers, such as soyabean and to other horticulture and fodder crops. Post harvest management plays a crucial role both in the oilseeds and edible oil economy in the state, since it affects the prices received by both the grower of oilseed and the processor of oilseeds and also the

consumer whose preference dictate farming as well as processing of particular oilseed/edible oil.

Survey Results & Analysis

For this study field survey was conducted in eight districts of Rajasthan. Five districts (Alwar, Bharatpur, Sawai Madhopur, Baran, Ganganagar) are having the largest sown area and largest producers of rapeseed-mustard crop and the other 3 major districts (Jaipur, Bikaner, Chittorgarh) have a highest sown area and production of groundnut crop. The survey was carried out in 16 blocks covering 80 villages and 800 households spread over these eight districts of Rajasthan.

The study highlights that literacy played a vital role in terms of enhancing productivity through adaptation of new and scientific cultivation, including education playing a significant role in making one's mind so that adoptability to new machines becomes easy and economical. Most of the farmers are found to be illiterate with maximum illiteracy in Sawai Madhopur. Only about 34 percent of the respondent had schooling up to primary level, another about 30 percent had it up to school level and the rest meager 6 percent of the respondent were college attendant. Illiteracy rate was higher (41percent) amongst groundnut growers and Jaipur district tops with 43 percent due to the fact that 44 percent selected farmers belonged to the OBC category where schooling is not considered. Average family size was highest in Jaipur district with 12 persons per household, while it was lowest in the Bharatpur district with 06 persons per family. In the other districts the family size stands at an average of 08.

The households are predominantly occupied in agriculture with maximum percent. The other occupations were related to services, self-business and casual labour. These agriculture households were having subsidiary occupation relating to animal husbandry (30 percent), casual labour (7 percent) services (2 percent) and others. 45 percent of the farmers have average land holding as marginal as less than 2 hectares, 32 percent had a small holding between 2-5 hectares, while only less than 10 percent farmers had large holding of above 10 hectares. The average size of farm is till less for groundnut growers as compared to rapeseed-mustard growers. Nearly 72 percent respondents reported fragmented farms with small farms located at more than one place. The problem of fragmentation of holdings was more acute in Baran, Bharatpur and Sawai Madhopur. In Baran, 89 percent of the farms receive irrigation mostly from tube wells. Bikaner and Chittorgarh district receive less irrigation. Bharatpur, Alwar and Ganganagar districts raise rapeseed-mustard cent percent with irrigation facility.

The households producing rapeseed-mustard earn more (total as well as hectare) compared to groundnut. Only 27 percent of the farm family in the project villages surveyed for rapeseed-mustard earned annually upto Rs.50,000 from agriculture. This was 37 percente for groundnut. Nearly 1/3 of the rapeseed-mustard and slightly less than a quarter of the growers were reported earning annually between Rs.50,000- to Rs.1,00,000 respectively for rapeseed-mustard and groundnut. 16 percent of the families for both the crops were earning more than Rs. 1,50,000/-. The earning levels of the marginal farmers are very low with more than 60 percent of such families fall under below poverty line (BPL) norm. This percentage is much higher in Bharatpur and Chittorgarh districts. An important observation of the field study is that farmers of

remote and relatively backward areas/districts were found to be more enthusiastic about introduction of new crops and even hybrid seeds compared to relatively rich districts.

Nearly in all parts of the states, the impact of, modern machinery such as tractor, thrashers etc is visible. Farmers of the relative affluent districts such as Ganganagar, Jaipur and in some parts of Alwar own these machineries, while majority of the farmers in all these districts secure farm machinery on rent. Nearly 45 percent of the farmers are using hybrid seeds and the rest 65 percent of the surveyed use both hybrid and indigenous seeds. The average consumption of the chemical fertiliser has also gone up to nearly 32 kg per hectare in the project area. Farmers raising rapeseed-mustard are using more fertilisers and pesticides. Nearly 89 percent farmers use plant protection measures. Storage facility, mostly owned is available to nearly 65 percent farmers growing rapeseed-mustard and groundnut. Most of the farmers reported non-availability of government warehouse, some farmers who reported availability state that government warehouses are very expensive and red tape and corruption are rampant. About 96 percent farmers are benefited by credit facility, most credit (nearly 63 percent in case of rapeseed-mustard and 39 percent for groundnut) was made available through the cooperative societies. The other sources of credit are regional rural banks and commercial bank.

The regulated markets (*Mandis*) are becoming increasingly important method of marketing for the rural farmers in Rajasthan. More than 57 percent farmers are going to *Mandis* to sell their produce. The government purchase mostly through cooperative societies is limited to only 18 percent. About 1/5 of the farmers have to sell their produce immediately after harvest to the local trader as their retention power is extremely limited owing to the pressure of the moneylender to repay old debts and non-availability of storage facilities.

Almost all farmers are ignorant about WTO agreements on agriculture. However, when informed that their yields rates are low and cost of production is high and these two factors will not sustain in the new trade regime, as the imported oils seeds are cheaper- all these questions/information suddenly put them in quandary. They felt that if irrigation, electricity, seeds fertilisers-pesticides and extension services etc., are provided in right quantity and quality and on time, they will be able to withstand the pressure, whatsoever, coming from whatever regime.

Most of the surveyed rural and urban people consume rapeseed-mustard oil as their staple edible oil. Almost 92 percent of the total surveyed rural consumers buy edible oil in loose form. In urban area nearly 1/3 of the surveyed consumers buy loose oil. More than 60 percent urban consumers are now buying oil in packed from. Nearly 44 percent of rural and almost same percentages of the urban household go for non-branded oil products. As regard choice of domestic *vis-à-vis* foreign (imported oil), 47 percent rural and 60 percent of the interviewed prefer imported oil, if available cheaply. Both in rural and urban area, price plays the dominant determinant for buying oil, followed by quality considerations and other factors. Regarding awareness about WTO AoA, 68 percent urban consumers and 80 percent rural consumers did not hear about such developments. However, both urban and rural consumers are in favour of opening up of edible oil trade to export and import. At the same time, they also suggested variety of measures like subsidy to domestic firms, technology assistance by government, raising scale of operation of domestic firm, reduction of tax, etc., to boost the domestic oilseed sector.

Conclusion and Recommendations

The oilseed sector in India *vis-à-vis* that of Rajasthan is at the cross roads and facing several challenges. The state is facing low yield rates and high cost of oilseeds production per unit area. There is also mismatch between low raw material production and high processing capacity leading to a situation where too much capacity is chasing too few oilseeds. Moreover fragmentation of capacities, poor scale economies, large idle capacity, high cost of a raw material and processing renders product–oils and meals–uncompetitive and affect export prospects. There are also some supply side bottlenecks of the oilseed sector like government policies, tariff and local taxes structure etc.

However, the scope for further improvement of the oilseed sector is large, notable in terms of yields, and oil and protein contents, which remained below the international standard. Yield improvements and increases in the oil and protein content of the seeds will be particularly crucial for oilseeds to compete more effectively with other crops for the use of scarce resources such as land and labour, and other critical inputs such a fertiliser, electric power, irrigation water, whose prices are likely to go up to better reflect their true economic costs.

So there is a need for policy reforms in the country both at the central level and the state levels to promote production of oilseeds in the country. The policy measures can be steps like reduction/ abolition various taxes, creating of various funds to provide support like setting up of testing laboratories, creating agri export zones, providing warehouse facilities, ensuring proper marketing channels for bulk transportation facilities, setting up food safety standards to combat frauds, restricting imports, mostly of palm oil and many others which impact the small and marginalised farmers in a positive way to increase the production of oilseeds in the country. It is very much essential that the steps be taken at an urgent basis to make the producers competitive and address their livelihood concern, in the situation when there is a huge surge of low priced quality oilseeds to India from the competing countries.

Chapter-1

Introduction and Background

Several decades of protection and three partial trade liberalisations have brought the stakeholders of the entire supply chain of oilseeds and the edible oil industry such as farmers, warehousers, processors, transporters and traders along with the officials who regulate their activities and the consumers to a critical juncture. These stakeholders facing a choice between modernizing for international competition for reaping significant gains offered by global trade liberalisation or perpetuating a fragmented industry structure whose inefficiencies are largely borne by farmers who receive lower than international prices at the one end of the supply chain and the consumers who pay higher than international prices at the other.

India generally pursued the policy of import substitution strategy until 1991(upto 1994/95 for edible oil sector), which delivered significant benefits. It turned from once-rising deficits in domestic consumption of edible oil (necessitating imports) to almost self-sufficiency in production of oilseeds. It was not only able to double output and stabilize the oilseeds production but diversify to produce new crops such as soyabeen, sunflower etc. even to those rainfed areas where poor farmers typically face more limited growth opportunities. As a result, India became almost self-sufficient in edible oils and a major exporter of oilseed meal by early 1990s. However, situation reversed soon. By the mid-1990s, cheaper imports and faster economic growth facilitated acceleration of demand for edible oils which was increasingly being satisfied through the imports liberalized in 1994-95. But continued inefficiencies in marketing and processing of oilseeds and also their supply bottlenecks deprived both the oilseeds processors and the farmers from capturing a larger share of market opportunities offered by trade liberalisation.

The trade liberalisation in oilseeds sector initiated in 1994-95 continued unabated and gradually, between 1999 and 2004-05, all quantitative restrictions (QRs) were removed and tariff rates were down significantly. As a consequence imports of edible oils rose from a low level of a million tonne in 1995-96 to a whopping five million tonnes in 2003-04, making India the largest importer of edible oils in the world. The domestic condition of oilseed complex became grimmer. Trade liberalisation measures were undertaken without bringing in place much-awaited domestic reforms in marketing and processing sectors.

Hobbled by a regime that arbitrarily restricts the domestic (inter-state) movement of oilseed products and reserves the processing of the oilseeds to small scale industry (SSI) reservation and usually inefficient enterprises, processors cannot invest in modern equipment and integrated processing plants that would enable them to reduce high losses of oil, improve the quality of oil meals, buy raw material from the cheapest sources on the domestic market, and raise their low capacity utilization rates. Banned from participating in forward and futures markets, traders and processors are/were at the mercy of the price volatility and imperfect information flows in a fragmented market that is a far cry from a needed, common, domestic market.(World Bank: The Indian Oilseed Complex: Capturing Market Opportunities, July 31, 1997, pp.2).

It was expected that the increased availability of a wider range of goods in the market place (due to liberalized trade regime) will enhance competition and would thus benefit common consumers in the long run, with more choices. At the same time, it was true that increased imports might lead to difficult situation for domestic producers especially small farmers and domestic processors (small inefficient ones) who might not be able to withstand the pressure of the new and liberalised market environment.

There are at set three policy options available for the benefit of various stakeholders- farmers, processors, government, and consumers- of the oilseed complex. Among them, the idea of removing the ban on oilseed imports appeals to processors ready to invest in modern, large-scale facilities in port cities, gaining efficiency that small-scale crushers could not emulate. Another approach, favoured by farmers, would raise tariffs on the imports of edible oils, thereby strengthening the growers' position (and prices) in the domestic markets- at the expense of consumers. A different strategy, one that would pay for itself, would focus on the domestic trade regime and on the central problem of the crushers' high margins and risks and the costs they impose on both farmers and consumers. Its objective would be to stimulate the industry to perform better at home and compete more strongly abroad by freeing it from a host of unnecessary restraints and strengthening government's ability to promote quality and consumer health and safety.

The edible oil and oilseeds sector faces many challenges in the new environment of liberalised trade. Government intervention is faced with the task of balancing the interests of different stakeholders in the oilseed complex . Providing benefits to some at the cost of others may cause some social tension at least in the short run. Imports of low priced oils, for example, benefit the consumers but tend to reduce the margins on domestic oils for the processors. Similarly, protection to oilseed growers can make oil and oil meal products internationally uncompetitive. The question, therefore, is: what the state can do to facilitate the restructuring of the affected sectors and take care of the interests of the different stakeholders.

Import Policies and Quantitative Restrictions

Import policies have played a key role in determining the overall level and type of India's edible oil imports for decades. Although significant imports were permitted prior to 1994, they were controlled directly by State Trading Corporation (STC) and subject to import quotas. In 1994, the import regime changed fundamentally when, as part of its obligations under WTO rules, India eliminated the state monopoly on imports and placed imports under the Open General License (OGL) system. Under the new rules, India agreed to eliminate import quotas and placed upper 'bound' (maximum) limits on tariff levels. These changes made the rules governing edible oil imports more transparent and imports more responsive to market forces.

Therefore, instead of reacting to policy changes adversely, it is necessary for all relevant stakeholders, including producers, intermediaries, consumers etc., to find answers as to how fast and effectively they can integrate themselves into a globalising/liberalising economy by using the springboard of the multilateral trade system (MTS) that is being created and nurtured under the WTO regime. In other words, given the background what type of pro-active approaches are necessary to identify the impact of the removal of QRs on the producers, intermediaries, consumers etc., and what type of appropriate policy response is necessary for the benefit of the Indian economy as a whole.

It is true that during the initial period after the removal of QRs, relevant sectors might find it difficult to deal with the situation and its diverse implications, let alone taking advantage of them. Thus, these sectors need to understand the contours of import competition and export competitiveness of their products, covering all aspects right from production to marketing, including tariff levels at which they would remain comfortable in the emerging market economy climate. In depth research along with information dissemination and outreach training of the stakeholders is required to understand the issue in its totality and cope up with the pains of transition.

It will not be feasible, at the same time, to conduct in-depth studies for every item on which QRs have been lifted. The imperative is to select an item, which is important for a wide cross-section of the society. One group of such items is oilseeds and edible oils. This group contains common products for consumption, and which come under basic need and a necessity. Furthermore, the production and distribution activities are not concentrated in a particular region and may not be evenly spread. Thus, the impact of policy changes would be felt over a wide range of society, in terms of prices, availability, access to the product, ability to buy, competition and employment generation etc.

With this background and context, the present study on oilseeds, particularly rapeseed-mustard and groundnut, the two principal oilseeds crops raised in the state of Rajasthan, was undertaken to identify strengths/weaknesses of this sub-sector of agriculture and to offer policy prescriptions to facilitate the process of integrating Indian economy and in particular, the state economy of Rajasthan in the post-QRs phase, with the emerging MTS. Though the scope of the present study is limited to oilseeds and edible oil covering only the state of Rajasthan, the same could be replicated for the other sectors or group of items as well as other states of India.

Some Facts on Oilseeds and Edible Oils

Trade in oilseeds has been completely deregulated within a short span of time and oils are now freely importable with relatively low incidence of custom duties. The impact of liberalisation on the import of edible oils has been phenomenal and from 0.10 million tonnes in 1992-93, India's import reached to 4.3 million tonnes in 2002-03. The share of bills for the import of edible oils in the total agricultural imports has ranged from 6 percent to 52 percent during 1991-92 to 2002-03. Almost four out of 12 years (since 1990-91), the country spent 50 percent of the total expenses on agricultural imports for the import of edible oil. The dramatic decrease in self-sufficiency in the last five years is a clear indication that globalisation has already made an impact of far reaching consequences on this sector. The country was almost self-sufficient in edible oils during 1991-92 to 1994-95 when the sufficiency level was in the range of 95 to 98 percent. However, gradually it has declined to about 53 percent in 2002-03.

Indian vegetable oil economy is world's fourth largest after US, China and Brazil, which accounts for seven percent of world's oilseeds output, seven percent of world's oil mill production, six percent of world's oil mill exports, six percent of world vegoil production, 14 percent of world's imports and 10 percent of world edible oil consumption. Indian oilseed based sector accounts for domestic turnover of US$12.5bn (Rs. 60,000 crores) while export-import trade is worth US$ 3bn (Rs.13,000 crores) per

annum. These figures account for about two percent of GDP and 17 percent of the value of agricultural output while claims just two percent of total export-import bill for the country. Three oilseeds – groundnut, soyabean and rapeseed/mustard together – account for over 80 percent of aggregate cultivated oilseed output. Cottonseed, copra and other oil bearing material too contribute to domestic vegetable oil production.

Oilseed crops account for about 14 percent of the gross cropped area in India. The cropped area, production and productivity of oilseeds in India have registered steady increase since the inception of Technology Mission on Oilseed and Pulses (TMOP) in April 1986 and reached the peak of 26.23 million ha., 24.75 million tonnes and 0.94 tonnes/ha in 1998-99 respectively. Madhya Pradesh is the leading oilseed producing state and accounts for 21.4 percent of the total oilseed production in the country followed by Gujarat (17.8 percent), Rajasthan (15.1 percent), Maharashtra (10.7 percent), and Andhra Pradesh (7.8 percent). The rest of the states account for remaining 27.2 percent of the total oilseed production. Nevertheless, cropped area, production and yield of oilseeds in India have been fluctuating because of several biotic and abiotic stresses affecting the crops. Another important factor contributing to insufficient domestic production/productivity of oilseeds has been the small area under irrigation, which has increased by merely three percent in the last one decade from 23.2 percent to 26.3 percent. India's domestic price support programme, which has often favoured production of crops that compete for area with oilseeds, is also responsible for such a scenario.

By 2010, India's total requirement of vegetable oils for the projected population of 1.25 billion at the projected per capita consumption of about 15kg/per annum is expected to be around 19 million tonnes, which is roughly equivalent to 57 million tonnes of oilseeds.[1] Considering the present domestic edible oil supply of seven million tonnes per annum, a shortfall of 12 million tonnes per annum is envisaged in the year 2015. To bridge this gap, a growth rate of 15 percent per annum would be required in edible oil production in India. The current edible oil growth rate in India is only four percent. This gap poses a big challenge to achieve in a short period of six years from now, considering the fact that the per capita edible oils consumption has gone up from a mere 4.5 kg in 1981-82 to 9.5 kg in 1998-99. In the event of failure to achieve the required growth rate, India would continue to spend huge foreign exchange on import of edible oil.

The WTO Provisions

Under the new WTO Rules, imports are to be regulated through tariffs. Uruguay Round Agreement on Agriculture (AoA) provided option to member countries to convert QRs to equivalent tariffs and provided a mechanism to declare maximum level of tariff for the base period from each commodity. As per the provisions, India can impose a tariff upto 300 percent on import of palm oil and upto 100 percent on vegetable oils except soyabean for which maximum tariff is fixed at 45 percent. Presently, imports of edible oils are made under OGL at 45-85 percent import duty. The maximum tariff ceiling bindings established by India for the oilseed sector is much below the bound tariff for the refined oil like refined, bleached, deodorised (RBD) Palmolein, perhaps keeping in mind the interest of consumers as well as their purchasing power.

[1] It is predicted by the NCAER that in the year 2015, the demand for edible oils in India would be 20 million tons per annum.

The Imminent Challenges

The vegetable oil complex is today at a crossroad. There is an urgent need both on the part of the Government (Central as well as States) and on the part of all stakeholders (producers, intermediaries, consumers etc.) to make concerted and coordinated efforts to withstand the pressures built up by the globalisation and WTO regime. There are some possible solutions, which *inter alia*, include the following five points. Of them, while the first two can affect self-sufficiency in the short-term the last three factors can only impact it only in medium to long-term.

1. International oil prices and consequent impact on domestic availability and demand: The international prices of edible oil would depend on relative growth in demand and supply of these products. If the former increases faster than the later or *vice versa*, then there would be fluctuations in world prices that would disturb the domestic economy. Continuous rise in population and income would increase demand for edible oils. Unless domestic production keeps pace with the growing demand, the dependence on imports would increase causing world prices to rise. The global glut in oil production, such as the one in the late 1990s, would lead to stability or even decline in international prices causing crushers to adjust for maintaining their margins.
2. Importing oilseeds instead of oil, the Chinese model: China, besides being the largest oilseeds producer in the world has taken a different route to tackle the problems of growing demand for oils by importing oilseeds rather than edible oil. Heavy imports of seed rather than edible oil by China in comparison to India logically favours the edible oil crushing industries of the former, and provides meal to meet the booming animal feed demand.
3. Incentives for motivating farmers to shift to oilseed cultivation: During the early 1990s, the Minimum Support Price (MSP) for food grains were kept in check relative to oilseeds and the government controlled import monopoly dramatically lowered oil imports. This policy sharply improved the domestic oilseed prices relative to competing crops and resulted in the increase of oilseed production by 70 percent between 1987-88 and 1994-95. However, after mid-1990s, oilseed prices declined relative to other crops, mainly due to the increased domestic oilseed supplies and liberalisation of edible oil imports initiated in 1994. MSP level for food grains were raised for oilseed since the mid 1990s. As a result, increasingly favourable returns from rice and wheat have drawn area away from oilseeds lowering oilseeds production. Since 1998-99, however, the MSP of the major edible oilseeds have been moving upward more decisively intending to lure the growers towards the oilseed crops.

4. Research initiatives for enhancing yield rates of oilseeds: In 1967, All India Coordinated Research Project on Oilseeds (AICRPO) was initiated to undertake research programmes on oilseed. The ICAR and State Agricultural Universities have developed a large number of high yielding varieties (HYVs) of oil seeds along with the production management technologies suited to various agro climatic conditions of the country and have increased the oilseeds productivity. Oilseeds crops ecological zoning would be the ideal strategy in realising the potential yields with limited efforts and inputs. The seed production is primarily

left with public sector agencies with many limitations. While there is enough breeder seed production, further seed multiplication through foundation and certified seed production are the key constrains for availability of quality seed at farmers' level. Further, the industries/private houses should support goal oriented basic and strategic research to enhance research and development (R&D) activities, especially in frontier research areas like biotechnology for diseases and pest management of oilseeds crops.

5. Agricultural Reforms Policy: The Indian vegetable oil industry is highly fragmented, small scale and suffers from low capacity utilisation. The future of this industry will not be bright unless it upgrades and modernises its technology to attain world standards. In the competitive globalised world, only industries with ultra-modern extraction technology with huge refining capacity may survive by exploiting scale economies benefits with timely availability in sufficient quantity of raw materials (i.e. oilseeds) both domestic and imported at internationally competitive prices. In India, the agricultural supply chain is highly fragmented with multiple procurers and intermediaries (6-8 in many cases) between the farmers and the final retail buyer. The large number of intermediaries tended to reduce the farm-gate price of the farmer. Appropriate domestic policy measures such as contract farming, marketing-warehousing-storage facilities etc., are needed to increase the farm gate price realisation of the farmer. Poor logistic, infrastructure and transportation costs continued to be major factors, which hinder India's competitiveness in international agricultural trade. Besides, inefficient transport, storage and distribution are probably as large on impediment to exports as are sanitary and technical barriers. A novel policy framework for the processing industry will have to balance the interests of four constituent factors: an incentive price for farmers; an affordable price for consumers; reasonable profit margins for industry with the incentives to modernise; and satisfactory levels of employment, income, exports and public revenue.

In a more recent by PV Srinivasan (2005), using multi commodity, partial equilibrium model that solves prices and quantities in markets simultaneously for five oils, four oilseeds and four oil meals, has examined the issue of providing price protection to oilseed growers through alternative means and their relative efficiencies in achieving this goal. Of several alternatives to protect farmers' interests he found, through his sophisticated econometric model, that "between the (other) two alternatives import tariff on edible oil and government subsidy in cash, the latter turns out to be more attractive"[1].

Objectives

The main objectives of the study are to provide a framework for core research, secondary literature survey and a field survey to do research and to offer strategies for information dissemination and outreach programmes.

Research Framework

[1] P.V.Srinivasan,"Impact of Trade Liberalisation on India's Oilseed and Edible Oils Sector" Report prepared for IGIDR-ERS/USDA Project:Indian Agricultural Markets and Policy, February 2, 2005

The present study involves, inter-alia, the following:

Background research: A survey of existing literature with respect to oilseeds/edible oil sector which essentially throws light on the following main issues: how the sector fared till date nationally as well as internationally; problems faced by the sectors particularly in the context of availability of capital, labour, technology; what are the situations in those sectors, which complement or supplement the identified sector, nationally as well as internationally; the process of interaction between key nodal agencies at all levels (local, state, national) that are important *via-a-vis* the sector; and the experience of other countries as to how they have resolved or are resolving issues arising due to policy interaction with existing WTO instruments in the sector of the study.

The field study: A primary survey was undertaken in the state of Rajasthan for the purpose of identifying major strengths and weaknesses of both oilseeds and edible oils by eliciting views of different stakeholders such as farmers, consumers, edible oil millers and associations working in the sector. Since Rajasthan is the largest producer of rapeseed/mustard in the country and also a major producer of groundnut and (now) soyabean, we conducted a large primary (household) survey among rapeseed/mustard growers of five major rapeseed/mustard producing districts, viz., Alwar, Bharatpur, Baran, Ganganagar and Sawai Madhopur and three major groundnut producing districts such as Jaipur, Bikaner and Chittorgarh. Similarly, consumer perception survey was conducted both in rural areas (in all these 5+3=8 districts) and urban areas (cities included were Jaipur, Jodhpur, Bikaner, Kota etc.), and edible oil millers both processors/crushers and *ghanis*. In addition, views of Mills Associations were obtained.

Analysis: With inputs from background research and with the results of the primary field survey, an in-depth analysis is undertaken to identify the major issues affecting international competitiveness of this sector, which were further classified in terms of their effects on import competition and export competitiveness. The analysis also identifies policy/institutional measures to neutralize and/or reinforce the factors of competitiveness. As part of the analysis, policies that govern oilseeds/edible oil sector have been examined with respect to their compatibility with various WTO instruments. Furthermore, the analysis focused on understanding how nodal agencies at the local, state and national levels have been interacting on concerned issues pertaining to the identified sector.

Chapter-2

WTO Agreement on Agriculture & Its Implication for India

One of the major outcomes of the Uruguay Round (UR) was the AoA, which along with the Agreement on Textiles & Clothing (T&C) were new to the GATT disciplines. The AoA came into effect from January 1, 1995. In signing the GATT or WTO, India committed to: (a) converting all non-tariff measures into tariffs (known as tariffication); and (b) following GATT rules regarding market access, domestic support and export subsidies, besides negotiations on food and safety standards etc., which was settled by the adoption of agreements on Sanitary and Phyto-Sanitary (SPS) measures and Technical Barriers to Trade (TBT). These instruments existed in the GATT as codes. There are also sections (in AoA) on non-trade concerns, like food security, rural development etc. India's obligations under the WTO AoA fall mainly under four broad areas namely, market access, export subsidies, domestic support, and SPS measures.

India's Obligations Under Market Access

According to the WTO AoA, all non-tariff barriers (NTBs) to agricultural trade were to be tariffied and converted into their tariff equivalents. Further, tariffs resulting from this 'tariffication process' were to be reduced by a simple average of 36 percent over a period of six years in the case of developed and 24 percent over a period of 10 years in the case of developing countries. In addition to this, for countries, which had tariffied, there was also an obligation to maintain current and minimum access opportunities and to establish a minimum access tariff quota of a minimum of three percent of domestic consumption in the base period 1986-88. This was to be gradually increased to five percent of base period consumption over the implementation period.

Along with many developing countries, India was permitted to offer ceiling bindings instead of tariffication. These bindings were not subject to the reduction commitments. India was also allowed to maintain QRs on account of balance of payment (BoP) problems. But since India had not tariffied and was instead allowed to bind its tariffs, it did not have any market access commitment. But like many developing countries, which decided to bind their tariffs, India is also not entitled to use the Special Safeguard Measures (SSM) of the AoA, which can be used by only a few (36) developed countries, which had tariffied.

Since, AoA allowed members either to tariffy in all cases or to bind their tariffs during the Uruguay Round, India chose to follow the latter route and bound its tariffs for 3375 tariff lines which constituted 65 percent of India's total tariff lines defined at 6-digit HS level. Out of these 3375 commodity groups, 683 commodity lines at 6-digits of HS classification belong to the agricultural sector. Simultaneously, India continued to have QRs, which it was permitted to impose because of BoP reasons. Like many other developing countries, except for a few commodities, India bound its tariffs at 100 percent for primary products, 150 percent for processed products and 300 percent for edible oils. But, for certain items (comprising about 119 tariff lines), which were historically bound at a lower level in the earlier negotiations, the binding levels were very low, in some cases, even zero. But these zero or low tariffs had no relevance because India was allowed to use QRs.

The US and some other countries in the Dispute Settlement Body (DSB) of WTO challenged India's continuation of QRs on the plea of BoP position. In view of its improved position in the matter of foreign balances, India lost the plea for retention of QRs on account of BoP position both at the DSB as well as at the Appellate Body. According to the understanding arrived at between the parties regarding the reasonable period of time latest by March 2001, India removed the QRs on 714 items, including 142 commodities belonging to the category of agricultural commodities during 1999-00. On the occasion of Export and Import Policy announcement on March 31, 2001, the Commerce Minister announced the removal of QRs on the remaining 715 items, thereby ending the much-maligned 'License Permit Raj''.

With the removal of 715 items from the list, which include 42 groups belonging to agriculture, QRs on imports have been completely abolished and the obligation to replace QRs by tariffs has by and large been fulfilled (except for a few strategic commodities). After the decision to remove QRs, India was under GATT Article XXVIII, allowed to renegotiate the tariffs bindings on those commodities for which it had very low or zero tariff bindings. Consequently, in December 1999 India successfully negotiated and the bindings levels were suitably revised upward to provide adequate protection to the domestic producers. Out of these low bound tariff lines, bindings on 15 tariff lines, which included skimmed milk powder, spelt wheat, corn, paddy, rice, maize, millet, sorghum, rapeseed, colza and mustard oil, fresh grapes etc., were revised to a level ranging between 45 percent and 75 percent.

India's Commitments Under Export Competition

Export subsidies were subject to reduction commitment in the area of export competition though several kinds of direct payments were exempted. The export subsidy commitment is either in the form of budgetary outlay reduction commitments or in the form of export quantity reduction commitments. Export subsidy outlays in budgets are to be reduced by 36 percent for developed countries and 24 percent for developing countries over a period of 6 and 10 years respectively. The volume of exports receiving subsidies is to be reduced by 21 percent per product or group of products for developed countries and by 14 percent for developing countries over the same period. These reductions are to be made by taking 1986-90 as the base period. The least developing countries (LDCs) are not subject to any reduction commitments, which are defined over commodity aggregates rather than individual lines.

Export subsidies of the kind listed in the AoA, which attract reduction commitments are not extended in India. Indian exporters of agricultural commodities do not get direct export subsidy. The only subsidies available to exporters of agricultural commodities are in the form of: (i) income tax exemptions on profits from export sales; and (ii) subsidies on costs of freight (export shipments) of certain products like fruits, vegetables and floricultural products.

Since these payments are exempt for developing countries from reduction commitments during the implementation period, they will not cause any adverse impact on agricultural exports from India, at least during this period. Therefore, India is making use of these subsidies in certain schemes of Agricultural & Processed Food Products Export Development Authority (APEDA), especially for facilitating export of rice, wheat and

horticulture products. But once the export supplies become self-sustaining during the adjustment period, these will have to be withdrawn.

India's Commitments Under Domestic Support

The AoA distinguishes between three types of production support grouped into 'boxes', which are given the colours of traffic lights: green (permitted), amber (slow down – i.e. to be reduced), blue (subsidies that are tied to programmes that limit production). There are also exemptions for developing countries in the form of Special and Differential Treatment (S&DT).

Domestic support measures, according to the Agreement, are meant to identify acceptable measures of support to farmers and curtailing unacceptable trade distorting support to farmers. The trade distorting domestic support is measured in terms of what is called the 'Total Aggregate Measurement of Support (AMS), which is expressed as a percentage of the total value of agricultural output and includes both product specific and non-product specific support.

According to the AoA, all non-exempt domestic support calculated as AMS has to be reduced by 20 percent by developed countries in six years (1995-2000) and by 13-1/3 percent by the developing countries in 10 years (1995-2004), taking 1986-88 as the base period. However, domestic support given to the agricultural sector up to a ***de-minimis*** level of 10 percent of the total value of agricultural produce in developing countries and five percent in developed countries is allowed.

AMS is further classified into product-specific and non-product specific support. All the supports/policies directed at producers of various agricultural products and provided on product-by-product basis constitute the product specific AMS. These support measures can be classified into three broad categories namely, Market Price Support, the Nonexempt Direct Payments and other Product Specific Support. The only measure that is relevant for the calculation of product specific support in India is the market price support since the other two namely, the Non-exempt Direct Payments and other Product Specific Support do not constitute a significant proportion of support in India. The market price support in the form of minimum support prices is announced by the Government for different commodities, based on the recommendations of the Commission for Agricultural Costs and Prices (CACP). The non-product specific support is the measure of support given to agriculture by way of subsidised supply of inputs such as fertilizers, irrigation, electricity, credit and seeds etc.

Gulati (2001) calculated that in case of India the product specific support in the year 1995-96 was negative to the extent of 38.5 percent. Bhalla (2004) has prepared a new set of estimates for both the product specific and non-product specific support to agriculture. The results show that the product-specific support is negative both at fixed price based on Triennium Ending (TE) 1986-88 or even if current price base is taken. However, the non-product support that is input subsidies is positive. But they do not exceed the *de minimus* level either individually or in the aggregate. Since India's total product support continues to be negative it has proposed to the WTO that the negative support should be offset against positive non-product support while calculating the AMS. No final decision has yet been taken on this issue.

The July Package

Nevertheless, when the WTO members agreed on Doha Rounds Work Programme (DRWP) in July 2004 called the 'July Package', the developed countries succeeded in safeguarding their interest by relegating capacity building and implementation issues into a backburner. Moreover, the 'July Package shifted the focus from the three pillars of agriculture – market access, domestic support and export competition – to the three entities such as agriculture, non-agriculture market access (NAMA) and services that brought in trade facilitation.

The main features of July Package are:

- S&DT is integral part of all the three pillars;
- Reduction in aggregate measure of support (AMS) and *'de minimis'* by all;
- Blue box retained but capped at five percent of output value;
- Green box will be reviewed and clarified;
- Progressivity in tariff reductions through deeper cuts in higher tariffs and flexibilities for sensitive products;
- Substantial improvements in market access for all products;
- All members (including developed countries) may designate tariff lines to be treated as sensitive; and
- Elimination of export subsidies by a fixed date.

In area of domestic support, the framework agreement proposes immediate reduction in domestic support by 20 percent. The reduction is to be affected on a much higher base, which would be sum of trade distorting support, *de minimis* level and permitted blue box. The agreement institutionalises blue box to provide assistance upto five percent of product value. The green box includes non-trade distorting or minimum trade distorting measures. It needs to be noted that even in the UR agreement green box was defined only to include non or minimal trade distorting support but subsequently the box was used to shift amber box support to exempted green box. The framework permits developing countries to designate list of '**Special Products**', which would not be subject to market access commitments. In the same breath, the package retains a sort of Special Safeguard Mechanism (SSM) for **'Sensitive Products',** which would allow developed countries to deny market access in their countries to the products defined as sensitive.

Sixth WTO Hong Kong Ministerial

Extremely slow progress of negotiations made at Geneva regarding the modalities to be adopted for AoA, it was amply clear from the beginning that the 6th WTO Ministerial at Hong Kong will have very limited objectives, which included: to finalise a development package for LDCs; and to arrive at some consensus on the Cotton Initiative. In Agriculture and NAMA, the objective was primarily (as popularly mentioned) to top up the convergences available from the report of the Chairman of committee on AoA to the maximum extent possible.

Mehta and Kumar (2006) have very rightly stated, "Frankly speaking, if we compare the developments at Hong Kong with the 'July Package', the progress is minimal. The most contentious and the toughest part of the current negotiations is that modalities, which over time period, formulae and principles for reductions of tariffs and subsidies, have unresolved. In addition, despite all talks of a development focus of Doha agenda, there has been a continuous dilution of the 'development" mandate'.[2].

Whether any progress made at the multilateral trade negotiations (MTN) on the July deal, Mehta and Kumar's reaction was "…. After the Cancun fiasco it took almost three to four months for the negotiators to sit across the negotiating table and resume the dialogue. This resulted in the 'July Package', which once again raised the expectations of developing countries. The July Framework was an important milestone in the Doha Round. Alas, the euphoria created by the July Framework Agreement proved to be short-lived". And the Hong Kong Ministerial could not (as expected) make much progress on the July deal.

Table-2.1: A Comparison Between 'July Package' and Hong Kong Declaration

	In July Package	In Hong Kong	After Hong Kong
Agriculture			
Export Subsidies	Agreement in principle to eliminate export subsidies including implicit ones through export credits, state trading enterprises, and food aid. The end date to be agreed	Parallel elimination of all forms of export subsidies and disciplines on all export measures by end-2013. A substantial reduction to be realised by 2011	It remains a major challenge to ensure parallelism. It means quantifying indirect subsidies and working out a detailed phase-out programme.
Domestic Supports	Members with the highest trade-distorting domestic subsidies will make deeper cuts. Developing countries that allocate almost all *de minimis* support for subsistence and resource poor farmers will be exempt from reductions.	Agreement on three bands to classify WTO Members as per their levels of trade-distorting domestic support. As per this classification the EU would fall in top band, the US and Japan in middle band and rest in bottom band.	Yet to agree on size of subsidy reduction and more importantly plugging loopholes to prevent members from box shifting.
Market Access	A tiered formula with progressivity to be achieved through deeper cuts in higher tariffs. Flexibilities for 'sensitive products' (developed countries) and 'special products' (developing countries).	Agreement on four bands for structuring tariff cuts with different thresholds for developing countries. Flexibility for developing country members to self-designate an appropriate number of tariff lines as special products and also right to have recourse to a Special Safeguard Mechanism.	Yet to agree on size of tariff cuts and further specificities on treatment of 'special' and 'sensitive' products.

Yet another outcome of the Hong Kong (HK) Declaration, which has serious repercussions for developing countries, was the formal linking of agriculture and NAMA. Institutionalising this linkage the HK Declaration (paragraph 24) states, "it is important

[2] Pradeep S Mehta and Pranav Kumar, "WTO in 2006:Looking Back to Move Ahead Post-Hong Kong is More Challenging" Briefing Paper, CUTS-International, No.1/2006

to advance the development objectives of the round through enhanced market access for developing countries in both agriculture and NAMA. There should be high level of ambition in market access for agriculture and NAMA. This ambition is to be achieved in a balanced and proportionate manner consistent with the principle of special and differential treatment". The contents and wordings of these sentences are confusing and carry meanings differently to different players in multilateral trade negotiations. In such situations developing countries with their limited and weak negotiation capabilities would find it difficult to deal with beneficially.

Box-2.1: Non-Agricultural Market Access (NAMA)

NAMA refers to a process of negotiations mandated by the Doha Ministerial Declaration (2001), aiming to liberalise trade in industrial and consumer products, particularly in products of export interest to developing countries. The negotiations cover all products not covered under the AoA. The products covered are essentially industrial goods that also include natural resources like fisheries, gems and minerals. These negotiations aim to reduce or eliminate tariff peaks, tariff escalation, high tariffs and NTBs and other barriers to market access for industrial exports. NAMA negotiations are closely related to development because it works towards setting standards on the degree to which a country can manoeuvre its tariff policy. Tariff policy in turn is an integral part of the development strategy of a country and has significant implications for industrialisation, employment and poverty. A strong industrial base is essential to economic development. Tariffs allow countries to control the price, speed and volume at which imports enter their domestic markets to protect local production until the time they are ready to compete. The present day developed industrial countries make extensive use of tariffs to allow their domestic industries to grow; in fact, they continue to rely on tariffs peaks and tariff escalation to protect certain sectors. Any major reduction in tariff rates can not only impose harsh adjustment costs (revenue loss) but also lead to conditions like 'de-industrialisation' (job losses, for example, the experiences of Senegal between 1985-88 and Zambia in 1991). The negotiations on NAMA have been tortuous, and many developing countries and LDCs, including those from Asia, have expressed grave concerns. However, the text of the HK Declaration on NAMA, as stated by Mehta and Kumar (2006, p2) gives a sense of comfort to some extent as tariff peaks and tariff escalation would be reduced or appropriately eliminated by using 'Swiss Formula' with multiple co-efficient. Preference erosion, which is one of the major fears of LDCs, has been recognised in the text. However, still there is no meaningful forward movement on how to negotiate NTBs.

Implications for India

So far India is concerned the major gains at Hong Kong Ministerial, as elaborated by GK Pillai are discussed below.

India would not be required to make any cuts in *de minimis* support as well as any overall cut in trade distorting domestic support. As per the existing criteria, India is entitled to provide 10 percent of the annual value of agricultural production as product specific *de minimis* support and a further 10 percent as non-product specific *de minimis* support. This would mean that both the Central and the State Governments would be free not only to continue with the existing subsidy programs but also could increase the same.

It was also agreed that there would be parallel elimination of export subsidies and disciplines on export measures, which would be completed by the end of 2013 with a substantial part to be realised by the end of first half of the implementation period i.e. 2010. Although the exact value of the export subsidy/export credits is only of the order of around US$10bn the fact that 50 percent of the same would be eliminated by 2010 would mean that India could expect a slight rise of 3 – 5 percent in the world market prices of specific crops like sugar, cotton and certain dairy products which receive these export subsidies. Here again, the key question would be whether the developed countries would

actually reduce the amounts provided to the farmers or indulge in box shifting to provide the same amount of support. However, since export subsidies are the most trade distorting their phased elimination would have an impact on the world market prices of some agricultural commodities.

It was also agreed that developing countries like India would continue to benefit from the provisions of Article 9.4 of the AoA for five years after the end date for elimination of all forms of export subsidies. This means that India would be permitted to provide transport and marketing subsidies for export of agricultural products till the end of 2018.

In so far as India's defensive interests are concerned, the major achievement at HK was the agreement that developing countries will have the flexibility to self-designate an appropriate number of tariff lines as Special Products (SPs) guided by indicators based on the criteria of food security, livelihood concerns and rural development. It must, however, be realised that treatment of such SPs are still subject to negotiations even though it was agreed in the July framework that more flexible treatment would be accorded to SPs.

Developing country members would also have a right to recourse to a Special Safeguard Mechanism (SSM) based on import quantity and price triggers. The inclusion of price triggers was a significant achievement, as there was a widespread objection to this trigger being a part of SSM. However, their precise arrangements are to be further negotiated.

In so far as the tariff reduction or market access commitments are concerned, the only agreement was that there would be four bands for structuring tariff cuts. The Threshold for these four bands for both developed and developing countries as well as the cuts in each band are to be negotiated in the coming months. As per the G-20 proposal, the four bands proposed for developing countries are 0 – 30, 30 – 80, 80 – 130 and 130 percent and beyond. The cuts in the highest band would be 40 percent with lower cuts of 35 percent, 30 percent, 20 percent in the other bands. However, the overall cut shall not exceed 36 percent on average. In so far as the developed countries are concerned, the G-20 proposal is that these countries take an average cut of at least 54 percent with cuts in the highest band of 75 percent. Disciplining the Blue Box and any Product Specific Caps and tightening the criteria for Green Box subsidies are to be negotiated in the coming months. The correction in the distortion in agriculture trade would be based on the effectiveness of these disciplines and their monitoring.

In so far as domestic support to agriculture is concerned, over 85 percent is provided by the developed countries. The US has agreed to an overall cut of 53 percent while the EU has agreed to an overall cut of 70 percent. The cuts by the US primarily reduce the water available and is not a real cut. Negotiations are continuing to have more effective cuts.

It would thus be evident from the above that the bulk of the negotiations would be accomplished in the next 3-4 months. It was agreed at HK that full modalities in agriculture and NAMA would be achieved no later than April 30, 2006.

Reforms in the agriculture sector in India were extremely slow during the Uruguay Round. The critical requirements of improving productivity in agricultural products, amendments to marketing Acts, setting up of agricultural infrastructure, including cold storage chains as well as improvement in productivity have been very tardy. It is likely

that Indian agriculture may get 4 – 6 years time to carry out these reforms and become competitive in selected sectors.

Agriculture is a State subject and the State Government has an overwhelming responsibility to ensure that the interest of the farming community are fully protected and that they are given full opportunity to enhance their incomes through increased subsidies, better infrastructure and marketing so that they can double or triple their income. This requires detailed crop wise micro planning so that input costs are minimised, productivity improved, marketing channels streamlined and infrastructure bettered for the farmers. The next few years will be extremely critical in this regard.

Chapter-3

India's Oilseeds & Edible Oil Scenario

Indian vegetable oil economy is the fourth largest in the world next only to US, China and Brazil accounting for about 14 percent of world's oilseeds area and 8.5 percent of world's oilseeds production. However, the productivity in India is only 986 kg/ha (2003), which is just less than 2/3rds of the worlds average productivity of 1777 kg./ha (2003). But there has been a significant improvement in yield rates in India since 1986. During the period 1986-2003, average yield rates grew more than twice compared to the world average (76 percent against 31 percent). There was a significant growth in production of oilseeds in India, which grew by 133 percent as against just 79 percent increase for the world production during the same period. Cropped area under oilseeds during the same period rose by 36 percent for the world while it was only 25 percent for India.

India ranks first in castor and safflower production in the world and it is the second largest producer of groundnut and sesame and ranks third in linseed and rapeseed, fifth and sixth in soyabean and sunflower, respectively. Table-3.1 illustrates that in terms of area out of eight oilseeds crops, India ranks first in four crops, second in rapeseed only next to China and fourth in sunflower and soyabean. Appendix 3.1 shows details of India's share in world production of different oilseeds crops during 1992-93 to 2004-05.

Table-3.1: India's Position in World's Area & Production of Oilseeds (2003)

Oilseeds	Area		%	Rank	Next to	Production '000 MT		%	Rank	Next to
	World	India	Share			World	India	Share		
1.Groundnut	26463	8000	30.2	I	-	35658	7500	21.0	II	China
2.Safflower	743	350	47.1	I	-	648	157	24.2	I	-
3.Castor	1163	625	53.7	I	-	1144	580	50.7	I	-
4.Linseed	2456	459	18.7	I	-	2091	173	8.3	III	Canada China
5.Sesame	6566	1940	29.5	I	-	2942	620	21.1	II	China
6.Rapeseed	22943	4419	19.3	II	China	36146	3842	10.6	III	China Canada
7.Sunflower	22333	1940	8.7	IV	Russia Ukraine Argentina	27740	1220	4.4	IX	Argentina Russia Ukraine USA China France Romania Spain
8.Soya bean	83695	6450	7.7	IV	Brazil Argentina China	189234	6800	3.6	V	USA Brazil Argentina China

Source: Oilseeds Situation: A Statistical Compendium, 2005 Published by Directorate of oilseeds Research, (ICAR) Hyderabad.
Table 1.4 pp..5

In domestic agricultural sector, oilseeds occupy a distinct position after cereals sharing 13 percent of country's gross cropped area and accounting for nearly three percent of gross national product (GNP) and 10 percent of the value of agricultural produce. India is blessed with diverse agro-ecological conditions ideally suited for growing a variety of

oilseeds crops of which nine important crops include groundnut, rapeseed, mustard, sunflower, sesame, soyabean, safflower, caster, linseed and niger, two perennial oilseeds crops (coconut and palm oil), besides secondary oil crops such as maize and cotton. In addition, more than 100 tree species of forest origin that have the potential to yield about one million tonnes of vegetable oil are grown in India.

Recent Trends in Production and Performance

All India area, production and yield of nine oilseeds crops are shown in Appendix-3.2 covering the entire Plan period. In 1950-51, area under nine oilseeds crops was just 10.73 million hectares, which rose to 23.69 million hectares in 2003-04, registering an annual compound growth rate of 1.45 percent per annum. The production of these oilseeds rose from 5.16 million tonnes to 25.3 million tonnes during the same period showing an impressive growth rate of 3.17 percent per annum. The average yield registered a growth rate of 1.6 percent per annum increasing from 481 kg/ha to 1067 kg/ha during the same period (Table-3.2). During 1981-82 to 1993-94, oilseed crops registered the fastest annual growth rate (5.8 percent) of all major crops in India, contributing 22 percent of all India crop growth during the same period. This annual growth rate in oilseeds production was more than double the annual growth rate in food grains (2.8 percent) and far exceeded that of cereals (3 percent), fibres (3.4 percent), sugarcane (2.9 percent) and fruits & vegetables (4 percent). This oilseeds production performance contrasts sharply with the virtual stagnation (1 percent per annum) during the initial post-green revolution period (1968-1981). This rapid growth in oilseeds production has given rise to more balanced agricultural growth across states, particularly favourable to the rainfed area, implying that oilseeds were raised prominently in rainfed areas.

Table 3.2: Area, Production and Yield of Nine Oilseed Crops in India

Year	Area Million hectares	Production Million Tonnes	Yield Kg/ha
1950-51	10.73	5.16	481
1955-56	12.09	5.73	474
1960-61	13.77	6.98	507
1965-66	15.25	6.40	419
1970-71	16.64	9.63	579
1975-76	16.92	10.61	627
1980-81	17.60	9.37	532
1985-86	19.02	10.83	570
1990-91	24.15	18.61	771
1995-96	25.96	22.11	851
2000-01	22.63	18.43	791
2003-04	23.69	25.29	1067

Source: Oilseeds Situation: A Statistical Compendium, 2005 Published by Directorate Of oilseeds Research, (ICAR) Hyderabad. Table 1.2 pp.1

As reported in the World Bank study 1997, the adoption of new technology during the mid-1980's played crucial role in increasing oilseeds output. In the initial period between 1979-80 and 1986-87, new oilseeds crop technologies were introduced and its uptake by early adopters yield improvements outpaced area expansion in explaining overall increase in oilseeds output. However, during the following period from 1986-87 until 1993-94 the situation reversed when improvements in yields played a more modest role in explaining

total output growth of oilseeds. The area expansion was more rapid as new technology spread much faster in new areas.

The nine oilseeds crops performance in terms of area, production and productivity growth during 1980 to 2004 period divided into three distinct sub periods are shown in Table 3.3. The area, production and yield performance during the entire Plan period from 1950-51 to 2002-03 for groundnut, rapeseed-mustard and soyabean are presented in Appendix 3.3,3.4 and 3.5 respectively.

Table 3.3: Compound Growth-Rates of Area, Production and Yield of Oilseeds Crops, during 1980-90, 1990-2000 and 2000-2004 (Base year TE 1981-82=100)

	Area	Production	Yield
1980-81 to 1989-90	2.47	5.36	2.49
1990-91 to 1999-2000	0.17	1.42	1.42
2000-01 to 2003-04	0.23	6.41	5.95

Source: Oilseeds Situation: A Statistical Compendium, 2005 Published by Directorate of oilseeds Research, (ICAR) Hyderabad Table 17.1 pp.365

The post 1980's period has shown some distinct changes in the performance of oilseeds sector. The output growth (5.36 percent) during the first sub-period (1980-81 to 1989-90) has made the country almost self sufficient in oilseeds. This increase in output growth was contributed equally by area expansion and yield improvements. The second sub-period (1990-91 to 1999-2000) has been a clear slow down in output growth (1.42 percent), which was mainly due to deceleration in the yield growth (1.42 percent) reason thereof being relatively slow growth in irrigation availability to such crops. Since the beginning of the new century the third sub-period (2000-01 to 2003-04) has shown impressive improvements in yield rates (5.95 percent) giving rise to significant growth in output (6.41 percent) of oilseeds, while area expansion played insignificant role.

Cropping Pattern

In the 1970's, groundnut (63 percent) dominated oilseeds production followed by rapeseed-mustard (21 percent), both these crops produced nearly 85 percent of country's oilseeds production, while soyabean and sunflower were almost non-existent. The technological change in oilseeds production made it possible to grow new crops such as soyabean and sunflower and improved technology was introduced in traditional oilseeds rapeseed/mustard and groundnut. The soyabean and sunflower output grew by 18 percent and 21 percent respectively during 1980-81 to 1989-90. The output growth of about 7.3 percent per annum in rapeseed mustard was also a significant contributor to oilseeds output during the same period (Appendix 3.6). In the 1990's, only soyabean production showed spectacular performance (13 percent per annum) while the output of rapeseed mustard stagnated (0.78 percent) and groundnut decelerated (-1.25 percent). More than 1/5th of oilseeds production was now contributed by soyabean. Since the beginning of the present century, there is a turnaround in output as well as yield performance of all three major oilseed crops in India. In the period between 2000-01 and 2003-04, growth performance in output was led by soyabean (9.7 percent), followed by rapeseed mustard (7.6 percent) and groundnut (3.2 percent), baring 2002-03, when total output of all three

major oilseeds crops dipped to the lowest level in the entire post-1990 period. (groundnut dropped by 37 percent, rapeseed/-mustard by 24 percent and soyabean by 18 percent. However, this situation was reversed in 2003-04 when rapid production increase in rapeseed –mustard and soyabean changed dramatically the performance and composition of oilseed output in India.

The major oilseed producing states in India are Madhya Pradesh (22 percent), Rajasthan (13 percent), Gujarat (12.5 percent), Maharashtra (12 percent), Andhra Pradesh (11 percent), Karnataka (9.5 percent), Uttar Pradesh (5 percent), Tamil Nadu (3 percent), West Bengal (3 percent) and Haryana (2.7 percent). These 10 states together cover more than 93 percent of the total area and contribute 96 percent of the total output of oilseeds in the country. (Appendix-3.7). The three largest oilseeds producing states – Madhya Pradesh, Maharashtra and Rajasthan – together contribute nearly half of the country's total production of these nine oilseeds (Appendix-3.8). However, the technological change in groundnut has been much more limited. Productivity growth in groundnut remained slow over the entire period. Most of the groundnut growth took place in the late 1980's, mostly as a result of area expansion in Andhra Pradesh. Gujarat is the largest groundnut producing state in the country claiming more than half of country's total groundnut production. Tamil Nadu and Andhra Pradesh are the other important producers of groundnut. (Appendix-3.9).

Rajasthan claims first position with a share of 45 percent in rapeseed-mustard production in India, followed by Uttar Pradesh (12.7 percent) and Haryana (15.4 percent). Until the end of 1980s, yield improvements played the dominant role in output growth, while area expansion contributed little. During the 1990s, area expansion contributed the most as the new varieties spread to an increasing number of growers, and yields contributed less. The growth in yields improved significantly from 0.2 percent per annum (1968 to 1981) to 5.2 percent (1980-81 to 1989-90), also surpassing that of rice and wheat. Area expansion took place largely in Rajasthan, Madhya Pradesh and parts of Gujarat. There was a significant deceleration in yields growth (0.07 percent per annum) during the period 1990-91 to 1999-00, but the trend was reversed in later period 2000-01 to 2003-04 when yields showed spectacular increase of almost five percent per annum, mainly due to good monsoon (barring 2002-03) and application of new varieties of seeds. (Appendix-3.10).

The introduction of new oilseed crops i.e. soyabean in Madhya Pradesh and Maharashtra, sunflower in Karnataka and Andhra Pradesh marks the beginning of technological change in oilseed production. Most of the technological change was brought about in the form of area expansion during the 1980s and the 1990s. Except in 2002-03, growth in soyabean was significant at around seven percent per annum during the period between 2000-01 to 2004-05, accounted for mainly by the growth in yield rates (10 percent) with almost no area expansion. More than 2/3 of soyabean is produced in Madhya Pradesh while Maharashtra (28 percent) and Rajasthan (9 percent) are other two prominent soyabean producing states in the Country. (Appendix-3.11)

Increased Production Stability

The oilseeds output has shown increasingly more stability as it expanded during the period between 1992-93 and 2003-04. Only two years, -- 2000-01 and 2002-03 – when output reduced significantly due to widespread drought conditions prevailed in oilseeds

growing areas/states otherwise output of oilseeds remained above 20 million tonnes mark during the entire period. It is rather a discerning feature that despite tremendous efforts irrigation facilities were available to only ¼ of the area growing oilseeds crops though expansion of oilseed production was accompanied by more irrigation which would have a favourable effect on production stability.

Crop Diversification

There has been a remarkable diversification in oilseeds crops as production of oilseeds increased. The share of groundnut in total production declined from 58 percent to 32 percent while rapeseed-mustard and soyabean together assumed a much larger share from 29 percent to 56 percent during the period between 1980-81 and 2003-04.

Government Policy to Raise Oilseeds Production and Productivity

Since the 1980s there emerged a realisation to raise oilseeds production and productivity to achieve self-sufficiency in vegetable oil and oilseeds sector. The role of technology was accorded explicit recognition as a major input in oilseeds production. A development project for groundnut was initiated in 1980-81 and that for soyabean in 1981-82. In 1980-81, a programme of distribution of mini-kits of improved seeds and fertilizers for oilseeds was started. The National Oilseeds Development Project (NODP) was launched for accelerating the production of four major oilseeds crops viz., groundnut, rapeseed-mustard, soyabean and sunflower. The programme was designed to make available improved HYV seeds, plant protection chemical, fertilizers and rhizobium culture to the farmers at subsidised rates. The various government agencies such as Indian Council of Agricultural Research (ICAR), State Departments of Agriculture, State Agricultural Universities were involved in taking new varieties and improved techniques to the fields. Initially the programme was started in potential areas of 12 states but later on it was extended to 180 districts of 17 states.

Although these efforts showed some good results in raising oilseeds production however it was increasingly realised to incorporate the improved technology of processing and management of the oil economy so as to have an integrated development programme for edible oils and oilseeds crops in the country. With this view, the 'Technology Mission on Oilseeds' (TMO) was launched in May 1986. In 1987-88, the 'Oilseeds Production Thrust Project' (OPTP) was initiated in 246 districts of 17 states, which was subsequently extended to other areas. Both these programmes -- NODP and OPTP – were merged into one programme, namely, Oilseeds Production Programme (OPP), during 1992-1993, and was implemented in 324 districts in 21 states (S.S. Acharya IJAE 1993).. The growth performance of oilseeds economy of the country during the last 30 years reveals major deficiencies/limitations, which *inter-alia*, include the following:

- Lack of any genetic advance in technology evolving high productivity seeds;
- Compulsion of raising irrigation facilities because even today ¾ of the area under oilseeds crops is still rainfed;
- Low productivity of oilseeds never matching wheat/rice productivity levels even if grown in irrigated land;
- High risks in losing production due to extensive sensitivity to adverse weather conditions especially mustard; and

- Low MSP *vis-à-vis* rice/wheat, even if MSP for oilseeds is doubled/tripled would not be helpful as long as yield rate are low compared to rice/wheat.

India's strategy for increasing oilseeds production, therefore, laid greater emphasis on both ensuring remunerative prices to the oilseeds growers and developing and popularising viable technologies that will increase productivity at low cost. The price support operation for the oilseeds sector in India are at two levels: one is a farm price support scheme administered by the National Agricultural Cooperative Marketing Federation (NAFED), which provides floor price for major oilseeds viz., groundnut, rapeseed-mustard. However, the need for NAFED's intervention in the oilseeds market has been negligible in the past since prices of groundnut, rapeseed-mustard and other oilseeds have always remained well above the support price (Table 3.4). Therefore, large scale price support purchases did not arise. However, in order to provide remunerative prices to oilseeds growers as well as prompt them to move away from cereal crops and to grow more oilseeds (cash) crops, the MSP for oilseeds were increased more than that for cereals. For example, between 1978-79 and 1985-86, while MSP for paddy (common) and wheat was increased by 67 percent and 41 percent but for groundnut and mustard the increase was by 100 percent and 63 percent respectively. Again between 1985-86 and 1990-91, the increase in MSP for paddy (common) and wheat was 44 percent and 39 percent, such increase for groundnut and mustard was 66 percent and 50 percent respectively. Furthermore, MSP for rapeseed-mustard increased by 41.7 percent and that for groundnut by 22.9 percent as against 9.8 percent for Paddy (common) and 4.9 percent for wheat during the period between 2000-01 and 2004-05 (Appendix-3.12).

Table-3.4: Price Support Purchase of Oilseeds

Crop	Commencement of support programme	Purchases under price support scheme till 1992-93	
		Crop years	Quantity purchase (1000 tonnes)
Groundnut	1976-77	1992-93	50.45
Soyabean	1977-78	1977-78	2.05
		1978-79	65.92
		1979-80	18.29
		1980-81	0.01
		1981-82	0.08
		1984-85	3.71
		1985-86	192.02
		1986-87	0.12
Sunflower	1976-77	1986-87	NA
		1990-91	0.01
Rapeseed-Mustard	1977-78	1984-85	76.61
		1985-86	13.44
		1989-90	0.07
		1992-93	2.81
		2003-04	
		2004-05	2100
Safflower	1985-86	1989-90	0.02
		1992-93	14.95

Source: Adopted from S S Acharya, IJAE, 1993, pp.323

The other price support operation is by the National Dairy Development Board (NDDB), which was assigned the task of intervening in the wholesale market through the Market Intervention Operation (MIO) in edible oils and oilseeds introduced in April 1989. The objectives of MIO were to stabilise wholesale prices of edible oils within the specified lower and upper limits of the price band (as recommended by the Empowered Committee on oilseeds policy constituted by the Government of India) and to buildup stocks during years of surplus production so as to tide over the need for heavy imports during the lean years.

The NDDB was provided a line of credit for stocking of oilseeds/oils on the same terms and conditions as the Food Corporation of India (FCI). The NDDB has, however, met with only limited success in its MIO, and meanwhile incurred huge amount of losses.

As we have seen earlier that the increase in the support prices for different oilseeds crops had been more generous compared to other agricultural crops such as rice and wheat, in fact market prices of oilseeds have always ruled higher than the support prices and the need for NAFED's intervention in the oilseeds market never arose or at most been negligible in the past.

In recent years, the edible oil price index has stood at a higher level than for all food items. From this analysis, it is clear that price has not been the major constraint in expanding oilseeds production and that other factors like lack of a viable or acceptable technology, greater risks associated with production and marketing of oilseeds, priority to increasing food gains production may explain better this constraint (World Bank, 1997)

Price is an important issue. Diversion of area from food gains to oilseeds is widely talked about and the key to their diversion is thought to lie in raising MSP of oilseeds to provide oilseeds growers a comparative price advantage relative to rice and wheat. Unfortunately, this is unlikely to help as long as yield rates in oilseeds are so low relative to rice and wheat. Doubling or even tripling the MSP of oilseeds will not match their gross returns per hectare *vis-à-vis* food grains (Appendix 3.14).

Given the current low productivity levels in three major oilseeds groundnut, mustard and soyabean and the limitation to raising productivity levels India's dependence on imports to meet almost half of its requirements is unavoidable. Doubling of international price in 2002 caused little or no reduction in Indian imports, which is an evidence of inelasticity of demand at current level of GDP and population growth in the country. High import duties too had little effect on imported volumes. Improvements in yield rates and favourable price policy together with a high WTO compatible tariff wall can at best make only a marginal impact. Dependence on large volume of imports is bound to continue (Economic survey 2002-03 pp.176).

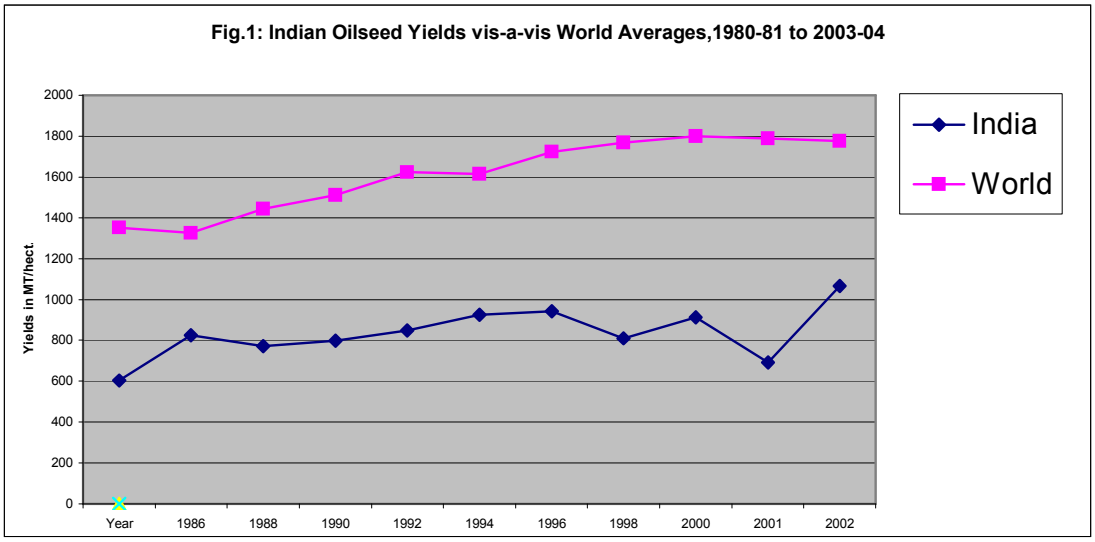
In contrast to the significant progress India has made in wheat and rice yields (and production) oilseeds yields in the country are well below the world average and yield trends have been flat to negative in recent years (Fig. 3.1). Indian average rapeseed-mustard yields, for example, peaked in 1996-67 at just 1043 kg/ha, which were still one-third less than the world average. During 1990-91 to 2002-03 India's average yield rate was just 889 kg/ha against the world average of 1446 kg/ha. (Table-3.5).

Table-3.5: Oilseeds Yields-India *vis-à-vis* World (1986-2003)

(Metric tonnes/hectare)

Year	India	World
1986	605	1353
1988	824	1325
1990	771	1442
1992	797	1512
1994	848	1623
1996	926	1615
1998	944	1723
2000	810	1766
2001	913	1800
2002	691	1787
2003	1067	1777

Figure-3.1: Indian Oilseed Yields *vis-à-vis* World Averages, 1980-81 to 2003-04.



Source: Oilseeds Situation: A Statistical Compendium, 2005 Published by Directorate of oilseeds Research, (ICAR), Hyderabad Table 1.1 & 1.2 p-1,2

HYV Seeds for Raising Yield Rates

Wide difference in oilseeds yield rates across districts and states in the country indicate scope for further increasing their yield levels. Improved/hybrid varieties of various oilseeds have been developed, which, if popularised, could give 20 to 50 percent or more yields as compared to present strains. Available information indicates that 200 varieties/hybrids of various oilseeds suitable for diverse agro-climate situations and environment have been developed. It is reported that 50 of which in the last five years have been developed by various researchers and scientific laboratories, which have a genetic yield potential of two to four times more than those of national and state averages. International Crop Research Institute for the Semi-Arid Tropics (ICRISAT), has developed groundnut varieties which can yield three to five times per hectare, i.e. six times the national average yield (Shenoi, 1993). However, due to various production and marketing risks farmers appear to be reluctant or slow to adopting the improved technology because of the high investment requirement in terms of fertilizers, pesticides, other inputs and more so because oilseeds cultivation is concentrated in high risk regions where returns on investment are uncertain. Furthermore, shortages of certified quality seeds due to constraints in large scale multiplication, high cost of oilseeds due to high overheads and the low priority given to oilseeds research and development in the country until the advent of the TMO in May 1986 are some of the reasons for the low adoption rates of improved technology (Ninan 1995). Again, there are general and widespread weaknesses in our extension services due to which there is a slow transmission of improved/hybrid seeds varieties from the laboratories to the farms.

Risks in production and marketing of oilseeds are relatively high as compared to other commodities and have acted as a constraint for rapid expansion of oilseeds production in India. Though irrigation is known for its yield enhancing effect, coverage of irrigation for oilseeds in general and *Kharif* oilseeds in particular is low compared to other crops like wheat, rice, sugarcane etc., where returns are more and risks low. Yields of oilseeds under irrigated condition are substantially higher (about two to three times higher) as compared to rainfed conditions. Furthermore, oilseeds require less water than other crops like rice. In fact, water required to irrigate one acre of area under paddy is sufficient for about four acres of area under groundnut (Ninan, 1989). Only around 25 percent of oilseeds area receives irrigation support, the remaining area being concentrated in regions with low or uncertain rainfall and marginal lands, consequently weather related production risks are quite high in respect of oilseeds cultivation particularly *Kharif* oilseeds where unlike for *Rabi* oilseeds, coverage of irrigation is very low. Timely arrival of Monsoon, including good distribution of the available rainfall, is crucial for healthy growth of oilseeds crops.

Markets-related risks are also quite high for oilseeds in India. Dominance of private traders and intensive speculative activities in trading of oilseeds is a conspicuous feature of India's oilseeds economy. Though there have been a secular rise in oilseed/oil prices, they are also subject to wide seasonal fluctuations. The benefit of price rise goes more to the trader than the grower (Ranade,1982). Due to low retention capability growers are forced to scale their produce immediately after harvest causing prices to depress and such situation is further aggravated by intensive speculative and trading activities by a few players in the oil markets. It is estimated that the spread between the post-harvest and lean season price was as much as 75 to 100 percent for groundnut in India as against a reasonable 40 percent. As a result the oilseeds growers received only 50-60 percent of the consumer price (Shenoi, 1993).

Yield Gaps

In India, there is a widespread network of research & development (R&D); the country has developed National Agriculture Research System (NARS), which has a very wide research and technology network and there is hardly any agro-ecological pocket, which does not have a NARS institute or a research station. Similarly, the annual reports of ICAR and state Agricultural Universities are replete with achievements in terms of new varieties of various oilseeds crops in almost all regions. But this has not helped in bridging the huge gap between what is attainable through these technologies and what actually have been attained at the farm level in most of the crops and the states. This is evident from Table-3.6A & 3.6B.

Table: 3.6A: Potential and Actual Yield Levels of Important Oilseeds

Crop	Realisable Yield in Demonstration (kg/ha)	National Average Yields (kg/ha)	Yield Gap (per cent)
Groundnut	1958	993	97
Sesame	635	279	128
Sunflower	1312	570	130
Niger	402	322	25
Castor	2137	1001	113
Rapeseed/mustard	1568	903	74
Linseed	851	338	152
Safflower	1349	591	128
All (8) oilseeds	1545	794	95

Source: R.Chand EPW 2004 p.534

Yield gap was measured by taking the percentage by which gap between attainable yield in national demonstration plot at farmers field when improved technology and management were used along with optimum level of inputs. These yields at various sites were then compared with the actual yield in the region. In all the states there is a large yield gap in all the crops for which gap information was available. In most of the crops, technologies are available to double the actual yield (Ramesh Chand, 2004). Unless there is a big jump in productivity of oilseeds crops, it would be difficult for Indian oilseeds sector to withstand the pressure, which would be created by liberalisation.

Table-3.6B: Yield Gaps of Selected Crops: State-Level

States	Irrigated			Rainfed			
	Paddy	Wheat	Mustard	Maize	Bajra	Jowar	Groundnut
Andhra Pradesh	123	23	--	--	191	231	83
Assam	175	46	114	--	--	--	--
Bihar	162	74	174	195	--	--	25
Gujarat	60	43	124	99	191	541	1
Haryana	55	25	1	3	86	--	--
Himachal Pradesh	49	163	420	11	--	--	--
Karnataka	132	28	--	--	258	292	49
Kerala	116	--	--	--	--	--	--
Madhya Pradesh	135	73	89	105	165	231	55
Maharashtra	140	102	--	--	--	--	--
Orissa	115	66	63	153	--	--	60
Punjab	87	40	25	6	--	--	--
Rajasthan	27	82	130	114	309	--	106
Tamil Nadu	61	--	--	--	163	479	62
Uttar Pradesh	101	93	164	106	92	--	106
West Bengal	90	19	131	11	--	--	--

Source: Ramesh Chand (ed) India's Agricultural Challenges, Centad 2005, pp..35 Table 2.5

Comparative Advantage for Indian Oilseeds

There is an on-going debate on India's comparative advantage in oilseed production and the sustainability of the past-production gains in face of the 1994 liberalisation of oil imports. Indian oilseeds sector has never shown price competitiveness, measured in terms of nominal protection co-efficient (NPC), which was consistently higher than unity for major oilseeds crops (groundnut, rapeseed-mustard and sunflower) except soyabean (World Bank 1997), which implied a resource shift from less protected crops into the highly protected oilseeds, imposing large inefficiency losses to the economy. It is evident from the fact that the most increase in crop areas under oilseeds have come from the food grains and cotton. Furthermore, as reported earlier the average yields of oilseeds in India are significantly lower than those of the world averages though yields in India are increasing but remain less than half the level of other major oilseeds producers in the world.

Through Domestic Resource Cost (DRC) [1] estimates are not available for oilseeds in India, these estimates will be critical, especially since water is becoming an increasingly scare resource, and oilseeds have the advantage over other crops of being less water intensive. Since some states like Rajasthan are facing increasingly more water scarcity oilseed production may well represent an efficient use of scarce resources relative to alternative crops, in which case a comparative advantage would prevail (World Bank, 1995). Even if Indian yields are low by international standards, there may be possibility

[1] DRC Coefficient is defined as the ratio of the economic value (i.e., opportunity cost in terms of its next best alternative) of non-tradable factors (e.g. labour, land, water) to the value-added of the product (economic value of production less the cost of tradable inputs) measured at world price (op.cit, World Bank, 1995)

of the existence of advantage in production of oilseeds crops if it leads to increase in cropping intensity as it represents an efficient use of available resources.

It is worth mentioning that even if price advantage may not be available, farmers may prefer to grow oilseeds if they are able to increase output and improve cropping intensity through appropriate technological changes, which brings in comparative advantage. The deliberate technological changes, during the last two decades, have developed shorter duration, improved resistance to pests and moisture stress, HYV seeds that have enabled the better integration of oilseeds into exiting cropping patterns and the increased efficiency in the use of scarce, non-tradable resources-water, labour and land (World Bank, 1995).

It is evident from the above analysis that India, especially water deficient states like Rajasthan can continue to reap the benefits of comparative advantage in production of oilseeds crops, particularly rapeseed-mustard and soyabean if they are able to exploit technological advance in raising yield rates and thereby output and some improvements in marketing infrastructures along with support price mechanism.

In order to develop a holistic approach to the agriculture sector and to better understand the problems and aspirations of the farmers of the country, and to bring about radical changes in the policy prescription, the Government of India has recently (in 2004) appointed a National Commission on Farmers (NCF) to examine various issues confronting the Indian farmers and to suggest appropriate interventions for improving the economic viability and sustainability of diversified agriculture for doubling the farmers income (See Box 3.1).

Box-3.1: National Commission on Farmers (NCF)

In February 2004, Government of India constituted a NCF to examine various issues confronting the Indian farmers and to suggest appropriate interventions for improving the economic viability and sustainability of diversified agriculture, including horticulture, livestock, dairy and fisheries, and for doubling the farmers income. The Commission was reconstituted in November 2004 and its terms of reference also modified to address the larger issues relating to working out a comprehensive medium-term strategy for food and nutrition strategy, enhancing productivity based on an agro-ecological and agro-climatic approach, bringing about synergy between technology and public policy, attracting educated youth in farming, enhancing investment in Agri-research, etc. The reconstituted NCF is headed by Dr MS Swaminathan and is expected to submit its final report within two years.

Source: Economic Survey 2004-05 GOI P.177

Edible Oils: Production, Demand and Imports

The recent years edible oils demand of around 9 to 10 millions tonnes has exceeded domestic production of around five to six million tonnes leading to heavy dependence on imports. Oilseeds production attained a record level of 25.1 million tonnes in 2003-04, and improved domestic production of oil to over seven million tonnes in 2003-04 (Table 3.7).

Table-3.7: Demand and Supply of Edible Oils

(quantity in lakh tonnes)

Oil Year (November-October)	Production of Oilseeds	Net availability of edible oils from all domestic sources	#Demand for Edible oils
1996-1997	243.80	70.90	85.06
1997-1998	213.20	60.32	72.98
1998-1999	248.00	69.61	95.83
1999-2000	207.15	60.51	102.11
2000-2001	184.40	54.99	96.76
2001-2002	206.62	61.46	104.68
2002-2003	150.60	47.28	90.93
2003-2004	251.43	71.09	124.04
2004-2005	248.42	73.10	117.10

Source: (I) In respect of production of oilseeds: Ministry of agriculture
(II) In respect of net availability of edible fats from all domestic sources & demand edible oils: Director of *Vanaspati,* Vegetable Oils & fats.

Demand has been taken as net availability of edible oils from domestic source import of edible oils.

@ on basis of second advance estimates

Kharif production of oilseeds in 2004-05, estimated at 15.4 million tonnes exceeded the preceding year's estimate of 15 million tonnes. The current rate acreage under oilseeds also exceeds last year's sown area. As a result, production of oilseeds in 2004-05 is expected to exceed last year's record level.

Import of edible oils has been in the range of four to five million tonnes in recent years accounting for almost 50 percent of domestic requirements (Table 3.8).

Table-3.8: Imports of Edible Oils

(millions tonnes)

	Quantity		Percentage Share	
	2002-03	2003-04	2002-03	2003-04
Palm oil	3.8	3.4	74	78
Soft oil	1.3	1.0	26	22
Total	5.1	4.4	100	100
Refined oil	0.3	0.8	7	18
Crude oil	4.8	3.6	93	82

Source: Economic Survey 2004-05, GOI, pp.9

The import of edible oils in 2003-04 oil year (November-October) at 4.4 million tonnes was lower than 5.1 million tonnes imported in 2002-03, on account of higher domestic demand of edible oils complied with high international prices. Palm oil accounted for over 70 percent of total edible oils imports in recent years, while other edible oils (mainly soyabean, sunflower and rapeseed oil) accounted for the remaining 30 percent.

The India's share in world production of oil was between six to eight percentage during the period 1994-95 and 2003-04 respectively, albeit the share in groundnut oil was the highest and it remained around 40 percent in 1994-95, but declined subsequently to 29 percent in 2003-04. Nearly two thirds of total edible oil produced in India in 1996-97 was groundnut (32 percent) and mustard oil (33 percent) while soyabean, sunflower and cottonseed oil shared around eight percent each, while remaining were sesame, safflower, nigerseed, coconut oil etc. In 2003-04, soyabean oil become prominent and captured a share of about 20 percent, however the share of groundnut (29 percent) and rapeseed-mustard (27 percent) reduced. Out of total vegetable oils production of 6.57 million tonnes in 1996-97, non-edible oils were just six percent, which slightly reduced, and was 5.3 percent in 2003-04 (Appendix 3.14).

Per capita consumption of edible oil in India grew extremely rapidly until the mid-1970s, but slowed down dramatically afterwards. Per capita consumption (availability) of edible oils almost trippled from less than three kg in the late 1960s to about eight kg in the mid-1990s (Appendix 3.15). Between 1965 and 1975, it grew at an average annual rate of 15 percent. Thereafter, it showed a tendency of deceleration growing with just 1.2 percent per annum during 1976-85, and 0.5 percent between 1986 and 1993 and the per capita consumption has remained unchanged at about six kg. It was only when liberalisation in trade policy initiated in 1994, private traders were allowed imports of edible oils, the per capita consumption climbed to an annual average of 10 kg. This was still far below the US average of 33 kg,- but well above the four kg averaged in the early 1970s. The consumption patterns of edible oils show wide variations among different income groups as well as between urban and rural consumers. In a study by Radha Krishna and Ravi (1994) it is reported that price and expenditure elasticities of demand for oilseeds is higher in the heavily populated rural areas than in urban areas, and higher among poor than among richer consumer groups. Gulati (1994) showed that per capita consumption of edible oils increases significantly across income groups.

With the population growing from about 550 million in 1970 to over one billion in 2001, and per capita income growth rising throughout the 1970s (1.4 percent per annum), 1980s (3.1 percent), and 1990s (3.7 percent) consumption growth has been almost uninterrupted. Radha Krishna and Ravi (1994) have found that changes in income, consumer preferences and prices have been the major determinants of per capita consumption between 1972-73 and 1987-88, these very factors are still held in determining edible oil consumption in India.

The study of the World Bank (1995) has reported that in rural areas, income growth and changes in preferences each contributed about 75 percent of the observed increase in rural per capita consumption over the period, while price effects lowered that growth by a third. In urban areas, consumption of oils per capita grew at much lower pace, albeit per capita consumption levels remain much higher in urban than rural areas. The price of oil was a more significant factor in influencing growth of per capita oil consumption (37 percent) in urban areas while consumer preferences played a minor role (33 percent).

The trends in edible oil consumption in India are marked not just by rising overall consumption, but also by changing patterns of consumption as well. Reflecting traditional patterns of domestic oilseeds production, for example, almost all edible oil consumed in India in the early 1970s was groundnut (53 percent total of consumption in Mid-1970s), rapeseed-mustard (25 percent) and cottonseed (9 percent), soyabean, palm oil and

sunflower oil together accounted for less than four percent of the total. More recently, though palm and soyabean oils have become the leading edible oils consumed, accounting for 38 percent and 21 percent of the total consumption respectively, in 1999-2000 to 2001-02.

India is a vast country and inhabitants of several of its regions have developed specific preference for certain oils largely depending upon the oils available in the region. For example, people in the south and west prefer groundnut oil while those in east and north use mustard seed/rapeseed oil. Likewise, several pockets in the south have a preference for coconut and sesame oil. Mustard/rapeseed is traditionally the most important oil for northern, central and eastern parts of the country. The pungency of the oil considered is the major quality-determining factor. Therefore, the traditional millers producing unrefined oil are more favoured by the consumers.

Till date, refining of mustard oil was almost absent in the country. As a result, the mustard oil sector has been more unorganised when compared to the other edible oil sectors in the country. This resulted in rampant adulteration of this commodity. However, with the occurrence of 'dropsy' in the country, Government of India issued the 'Edible oil' packaging order in 1998, which made packing of all oils sold in the retail sector mandatory. Now refining is present in mustard oil too (See Box 3.2).

Box-3.2: Oil Processing Techniques

Edible oilseeds grown in India are classified into two groups: traditional (e.g., groundnut, rapeseed-mustard, safflower) and non-traditional (e.g., soyabean, sunflower, cottonseed) which has been more recently introduced or promoted as source of edible oil. The oilseeds oil content determines the most efficient technology used to extract the oil. The expelling process is typically used to extract oil from oilseeds with high oil content (groundnut, rapeseed-mustard seed, sunflower); while the solvent-extraction process is needed for soyabeans, among others and for oil meals. Once processed, the seeds give two joint products: edible oils and oil meals. Edible oils can be refined (the refining stage), and then further processed into margarine or *Vanaspati* using a hydrogenation process: oil meals as well as processed further to extract the residual oil, leaving a de-oiled cake.

Source: Adopted from: India: "The Indian oilseed complex: Capturing Market opportunities", July 31, 1997, The World Bank.

Inhabitants of northern plain are basically hard fat consumers, and therefore prefer *Vanaspati,* a term used to denote a partially hydrogenated edible oil mixture. *Vanaspati* has an important role in our edible oil economy: its production is about one million tonne annually; it has around 13 percent share of the edible oil market; and it has the ability to absorb a heterogeneous variety of oils, which do not generally find direct marketing opportunities because of consumer preference for traditional oil such as groundnut oil, mustard oil, sesame oil etc. For example, newer oils like soyabean, sunflower, rice bran, and cottonseed and oils from tree and forest sources have found their way to the edible pool largely through *Vanaspati* route. Of late, things have changed. Through technological means such as refining, bleaching and de-odouraisation, all oils have been rendered practically colourless, odourless and tasteless and therefore, have become easily interchangeable in the kitchen.

Newer oils, which were not known before have entered the Kitchen, like those of cottonseed, sunflower, palm oil or its liquid fraction, palmolein, soyabean and rice bran. All of them are again essentially bland, processed edible oils. About 60-70 percent predominantly groundnut and mustard seeds are used to make non-refined or filtered oils. These tend to have a strong and distinctive test preferred by most traditional customers. About 70 percent these filtered oils produced are by the organised and semi organised sector plants producing from 2000-10,000 metric tonnes per month. It is often branded by large manufactures. The lower quality and generally lower cost filtered oil produced is mainly by the small scale village based processors or *'ghanis'*. The oil is mostly sold loose directly to the customers from a variety of containers, often within 2-3 days of production. These local crushers (*ghains*) produce between half and two metric tonnes per month. This decentralised production and marketing pattern may account for around 20 percent of all edible oils in the country. The share of raw oil, refined oil and *Vanaspati* in the total edible oil markets is respectively 42 percent, 42.7 percent and 13.4 percent respectively.

In India, most vegetable oils are purchased by household or institutional users (food processors, restaurants and hotels) for frying or baking foods and are mostly sold loose or as *Vanaspati*, a hydrogenated (hardened) vegetable oil often used for baking. Only a small percentage is sold with a name brand and packaged for sale at the retail level. Of the approximately six million tonnes of edible oil currently consumed in India, about 85 percent is sold in liquid form, with the remaining 15 percent (one million tonnes being accounted for by hydrogenated oils, including *Vanaspati* of the liquid oil, at least 85 percent is estimated to be consumed directly by consumer in loose and raw (unrefined) form. At the household level, this reflects the need of India's predominantly low-income consumers, who typically make frequent, relatively small, purchase from neighbourhood shops using their own reusable containers. According to estimates by Indian Agribusiness System Limited (IASL), roughly 61 percent of vegetable oils consumed in 2001/02 was sold in loose form. Almost all groundnut, mustard, cottonseed and sunflower seed oils are sold in loose form as pure oil or are blended with lower cost oils. Blending is legal only if the product is labelled as a blend, but it appears that in order to increase profit margins, many merchants blend higher priced oils with as much as 30-35 percent of lower priced (palm or soyabean) oil and market it as pure oil (IASL). As a result of increasing incomes and increasing health concerns about adulteration, especially after 'dropsy' episode in 1998, consumer preference are shifting rapidly towards branded packaged edible oils. Following the introduction of *'Dhara'*, the brand product of NDDB in 1989-90, packed volumetrically, several other edible oils have been marketed in small consumer packs. This trend of packing and branding is expected to induce greater emphasis on value addition through the refining of vegetable oils in future and will also lead to greater transparency (eliminating adulteration) in the oil trade.

Regulatory Policies

There are a large number of laws/regulations enacted by the Central/State Governments to effectively check the production, consumption and distribution of edible oils in India. The Essential Commodities Act, 1955, the SSI Reservation Policy, the Reserve Bank of India's (RBI) credit guidelines, taxation policies and forward trade regulations are the main regulatory instruments of the domestic trade and processing policy regime which help shape the marketing and processing structure and performance of the oilseed

industry. The Essential Commodities Act, 1955 (EC Act) aims at ensuring the availability at reasonable prices of essential mass consumption items, including oilseeds and edible oils, by providing GoI with considerable powers to continue and regulate the production, supply and distribution of these commodities. The Central Government has the supervening powers i.e., the delegation of power to the State Governments is at the discretion of the Central Government, but in practice, the Central Government has delegated powers to implement the Act and accordingly the food and civil supplies department of the State Governments is exercising the powers of Essential Commodities Act through a large network of (often inefficient and corrupt) inspectors.

Three central control orders under the Essential Commodities Act are particularly relevant to the oilseed sector; the Pulse, Edible Oilseeds and Edible oils (storage control) order, 1977; the Solvent Extracted Oil, De-oiled Meal and Edible Flour (Control) Order, 1967; and the Vegetable Oil Products Control Order, 1947. Oilseeds and their derivatives are subjected to multiple taxation: taxes vary across states but also from one oilseed to another with no apparent justification. There is total unanimity amongst economists, tax experts and researchers that the multiplicity of taxes and the non-unitary nature of the taxation regime are inimical to an efficient allocation of resources in the India's oilseeds and edible oil sector, and the development of truly common domestic market. It also encourages large-scale tax evasion. Accordingly to the World Bank (1997) report, "….. as much as 70 percent of edible oil trade occurs without payment of taxes. It is reported that the cost of tax evasion in the form of bribes amount to 1.5 to 2 percent of the product value. In some states with high taxes, the problem of 'phantom' inter-state trade has arisen. Companies, in order to avoid paying the high taxes in one state, create subsidiaries in neighbouring state who 'purposes' the products and 'transport' them out of the high tax state and thus generates savings by paying the Central Sales Tax".

Health Safety and Standards Regulations

There are numerous legislations governing edible oil quality and safety standards. These include the Prevention of Food Adulteration Act, 1954, the Weights and Measures Act, 1976; the Packaged Commodities Order, 1971; and the Blended Edible Vegetable Oils Grading and Marking Rules, 1991 under the Agricultural Produce (Grading and Marking) Act, 1937.

Agreements on SPS and TBT

The SPS measures and TBT) cover two major negotiated areas of the last round of the GATT, the Uruguay Round and were made an integral part of the WTO. The objective of negotiating an agreement on SPS measures was to safeguard consumer interest in the member countries, while at the same time ensuring that such measures would not create unnecessary obstacles to international trade. It put in place a set of basic rules that would address food safety and animal and plant health issues, and would serve as a guideline for both producers and exporters. Annex A of the Agreement on SPS provides major features of the SPS regulations and stipulates that these measures are intended to protect: (a) human or animal life from food-borne risks which arise from the use of additives, contaminants, toxins or disease-causing organisms; (b) human health from animal or plant-carried disease; and (c) animal and plants from pests and diseases. In effect, SPS

focuses on setting certain standards and seeks to ensure that the food supply is 'safe' in accordance with standards, which each country considers to be appropriate, provided that such standards are based on scientific evidence. SPS provisions also stipulate that international standards, guidelines and recommendations should form the basis of SPS measures if and when such standards exist. The agreement recognises the possibility of diversity in standard setting. Accordingly, members are expected to implement their respective measures based on internationally developed and acceptable standards and take initiatives towards harmonisation of standard, which has subsequently become a contentious issue.

The SPS Agreement recognises international standards, guidelines and recommendations of three intergovernmental organisations. The relevant provisions allow the member countries to go for more stringent (than prevalent) regulations. Thus, member countries are entitled to impose higher than prevailing international standards if such measures are based on adequate risk assessment. This is applicable in case of both revision of current standards as well as when appropriate standards for particular products are absent. In such cases, members are required: (a) to justify why international standards do not satisfy the level of protection that the countries would like to ensure; and (b) they will need to make the risk assessment available to other member countries in the WTO in order to lend credibility and transparency to the standard setting process. Thus, even though countries are allowed under the Agreement on SPS to set the level of standard that they consider appropriate, the Agreement specifically requires concerned countries to avoid levels of protection that may consequently result in unnecessary obstacles to trade or in the arbitrary and unjustifiable discrimination between members where identical or similar conditions prevail. To lend transparency to the process, the WTO members are required to publish their respective SPS regulations, including identifying a national notification authority. Each member is required to inform others about an enquiry point in the country that will be a focal point for the purpose of SPS and be responsible for submitting notifications, including full texts of SPS regulations. Information about revisions to existing laws and revised provisions are required to be notified to the WTO at the draft stage so as to enable other countries react to the envisaged revisions.

Major Provisions in the Agreement on TBT

The Agreement on TBT relates to international rules that are applicable to product standards in trade in goods. The TBT concerns about the procedures for conformity assessment with respect to those standards. The five principles, which guide TBT regulations under the negotiated mandate are: (a) non-discrimination; (b) harmonisation; (c) least trade restrictive measure; (d) equivalence; and (e) transparency. Technical regulations are implemented by governments to attain a number of objectives including: (a) prevention of deceptive practices; (b) protection of human and animal health; and (c) protection of environment. The spirit of the Agreement, as articulated in Article 2.4, is that, wherever appropriate and feasible, countries should use international standards in formulating their respective technical regulations and also in developing voluntary national standards. The Agreement on TBT urges countries to participate in various international standards setting organisations when international guidelines are considered to be inappropriate or when appropriate guidelines do not exist, and encourages to develop their own national standards. The TBT allows countries to adopt conformity assessment procedures that do not essentially draw on internationally accepted guidelines.

Conformity assessment procedures include such activities as registration, inspection, laboratory accreditation, independent audit and quality registration schemes. The Agreement on TBT is also geared to ensure conformity with technical requirements in packaging, marketing and labeling etc.

The Demand Projections

The following (Table 3.9) are the demand projections for edible oils for the year 1999-2000 to 2014-15 made by the National Council of Applied Economic Research (NCAER), New Delhi, under three alternative sceneries of per capita income growth annually by four percent, five percent and six percent respectively (per capita income growth during 1990s averaged around 4.8 percent).

Table 3.9: Demand for Edible Oils (NCAER Projections)

Oil per capita (kg)	1999-2000	2004-05	2009-10	2014-15
Low Income Estimate (four percent)	9.81	11.55	13.95	16.00
Medium Income Estimate (five percent)	9.89	11.63	14.83	18.16
High Income Estimate (six percent)	9.97	12.10	16.17	20.16
Oil demand (Million tonnes)				
Low Income Estimated (four percent)	1.01	1.33	1.74	2.28
Medium Income Estimate (five percent)	1.02	1.39	1.90	2.59
High Income Estimate (six percent)	1.03	1.46	2.07	2.94

Source: NCAER, 2005

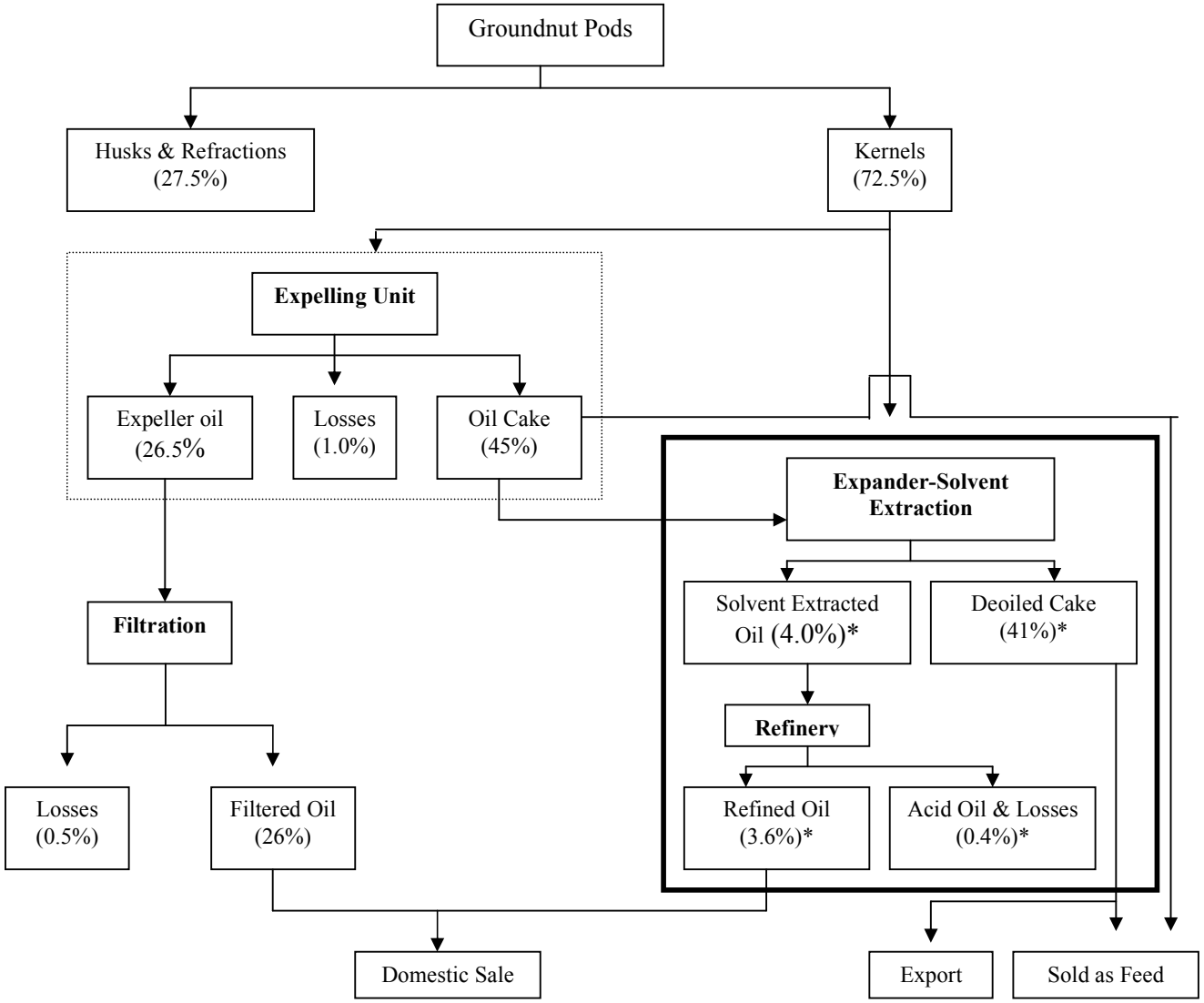
The per capita consumption of edible oils which were 9.81 kg in 1999-2000 would go up to 16 kg, 18.16 kg and 20.16 kg respectively by 2014-15 based on the three alternative hypotheses.

Oilseed Processing Sector

In addition to the low oilseeds yields, the ability of India's oilseed sector to compete with vegetable oil imports is further hampered by a processing/crushing sector that is small scale, fragmented and suffers from low capacity utilisation. A more integrated and efficient (lower cost) processing sector, combined with infrastructure improvements could allow crushers/processors to pay oilseed farmers higher prices and boost production. But, there are factors that limit the ability of Indian crushers/processors to achieve scale economies and improve capacity utilisation: First, the small scale industry (SSI) reservation policy since 1977 confining processing of traditional oilseeds, such as groundnut, rapeseed-mustard, sesame and safflower, but not soyabean and sunflower to small firms, thus allocating a large share of edible oil production to relatively inefficient processors. In other countries, like US and Europe, it is usual for high oil content bearing seeds –(soft seeds) such as groundnut, rapeseed/mustard and sunflower seeds to be crushed in medium to large scale factories with an expeller and then for the expeller cake to undergo through the solvent extraction plant, integrated in the same factory (Figure-3.2). This international standard technological process is virtually impossible in India for groundnut and rapeseed as a result of the SSI reservation. Second, low oilseed yields (26 to 32 percent against 38-43 percent in other countries), poor transport (in India, vehicles

could only travel between 200-400 km a day as against 600-800 km in developed economies) and handling infrastructure and variability in oilseed production as well as inaccessibility to imported oilseeds make it difficult for processors to procure regular supplies throughout the year, resulting in low capacity utilisation.

Figure-3.2: Groundnut Expeller and Expander-Solvent Extraction Process



------- Standard Expelling Process for Soft Seeds

▬ Expander/Solvent Extraction Process Normally Used for Low Oil Bearing Material

Note: * percentages apply only to solvent extraction of oil cakes

Source: World Bank (1997)

In the oilseed crushing/processing industry, reducing costs depends largely on the scale of operations, with larger and that too vertically integrated (as the case in other countries) plants able to achieve lower unit costs at any given level of capacity utilisation. The Center for Agribusiness and Economic Development (CAED), US, has estimated that per unit operating costs are two-thirds higher for a 500-tonne per day crushing plant than for a 1500-tonne per day facility. Since 1997, however, India's SSI reservation policy has restricted processing (except solvent extraction of oilcake) of traditional oilseed (groundnut, rapeseed/mustard. sesame, and safflower) to units with a capacity less than 10 tonnes per day and reserves the manufacture of oilseed crushing equipment used by these units to small enterprises. As a result about 3/5 of India's domestic edible oil production comes from a vast member of often antiquated village level crushers (known as *'ghanis'*) or other small expellers (Box-3.3).

Box-3.3: Processing Sector in India

In many countries, three separate processing operations – crushing and expelling (separating oil from the solids), solvent extraction (to chemically remove residual oil from the oilcake solids) and oil refining – are conducted by one vertically integrated plant. In India, however, only a small share of oilseeds processing undergoes solvent extraction and oil refining. The SSI reservation policy has refrained most processor to invest more for putting up vertically integrated plant, like those found in Europe and US. Instead, India's processing sector is largely made up of the three groups separately engaged in the processing stages: '*ghanis'* (about 1.5 lakh units, including about 15000 small scale expellers) are very small traditional (cottage industry) crushers usually serving rural villages, which are covered and protected by SSI Reservation policies. These units rely on animal or electric power to undertake very simple mechanical expulsion of oil from oil seeds at a rate of kg, rather than tonnes per day. *Ghanis* have an average output of about 60 kg per day, often operating at just 10 percent capacity utilisation, and accounted for less than five percent of industry output in the late 1990s. Small-scale expellers have somewhat more modern facilities with production of up to 10-tonne daily limit set by SSI policies; and like *ghanis*, they also crush oilseeds, using metal screws, which press ('expel') oil from seeds and leave the cake behind with a high residual oil content often exceeding 10 percent of the weight of the cake. They operate at about 30 percent of capacity and accounted for about 58 percent of the domestic edible oil output in the late 1990s. Solvent Extractors, about 704 units, which are not covered under SSI Reservation policy, tend to crush and process 'hard' oilseeds with low oil content such as soyabean and cottonseeds as well as chemically extract residual oil from the oilcake processed by SSI crushers. These firms operate at about 31 percent capacity and accounted for about 37 percent of industry output in the late 1990s. This sector represents a growing share of the domestic supply of edible oils and is becoming more concentrated oil refineries, about 42.1 units, of which 126 attached with *Vanaspati* units and remaining (295) with solvent extraction units. There are about 585 independent refinery units operating in the country at present: these units operate at between 27 percent to 45 percent capacity utilisation; they have a combined production of about 122 lakh tonnes of refined oil. It is a small but growing segment of the processing sector. These plants refine solvent-extracted oil, which must be refined before consumption, but oil refiners are usually not integrated with solvent extraction and expeller plants, as is often the case in other countries.

The final segment of the industry is the *Vanaspati* units, which hydrogenates refined oil to produce a vegetable shortening or spread, somewhat similar to *ghee*, which is produced from milk and to margarine. This sector too has a unique Indian aspect. Presently, it produces about 10 percent of the total supply of oil. There are nearly 256 units operating at about 24 percent of the total capacity level produce about 50 lakh tonnes annually.

In addition, even processors not covered under SSI Reservation policy such as soyabean processors and solvent extraction plants are small by international standards. For example, although some Indian soyabean crushers/processors have a capacity of about 1500 tonnes per day, most plants have a capacity of just 125-150 tons perne day, about 10 percent of US and European average. The efficiency of the Indian crushing/processing sector is further reduced by the chronic under use of capacity all along the processing chain; *ghanis,* small-scale expellers as well as the soyabean crushers and solvent extractors/refineries are not covered by SSI Reservation policy. *Ghanis* and small-scale expellers usually operate at just 10-30 percent of capacity, and even the modern solvent extractors use less than 40 percent of the capacity on average compared with rates of 80-90 percent in US(See Table 3.10). According to World Bank estimates, low capacity utilisation for solvent extractors has resulted in soyabean processing costs in India are 40 percent higher than that in China and 90 percent greater than that in US.

Table-3.10: State of the Vegetable Oil Industry

Types of vegetable Oil Industry	**No. of Units**	**Annual Capacity (lakh tonnes)**	**Average Capacity Utilisation**
Oilseeds Crushing Units	1,50,000 (Approx.)	425 (in terms of seeds)	10.30 percent
Solvent Extraction Units	704	310 In terms of Oil-bearing Material)	31 percent
Refineries attached with *Vanaspati* Units	126	51	45 percent
Refineries attached with Solvent Extraction Plant	295	36	27 percent
Independent Refineries	585	35	36 percent
Total Refineries	1006	122	35 percent
Vanaspati Units	256	50 (In terms of *Vanaspati* Bakery Shortening & Margarine)	24 percent

Source: Directorate of Vanspati, Vegetable Oils and Fats (as given in