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Consultancy Report
Evaluation of PL 480 Title III Auction Mechanisms

India: Indefinite Quantity Contract
Contract Number: PDC-0800-I-00-1069

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Evaluation of PL 480 India Title III Auction Mechanisms

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PL 480 Title III Evaluation
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PREFACE

This evaluation was conducted over a two-week period, November 15 to December 1, 1993 by William Scott, Consultant for ACDI, and Ms. Madhu Gujral, Project Management, FFD/USAID. As part of evaluation activities, the team attended the edible oil auction at the State Trading Corporation (STC), New Delhi. It met with the committee overseeing the auction at STC. It interviewed soybean oil brokers and refiners and visited a soybean oil solvent extraction plant. The team also held discussions with vanaspati (hydrogenated edible oil or shortening) manufacturers. It visited soybean research facilities in Indore, and the offices of SOPA (Soybean Oil Processors Association).

The tentative conclusions of the team were discussed with both the STC and USAID. This report, however, presents only the conclusions of the principal consultant and as such, does not necessarily represent the views of USAID, the Government of India, or the STC.

We would like to thank the Agricultural Attache's office in Delhi for providing us with their preliminary draft of a report on the soybean sector. We would also like to thank the many Indian entrepreneurs and managers who met with us in Delhi, Bombay, and Indore.

I. Oilseed and Soybean Sector

A. Production

1. Oilseed Production

The production of oilseeds is an increasingly important element of India's agricultural economy. In the early 1950's, oilseed occupied 9.5 per cent of the total cropped area. By 1991-92 oilseeds accounted for some 15 per cent of the total cropped area (see Table 1), having grown at a rate of 1.9% annually over the 30 years period.

Table 1
Cropping Pattern
1989-90 - 1991-92

<u>Commodity</u>	<u>% Share of Total Cropped Area</u>
Foodgrains	<u>73.4</u>
Cereals	59.6
Pulses	13.8
<u>Non-Foodgrains</u>	<u>26.6</u>
Oilseeds	15.0
(of which Soybean)	(1.5)
Fibres	5.1
Plantation crops	0.6
Condiments & Spices	1.1
Vegetables & Fruits	1.2
Miscellaneous crops	3.6

Source: Annex Table I.1

2. Soybean Production

In terms of total agricultural production, soybean production is very small, accounting for only 1.5 per cent of the total cropped area. However, soybean production has been growing at an estimated 21 per cent per annum over the last ten years. (See Figure 1 and Annex Table I.2)

The USDA projected a total production of 4.2 million MT this year (See Table 2). Projections by the Soybean Oil Processors Association (SOPA) were considerably higher, 5.0 million MT, a figure widely reported by specialized information services such as Knight-Ridder Financial News.

India: Soybean Area, Yield and Production

Source: U.S. Agricultural Attache, USDA, New Delhi

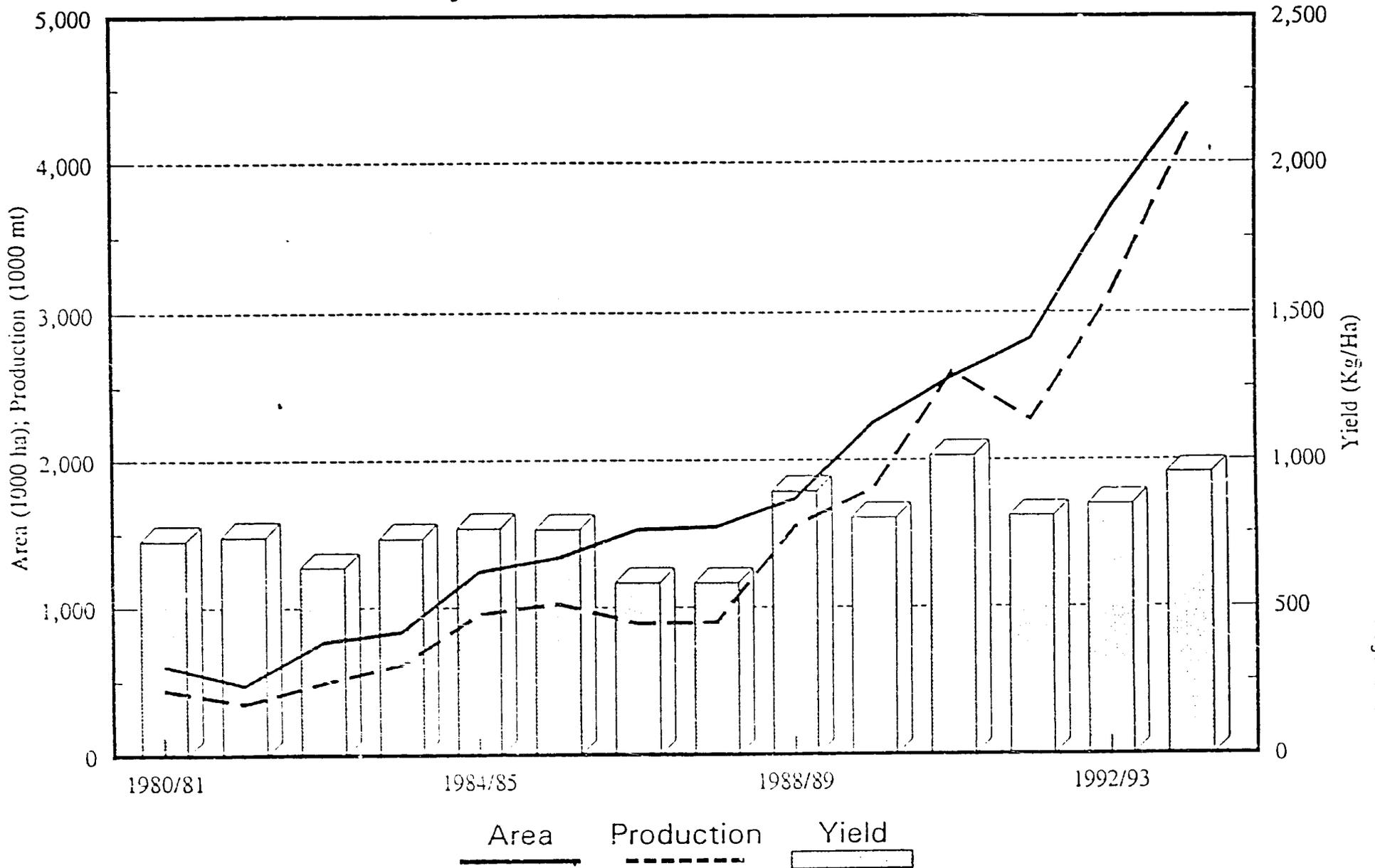


Figure 1

Table 2
India: Soybean Production & Area Yield
 (Production in Mil.MT, Area in Mil.HA, Yield in KG/HA)

<u>Year</u>	<u>Production</u>	<u>Area</u>	<u>Yield</u>
1987/88	.90	1.54	582
1988/89	1.55	1.73	892
1989/90	1.81	2.25	801
1990/91	2.60	2.56	1,014
1991/92	2.28	2.82	806
1992/93*	3.11	3.67	847
1993/94**	4.20	4.40	954

* Preliminary Estimate

** Forecast

Source: USDA, Agricultural Attache, New Delhi

Projections by the USDA suggest that India will produce almost 9.5 million MT of soybean by the year 2000, which would make the country a serious major player in the world soybean meal market. This increase would come from both an increase in yields and an increase in the area planted in soybean. Madhya Pradesh will continue as the major production area - accounting for some 82.5% of the production in 1991-92. However, other areas, such as Maharashtra, are expected to increase production significantly.

A number of factors have helped the growth of soybean production in India. First, the demand for soybean seed has been driven by the export demand for soybean meal and high domestic prices of vegetable oil. The soybean crop fit well into existing cropping patterns, expanding onto land which had traditionally lay fallow during kharif season (July-October). In addition, soybean processing capacity doubled from 3.0 mil.MT to 6 mil.MT, encouraged by the provision of cheap credit and liberal tax exemptions by the Government. There is also a government support price for soybeans, although the market price has generally been 30%-40% above support prices in recent years (see Annex Table I.5). Despite an improvement in recent years, Indian soybean yields at MT/Year remain at less than half of international yield average around 2 MT/HA (see Annex Table I.6). Increased use of imported seed varieties and better phytosanitary measures should continue to improve average Indian yields. While Indian soybean oil is more costly than oil priced on international markets, Indian soybean meal is very competitive and is finding ready markets in the Middle East, South-East Asia, and over Europe.

3. Edible Oil and Oilmeal Production

India produced 23.78 mil.MT of edible oilseeds in 1992/93 (see Table 3). A portion of this harvest is consumed directly, with another processed into edible oil (5.61 mil.MT) and oilmeals (10.93 mil.MT).

Table 3
India: Edible Oil Production
(1991-1993)
(Mil.MT)

	<u>1991/92</u>	<u>1992/93</u>	<u>1993/94*</u>
Total Oilseed Production	21.11	23.78	24.31
T. Oilseed Crush	17.87	20.10	20.80
T. Edible Oil Production	5.26	5.61	5.71
T. Oilmeals	9.76	10.93	11.72

* Forecast

Source: USDA, Agricultural Attache, New Delhi
(See Annex Table I.7)

Out of the 3.11 million MT of soybean seed harvested in 1992/93, some 500,000 MT of soybean was extracted and 2.25 million MT of soybean meal produced (see Table 4).

Table 4
India: Soybean Oil Production
(1991-1993)
(Mil.MT)

	<u>1991/92</u>	<u>1992/93</u>	<u>1993/94*</u>
Soybean Seed Production	2.28	3.11	4.20
Soybean Crush	2.04	2.81	3.85
Soybean Oil	.37	.50	.69
Soybean Meal	1.62	2.25	3.08
Soybean Meal Dom. Consump.	.44	.45	.58
Soybean Meal Exports	1.18	1.80	2.50
Soybean Oil Imports	.07	.045	.045
Soybean Oil Imports as % T. Domestic Supply	15.91%	8.26%	6.12%

* Forecast

Source: USDA, Agricultural Attache, New Delhi
(See Annex Table I.7)

In 1992/93, 1.8 million MT of soybean meal were exported, with exports forecast to reach 2.5 million MT in 1993/94.

4. Imports of Edible Oil

Large amounts of edible oil were imported into India in the 1980's. In 1987/88, an additional 56.4% of India's edible oil domestic production was imported at a cost of 9.69 billion rupees (see Table 5). Increased Indian edible oil production has lowered the need for imports, which represented some 2.2% of edible oil supply in 1992/93. While edible oils accounted for 4.4% of all imports in 1987/88, this percentage has fallen to .3% of total imports in 1992/93. Edible oil imports for commercial processing in India were stopped several years ago. All commercial imports of edible oil in recent years have been undertaken by the STC. Except for the donated oils brought in, STC has only purchased palm olein in recent years to be sold through the Public Distribution System, not in the regular market.

Table 5
India: Edible Oil Imports

	Dom. Prod. (mil.MT)	Imports (mil.MT)	Imports as % Dom.Prod	Cost of Imports (bil.Rs.)	% of total Imports
	-----	-----	-----	-----	-----
1985/86	2.96	1.04	35.1%	7.49	3.8%
1986/87	3.05	1.47	48.2%	6.34	3.2%
1987/88	3.46	1.95	56.4%	9.69	4.4%
1988/89	4.80	1.08	22.5%	7.30	2.6%
1989/90	4.59	.29	6.3%	2.11	.6%
1990/91	5.28	.25	4.7%	3.22	.7%
1991/92	4.91	.09	1.8%	2.48	.5%
1992/93	5.44	.12	2.2%	1.72	.3%

Source: Annex Tables 7, 8, 9, 10.

5. Per Capita Consumption of Edible Oil

Per capita consumption of edible oil in India averaged 5.9 Kg/person/year during the period 1981-1985 (see Annex Table I.8). In the second half of the 1980s, per capita consumption had risen slightly to 6.5 Kg/person/year, still low compared to consumption in developed countries of over 30 Kg/person/year. Of course, there is a range of consumption in India: less by lower income group and much more by higher income groups.

One study of the edible oil sector¹ demonstrated that the elasticity of edible oil consumption with respect to income was very high for both urban and rural poor - 1.23. In other words, a

¹ Agrawal, P.C., Oilseeds in India, Perspective for 2001 A.D., Oxford & IBH Publishing, New Delhi; 1990, P.30

10 per cent increase in income would lead to an estimated 12.2% increase in the consumption of edible oils. The same figures for the rural and urban "non-poor" were .973 and .683 respectively. The figures indicate that edible oil is clearly considered a "superior good" by both poor and non-poor. The consumption of edible oil will clearly increase as income grows. Furthermore, from the consumer's point of view, a decline in the price of edible oil is highly desirable and will lead to considerable increased consumption of edible oil.

B. Price Analysis

1. Seasonal Price Pattern

Prices for soybean oil exhibit a relatively strong seasonal pattern (See Figure 2 and Annex Table I.11). Prices generally begin to decline in September or October as the new crop of soybeans begins to arrive in the market. Prices of soybean oil tend to reach their lowest level in February and March, as the seeds are processed into soybean oil and soybean meal. Then, the price of soybean oil usually begins to rise during the spring and summer months as supplies become scarce and demand increases during the "festival period."

While there are certainly factors which cause variations, the general seasonal pattern suggests a market which is accurately reflecting the costs of storage, financing, and the price risk undertaken by different players in the soybean system over the course of the year. Analysis of the annual variation shows that the average coefficient of variation of the soybean oil market is between 9-10 percent (See Table 6 and Annex Tables I.11 and I.12).

2. Annual Price Variations

The average annual price of soybean oil is linked closely with the size of the soybean seed harvest. The larger the crop, the lower the average annual price and the lower the bottom price offered for soybean oil during the season. For example, large harvests in 1992/93 drove the average price of soybean oil down some 9.1 percent from the previous year, when the soybean seed crop was below trend.

3. Other Influences on Soybean Oil Prices

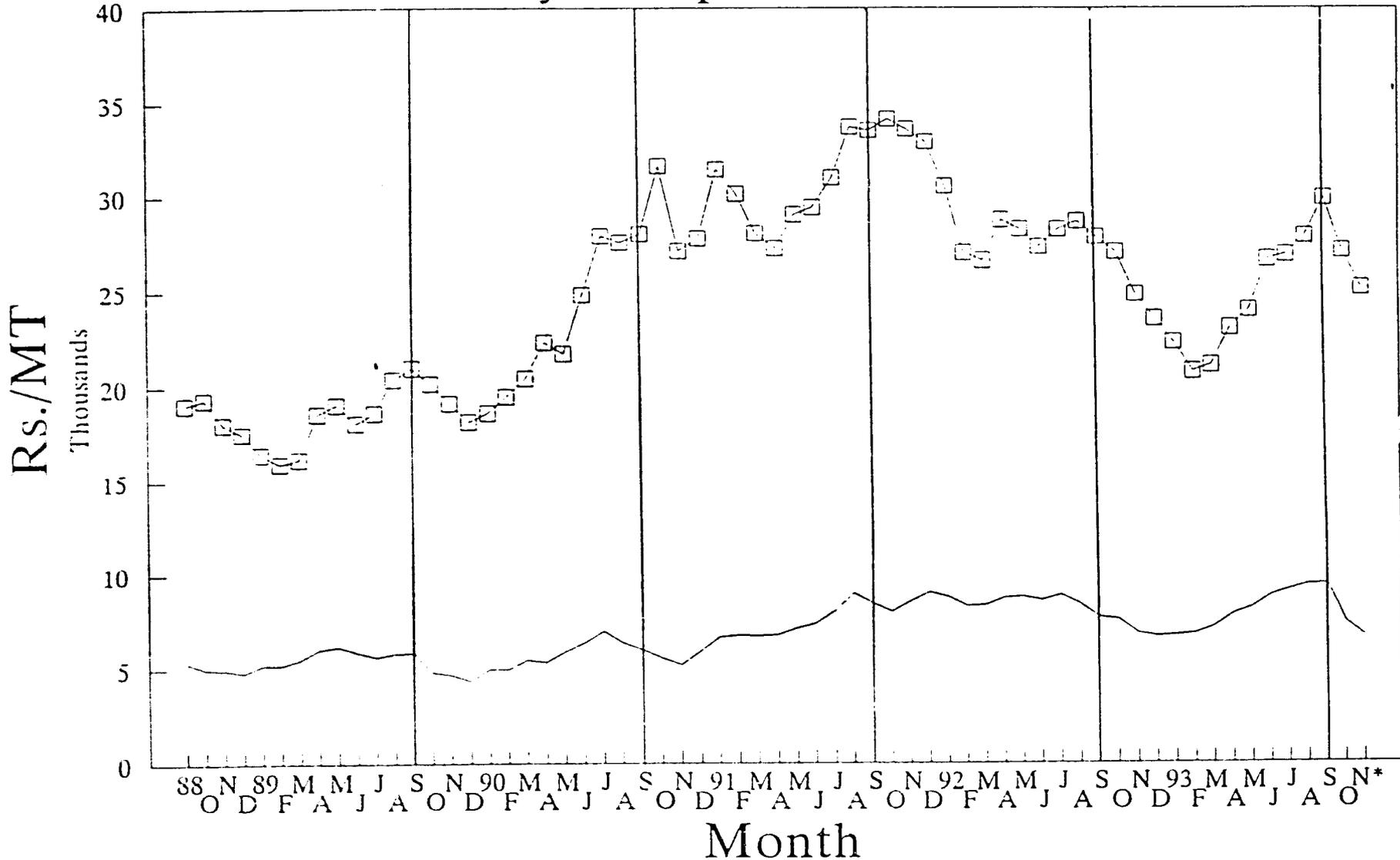
Edible oils are close substitutes for one another. If the price of one edible oil drops considerably, the demand for that oil will increase and alter the price of other oils. Hence, cross-price relationships between other oils can be important. Mustard/rapeseed oil is the cheapest oil and peanut oil is the most expensive (See Annex Table I.13). Soybean oil usually gets a small premium over mustard/rapeseed oil. A good crop of other oilseeds can create downward pressure in the soybean oil market just as a

Soybean Prices – Indore

Monthly – Sept. 1988 to Oct. 1993

Source: Annex Table I.11

7



— Soybean Seed

—□— Refined Soyoil – Indore

Figure 2

Table 6

ANALYSIS OF SOYBEAN PRICES
INDIA – 1988 – 1993

	1988-93				
	Indore Seed	Indore Crude	Indore Refined	Bombay Refined	Delhi Refined
Average	6,847	23,224	24,935	25,212	24,295
High	9,461	31,786	34,125	33,393	33,609
Low	4,340	14,625	15,925	16,848	15,300
Standard Deviation	1,433	4,661	5,065	4,861	4,673
Coefficient of Variation	20.9%	20.1%	20.3%	19.3%	19.2%

	Average Prices				
	Indore Seed	Indore Crude	Indore Refined	Bombay Refined	Delhi Refined
1988-89	5,441	16,435	18,107	18,294	17,765
1989-90	5,502	20,031	21,780	21,668	21,039
1990-91	6,752	27,162	29,542	29,169	28,205
1991-92	8,534	27,693	29,962	29,917	28,832
1992-93	7,750	22,605	24,670	24,852	23,692

	Coefficient of Variation				
	Indore Seed	Indore Crude	Indore Refined	Bombay Refined	Delhi Refined
1988-89	8.0%	8.0%	7.2%	5.1%	6.9%
1989-90	14.0%	15.3%	14.6%	14.5%	14.7%
1990-91	14.9%	6.3%	6.7%	6.8%	6.2%
1991-92	3.3%	9.2%	9.1%	8.4%	9.1%
1992-93	11.8%	10.7%	9.9%	10.1%	10.2%
Ave. Annual Variation	10.4%	9.9%	9.5%	9.0%	9.4%

Source: Agland Estimates Using SOPA Prices

bad crop can increase soybean oil prices. These relationships can be quantified in a "cross-price" elasticity, the percentage change in the price of one oil for a percentage change in the price of another oil.

The total supply of edible oil can have an influence on the price of an edible oil. For example, large imports of palm olein could have a downward effect on the price of soybean oil. The import of soybean oil could have a downward influence on the market, especially in specific local markets on a given day. The extent of that downward pressure on the market and the result of such pressure will be discussed later in the report.

The international market exerts pressure on the price of soybean oil in India in several different ways. High prices for soybean meal in international markets would exert upward pressure on prices for soybean seeds and therefore upward pressure on soybean oil in India. At the same time, international soybean oil prices -- which are determined largely on the Chicago Board of Trade -- exert relatively little pressure on soybean oil in India. The Indian edible oil market is effectively isolated from the international market price because all edible oil must be imported by the State Trading Corporation (STC) and sold at administratively determined prices or through an auction mechanism such as the one used by the PL 480 program. Indian edible oil prices have been considerably above world prices in recent years (See Annex Figure I.14).

4. A Conceptual Model of Soybean Pricing

Given more time and more data, it would be possible to determine which are the most important determinants of the price of soybean oil. This would be a good academic study for one of the universities in India with a department in agricultural economics. However, we are limited to a more qualitative evaluation of the soybean oil market. We believe that the most important determinant of the soybean oil price is the price of soybean seed, which is influenced principally by the size of the domestic soybean harvest and the international price of soybean meal. While the price of soybean oil plays a role in the determination of soybean seed prices, we believe that the role is a minor one. The profitability of soybeans, the robust international demand for soybean meal, government price support for soybeans, and the growth of the soybean processing industry are factors that far outweigh the influence of soybean oil price in the determination of soybean seed prices.

A second important determinant in soybean oil prices is the seasonal pattern. The price of soybean oil is generally declining from November to March and generally rising from April to September. Buying and selling sufficient quantities of soybean oil to offset this pattern is well beyond the resources of the Title

III program, which is a "price taker" in the market in general. Also, it is much easier to sell into a rising market: demand is higher and buyers are willing to pay higher prices. This must be kept in mind when planning the import and sales of edible oil.

Third, the prices of other types of edible oil can have an important effect on the price of soybean oil. The different types of edible oil are substitutes for one another. Therefore, we would expect that a drop in the price of one edible oil could create downward pressure on the prices of other oils. These "cross-price" effects bear further investigation and are known intuitively to the people in the soybean oil trade.

Finally, when thinking about the soybean oil market, it is important to keep in mind the various interest groups involved in the market. Consumers obviously would like to see the price of edible oils as low as possible. Unfortunately, consumers rarely speak with a unified political voice and therefore suffer the consequences of high prices for edible oils.

Farmers, although often invoked as the reason for the need for high oil prices, are not seriously effected by changes in soybean oil prices. Demand for soybeans is high, soybean meal is an excellent foreign exchange earner, and the government has a price support in place. At the same time, farmers would certainly lobby to keep soybean seed prices high. Government policy to support soybean seed prices and the limitation on the imports of edible oils are no doubt policies supported by farmers.

Vanaspati manufacturers would like to see lower soybean oil prices. Soybean oil for them is a raw material; the lower the price the better. Assuming that the vanaspati sector is competitive, lower raw material prices should be passed on to consumers.

Oil refiners would like to see higher prices for soybean oil or other edible oils. However, many of the edible oil manufacturers are vertically integrated operations that can take advantage of lower raw material costs and are exporting soybean meal into international markets.

Finally, there are organizations such as the STC, which refines and sells some domestic oil, and the NDDC, which monetizes some donated edible oils, that may prefer to see the soybean oil price as high as possible.

C. Market Structure

1. Private Sector

The private sector handles the vast majority of the soybean oil trade. A simplified version of the market structure would run as follows: Farmers bring their soybeans to the market either

cooperatively or individually. Soybean oil manufacturers do not generally contract with farmers for soybeans. Rather, they employ brokers or their own buyers to procure soybean seeds in the market. When the soybeans are processed into soybean oil and soybean meal, some vertically integrated processors sell the oil under their own brand in large tin cans (sold by the cupful to poorer buyers) or in plastic containers (sold to wealthier buyers). Other oil is sold to other users, such as vanaspati manufacturers, through a system of brokers and commissioned buying agents. While the system is considerably more complex than this description, the soybean oil marketing system does move huge quantities of oil to consumers around the country. Brokers and other agents are highly knowledgeable about market conditions in the country and react quickly to changes in the soybean oil sector.

2. Public Sector

There are several public sector institutions which have played a prominent role in edible oil marketing in recent years, most notably the State Trading Corporation (STC), the Public Distribution System (PDS), and the National Dairy Development Cooperative (NDDB). The STC was the organization responsible for importing millions of metric tons of edible oil during the 1980's, and is still the only official purchaser of imported edible oil. Most of the edible oil channelled through the STC was sold at administratively-set prices to vanaspati manufacturers and supplied at a discount to the PDS for sale through its network of rations shops.

The NDDB received edible oil from various USAID programs and other donors to support the cooperative's activities and ostensibly to moderate price swings in the edible oil markets. Although the NDDB imported sufficient quantities of edible oil to seriously influence the market, it was never clear that the organization was able to moderate price swings. It was more likely that the program had a greater influence in providing funds for the activities of the NDDB itself. Apparently, the NDDB is continuing to receive some edible oil from donors which it sells in the market. Recent requests by the NDDB to the Government of India to make up financial losses in its fiscal year are still being considered.

II. Title III Program

A. Goals

The goals of the Title III program as set forth in the first year evaluation report² are as follows:

- 1) Assist introduction of economic reforms by helping to dampen price increases of vegetable oil, a politically volatile staple food commodity;
- 2) Promote liberalization of India's food import regime and other trade policies by instituting a free, open and competitive auction system for the sale of the Title III vegetable oil;
- 3) Encourage policy reforms essential for broad-based employment generation and enhanced food security by supporting the creation and operation of a National Renewal Fund; and
- 4) Contribute to the development of the food and agriculture sector by providing credit to agroindustries.

B. Program Design

The Title III program is designed to donate American degummed crude soybean oil to the Government of India. The soybean oil is purchased in the United States and shipped to India. It is off-loaded at two ports - Bombay and Kandla - and stored in tanks owned or rented by the STC. Soybean oil will be offloaded in a third port this year -- Calcutta. An auction is held twice a week to auction off a portion of the soybean oil.

The auction is managed by a committee made of representatives from STC and USAID. The bids are ranked and a stop out price (or reserve price) is determined by the committee, which uses a set formula as a starting point to determining the reserve price. Following a discussion of market conditions, the committee sets the reserve price. All bidders must have made a deposit equal to 1,000 Rs/MT of the amount being bid for the bid to be accepted.

² USAID/New Delhi, India, PL 480 Title III Program, Progress Report and Request for Second Year Program, December 1992, p. 4. These objectives were slightly different from the ones expressed in the original Program Proposal (August 30, 1991, p.3) or the Agreement between the Republic of India and the United States of America for the Donation of Agricultural Commodities (May 28, 1992, p. 2). However, the Progress Report states the objectives of the program the most succinctly.

All bids above the reserve price are accepted and those below are rejected. The winning bids all receive the price of the lowest bidder above the reserve price. Winners must deposit a bank draft for the full price of the bid at STC within three days and pick-up the soybean oil at the storage facilities by the seventh day.

STC manages all payments and provides the facilities for the pick-up of oil. For these services, the STC receives a fee of 355 Rs/MT plus 2 percent of the C & F value of the oil. Originally, the program expected to sell most of the oil within the first two months. However, slow sales in a declining market led STC to assess an additional storage charge above and beyond the original agreement.

As noted in a design report for the program³, the three objectives of the auction system were to: 1) Maximize sales receipts; 2) Minimize market disruption; and 3) Encourage a free and competitive sales environment.

The local currency generated by the program was to be deposited in a separate, interest-bearing account and then transferred to the National Renewal Fund (a fund to help the workers of companies that are restructuring) and to support the lending operations of the ICICI for agro-industrial credit.

C. Accomplishments

The Title III program has been successful in auctioning off all of the edible oil that has been shipped during the first year of the program. Auctions have been held twice a week since September 1, 1992. While not every auction has resulted in the sale of soybean oil, the auction system in general was able to move over 50,000 metric tons of oil at prices in line with the market. As of November 11, 1993, the Title III Program had sold 51,250 MT of soybean oil, generating gross sales receipts of Rs. 1,212,433,000 (\$39,110,000 at an exchange rate US\$ 1.0 = 31 Rs.), for an average price per MT of Rs. 23,675 (763 \$/MT) (See Annex II for the complete record of the auction results through November 11).

The cost of shipping by boat from the United States was \$2,771,170 (\$58.96 per MT) in the first year and is estimated to be \$1,496,600 (\$39.90 per MT) in the second. The cost paid to the STC for their services was Rs. 49,215,834 (\$1,587,607) in the first year. This includes Rs. 18,722,253 (\$603,943) of excess storage charges, a sum levied by the STC when the soybean oil no longer to

³ Marine Overseas Services, In, The Design of a Tender Auction Sale System for the Monetization of PL 480 Title III Crude Degummed Soybean Oil, Report of Phase I, November 1992, p. 3

sell than anticipated. The projected expenses to the project by STC in the second year are Rs. 32,400,500 (\$1,045,177), including anticipated excess storage charges.

Unfortunately, the soybean oil arrived too late to sell in the high price period of the year. The first auctions were held just as prices were beginning to decline, and sales were much slower than anticipated. Figure 3 provides a graphic representation of the auction over the period from September 1, 1992 to November 11, 1993. The next section will go into further analysis of results of the auction and the system used to auction soybean oil.

Source: Annex II

Bids and Sales at PL 480 Auction And Soybean Oil Prices

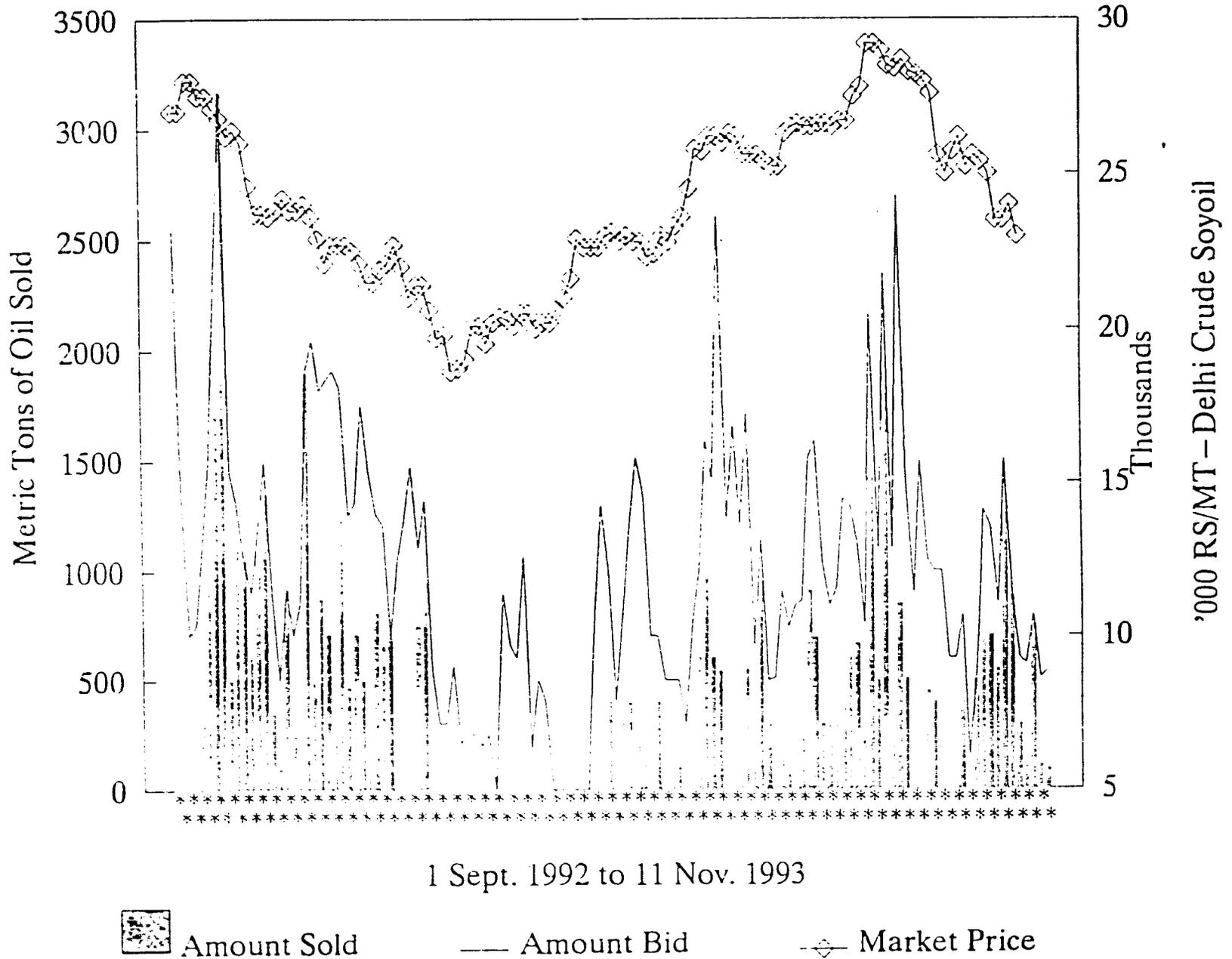


Figure 3

III. Analysis of the PL 480 Title III Auction

A. Participation in the Auction

1. Number of Participants

It was the intent of the program to include as many participants in the auction as possible - hopefully both vanaspati manufacturers and soybean oil refiners. Analysis of the auction statistics shows that relatively few bidders participated in the auction, and they were almost exclusively vanaspati manufacturers.

The highest average number of bidders was nine, which occurred in the first four months of the auction (The fourth quarter 1992 - See Table 7). The highest average number of winning bids was four, which occurred in the same period. The Bombay auction had an average of 2 bids and 1 successful bidders, although this varied considerably (See Table 8)⁴. The average for all auctions was seven bids with three successful bidders.

It is unlikely that the soybean oil refiners will use the auction in the near future. The cost and difficulty of getting the oil in Bombay or Kandla through the auction system do not just the slim margins involved with refining crude oil. Most of the refiners are vertically integrated and prefer to purchase soybean seed and then process it into soybean meal and crude and refined soybean oil.

While the PL 480 program has had considerable success at selling edible oil, it has been less successful at expanding its number of participants. While the auction has been reasonably open and fair, the low number of participants has perhaps pushed down the sales price and opened the possibility of collusion among bidders. We believe that it should be a goal in 1994 to expand participation of the participants in the market. Suggestions for doing this will be made in Section III.B.

⁴ Note that the auction has been separated into different categories in Table 8 for the purpose of analysis:

1) The "original auctions" are the auction that place from September 1, 1992 to December 1, 1992. There is no separation into Bombay or Kandla auctions.

2) The Bombay and Kandla auctions that took place from December 1, 1992 to November 11, 1993, with separate sales prices.

3) The "Combined Auctions" category combines all categories into one set of figures, starting on September 1, 1992 through November 11, 1993.

Analysis of Auction Statistics by Quarters

COMBINED AUCTION - BOMBAY AND KANDLA

QUARTER	BIDS WON	-----AVERAGE-----										SALES GENERATION (Rs.)	% of TOT. REVENUE (MT)
		MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA PRICE (Rs.)*	SALE PR. % BELOW MARKET PR.	FORM.P % BELOW MARKET PR.	SALE P. % ABOVE FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid			
IV92	9	4	24,406	22,985	22,583	-6.4%	-7.5%	1.2%	49,974	24,260	48.5%	566,086,000	46.7%
I93	2	0	20,344	21,700	18,536	-4.4%	-8.9%	4.5%	9,330	950	10.2%	20,420,000	1.7%
II93	7	3	23,835	22,238	21,836	-7.1%	-8.4%	1.3%	26,806	7,830	29.2%	178,268,000	14.7%
III93	8	3	27,144	25,241	24,964	-6.2%	-8.0%	2.1%	32,030	12,290	38.4%	310,788,000	25.6%
IV93	7	4	24,808	22,955	22,757	-7.1%	-8.3%	1.3%	9,445	5,920	62.7%	136,871,000	11.3%

Source : Annex 2b

Analysis of Auction Statistics

-----AVERAGE-----											
QUARTER	BIDS WON	MARKET BIDS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA PRICE (Rs.)*	% SALE PR. BELOW MKT PR.	% FORM.P BELOW MKT PR.	% SALE P. ABOVE FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid
Original Auctions (same sale price for Bombay and Kandla)											
Mean	10	5	25,418	23,518	23,633	-7.4%	-7.0%	-0.4%	1,440	754	49.1%
High	15	15	28,000	25,100	26,074	-2.4%	-6.9%	5.0%	3,170	3,170	100.0%
Low	5	0	22,900	22,000	21,252	-10.7%	-7.2%	-4.1%	500	0	0.0%
Std.Dv	3	4	1,713	1,191	1,619	2.1%	0.1%	2.4%	633	714	34.7%
C.Var.	30%	78%	7%	5%	7%				44%	95%	71%
Bombay Auction											
Mean	2	1	23,806	23,528	21,509	-3.8%	-9.7%	6.4%	200	79	39.4%
High	6	5	29,200	26,100	26,609	2.0%	-8.9%	12.8%	1,040	700	100.0%
Low	0	0	18,600	21,500	16,587	-8.2%	-10.8%	1.3%	0	0	0.0%
Std.Dv	2	1	2,782	1,488	2,631	1.9%	0.5%	2.2%	225	135	39.9%
C.Var.	94%	155%	12%	6%	12%				113%	172%	101%
Kandla Auction											
Mean	4	2	23,807	23,473	22,110	-6.8%	-7.1%	0.3%	701	238	29.2%
High	16	9	29,200	27,500	27,209	-4.1%	-6.8%	3.4%	2,700	1,800	100.0%
Low	0	0	18,600	20,900	17,187	-10.2%	-7.6%	-3.4%	0	0	0.0%
Std.Dv	3	2	2,784	1,765	2,632	1.3%	0.2%	1.5%	467	310	31.6%
C.Var.	63%	126%	12%	8%	12%				67%	131%	108%
Combined Auction- Bombay and Kandla											
Mean	7	3	24,098	23,401	22,138	-6.6%	-8.2%	1.5%	1,015	407	34.4%
High	16	15	29,200	27,500	26,909	-1.4%	-6.9%	8.0%	3,170	3,170	100.0%
Low	0	0	18,600	20,900	16,887	-53.8%	-9.2%	-49.6%	0	0	0.0%
Std.Dv	4	3	2,696	2,083	2,577	5.5%	0.6%	6.2%	612	488	30.6%
C.Var.	54%	105%	11%	9%	12%				60%	120%	89.1%

Source : Annex Table 2b

2. Frequency of Auctions

The auctions have been held regularly twice a week since the beginning of the auction in September, 1992. Some private sector people expressed an interest in seeing the auction take place on a more regular basis - even daily. Given the rather time intensive nature of the auctions, this would not seem like a good way to increase participation in the auction. Compared to how most soybean oil in the country is sold -- by a broker on a telephone -- the auction system is rather cumbersome. In fact, it would be a good thing to try to decrease the amount of time and effort spent by the committee on even two auctions per week.

B. Marketing

1. Timing

One of the objectives of using an auction is to keep market disruption to a minimum. On average, the sale price of the soybean oil was 6.6 percent below the market price, a reasonable discount for the conditions imposed by the auction committee (See Table 8). In our opinion, the committee took great care not to disrupt the market to the point of being almost too conservative. It must be said that the committee also faced considerable political pressure when prices of soybean oil were falling. The Government of India even requested that the committee restrict its sales to 5,000 MT/month during the first part of 1993 and even threatened to close down the program entirely.

The committee also faced the difficulty of having the soybean oil arrive just in time to be sold into a market with declining prices. It is much easier to sell into a rising market. For whatever reason, the late arrival of the oil made the task of the committee much more difficult. This should obviously be avoided in the future.

Despite these difficulties, the auction managed to generate 46.7 percent of its total revenues in the first four months of the program (See the last column of Table 7). Given the time value of money, this level of sales at the beginning of the program was commendable. As more auctions were held, the auction committee appears to have become more conservative. In the third quarter of 1993 when the average price was at its highest, only 38.4 percent of the quantity bid was sold, compared to 48.5 percent in the fourth quarter of 1992. It would seem that the auction committee could be more aggressive in its selling in a rising market.

2. Short-term and Local Area Effects on the Market

When soybean oil in any quantity is imported, this fact is reflected into the market's evaluation of price trends. This is the "psychological effect" that was often mentioned in committee

discussions. Short-term selling might influence the market for a short period of time before the market returned to its normal trend, which includes the discount for the imported soybean oil. Similarly, large sales into a local market relative to the normal amount traded could depress soybean oil prices temporarily. However the market would quickly return to normal. Concerns by the auction committee that a "collapse" in soybean oil price could be caused by selling too much oil at one time seem exaggerated and somewhat misplaced.

C. Auctions Mechanisms

1. Earnest Money

The auction currently requires that a bidder have on deposit a sum of Rs. 1,000/MT of soybean oil before the close of bidding. If this money is not at the STC by the time of the auction, the bid will be rejected. Several of the private sector people mentioned that this requirement impedes their flexibility in buying soybean oil. If a bidder decides that more oil is needed at the last minute, it is not possible to do under the present system. They noted that in the soybean oil sector, a request to a broker or a promise by a broker for soybean oil must be honored. If not, that person is quickly and effectively blacklisted in the trade.

The current system requiring earnest money is rather cumbersome for the STC. The earnest money must be deposited and accounted for by the STC. It must be verified for each bid that the proper amount of earnest money has been deposited. While some frequent bidders have developed a system of leaving earnest money on deposit with the STC, this system in general may deter potential bidders, decreases the flexibility of buyers, and potentially reduces the volume of oil sold. It clearly creates a lot of work for the STC.

The original reason for the deposit of earnest money was to discourage buyers who were not serious. While this seems to have been accomplished, the system may also have discouraged some buyers who were serious but found the system a bit cumbersome compared to buying through brokers. It is not clear the 1,000 Rs/MT -- which represented on average about 4 percent of the total price -- would prevent a buyer from backing out of a deal if that for some reason was seen as necessary.

The team recommends developing a system that allows potential buyers more flexibility. There are a number of ways to accomplish this goal. One way would be to abolish the requirement altogether and replace it with a rule that states that anyone defaulting on a bid would be permanently barred from the auction. The risk involved in this system seems minimal. If a buyer defaults on purchase, the oil stills remains in STC storage tanks and only a few days worth of interest have been lost.

A second way would be to establish a system where frequent bidders who have purchased soybean oil -- say five times -- would have the requirement waived. A third way would be to keep the earnest money system but allow a bidder to increase a bid by 50-100 percent over the amount of earnest money deposited. There are undoubtedly other ways of accomplishing the same goal, which could be considered by USAID and the STC.

2. Minimum Lot Size

The current minimum lot size is 50 metric tons. While the average purchase has been probably double this amount, and often considerably more, it is possible that the minimum size has kept certain buyers from bidding, or from bidding more often. There are some 70 manufacturers of vanaspati in the country. While not all of them are geographically located to take advantage of the Title III program, the frequent buyers are clearly among the largest vanaspati manufacturers. A decrease in the minimum lot size would seem warranted, say to 20 metric tons. Instituting this change, along with some of the other recommended changes, has the potential of broadening the participation of buyers and increasing the average volume of sales without an undue increase in the workload for the committee or the STC staff.

3. Financial Requirements

There are several financial requirements of the current program that potentially lower the volume of bidding. First, the terms of the Title III auction are somewhat more stringent than what is found in the private sector. The Title III auction requires that payment be made three working days after the auction and that the soybean oil be picked up within seven days of the auction. Terms in the private sector are payment within seven days and pickup within another seven days.

Little additional risk is incurred by changing the terms of the Title III auction to more closely resemble the terms in the private sector. The two or three days of foregone interest could be made up in increased volume. The change should also have the effect of broadening participation in the auction.

Second, the STC requires that a bank draft -- the equivalent of cash -- in payment of both earnest money and payment for the soybean oil. In the private sector, a check written on company accounts is considered sufficient payment. The STC feels that their system is necessary to avoid bounced checks and potential legal entanglements. Given the current client base of rather large vanaspati manufacturers, this is probably a bit conservative. However, if the goal is to broaden the auction to include some smaller and less financially strong participants, the system certainly has merit. The complaint by the private sector was that

getting a bank draft to Bombay or Kandla or Delhi was sometimes difficult, especially with participants who are located away from this urban areas.

Increasing the number of days within which payment must be made may help to solve this problem. Allowing companies to establish a letter of credit might be another solution to this problem, although there were a number of differing opinions as to the effectiveness of the using a LOC.

4. Pricing by the Auction Committee

The auction committee has spent a great deal of time thinking about the reserve price for each auction. The committee has developed a formula for both Bombay and Kandla that reflects a reasonable discount to the market price. The formula price on average for both auctions has been 8.2 percent less than the market price (See Table 8 - "Combined Auction - Bombay and Kandla"). Through its deliberations about the state of the soybean oil market, the committee on average pushed the sales price about 1.5 percent higher than the formula price, or about 6.6 percent less than the market price.

From a management point of view, one wonders if the marginal increase in price has been worth the marginal effort to decide on a higher price. Now, obviously these figures are averages and there have been times when market conditions or political issues were sufficiently strong to warrant very careful discussion of the reserve price. At the same time, there have been many auctions where the discussions of the market were relatively routine. It would seem reasonable to try to streamline the work of the committee whenever possible so that the full committee is convened only when there is sufficient reason to do so. Routine meetings could be handled by a smaller number of people.

The formula used by the committee to guide it in determining a reserve price generally seemed a adequate reflection of the discount needed to attract the private sector to the auction. However, the team believes that consideration should be given to modifying the formula in the following way. At the moment, the market price used in the formula is the Delhi market price. It would more accurate to use the market price from Indore, where over 80 percent of the soybeans in the country are grown. The Indore price is more accurate reflection of supply and demand for soybean oil in the country, whereas the Delhi price reflects supply and demand conditions and transportation costs in the Delhi market region. If the Indore price were used, the formula would have to be adjusted to reflect transport costs to Bombay, Kandla, and Calcutta.

Since the STC is a refiner and marketing agency for other edible oils, the committee must be careful not to get involved in situations that could be considered a conflict of interest. In general, this has not proved to be a problem. However, any committee member that has a conflict of interest should make this explicit or not be allowed to participate in committee decision-making.

Finally, the current system of allowing all successful bidder in an auction to purchase soybean oil at the price of the lowest bid above the reserve price. While this system has merit, particularly in declining market, it would be worth considering a "pay as bid" system during a rising market. In this system, all winning bidders would pay what they bid rather than receiving the price of the lowest bid over the reserve price. This should increase the sales revenues generated by the auction system, but is best suited to the conditions found in a rising market.

IV. Suggestions and Recommendations

In many ways the Title III auction system has been a success. Given the system utilized in the 1980's, the program must clearly be judged a success. Soybean oil has been sold at near market prices with a minimum disruption of prices. The private sector has been involved in the program and revenues have been generated from the program. The auction committee has managed the program well under sometimes difficult political circumstances. Our suggestions and recommendations, therefore, are concerned mainly with improving a system that is working well, with a major concern of increasing the number and broadening the participation of the private sector in the auction.

A. Short-term Issues

1. Changing the Auction to Increase Participation

Increasing participation in the auction will broaden the reach of the program to the private sector and should increase the average price of edible oil sold. There are a number of ways to do this.

- a) Lengthen the time to pay for and pick up the edible oil so that it is easier for bidders outside of Bombay, Kandla, or Calcutta to participate. Five to seven working days for payment and the same for pick-up would seem reasonable.
- b) Reduce the minimum lot size to 20 metric tons to increase the participation of smaller bidder.
- c) Do away with the earnest money requirement or modify the system to make it more flexible.
- d) Improve the system of payment by allowing companies who wish to do so to open a letter of credit. Allow payment of earnest money by company check if the earnest payment system is retained.

2. Streamline and Improve the Work of the Auction Committee

- a) Design a system that allows the minimum number of people to participate in the auction committee during routine periods of market activity.
- b) Assure that there are no conflicts of interest on the part of members of the committee.
- c) Change the market price used in the formula from Delhi to Indore.

- d) Consider using the "pay as bid" auction system whenever possible, generally in a rising market.
 - e) Import soybean oil early enough in the marketing year to be able to begin selling in a rising market during the "lean" part of the season.
3. Leverage the Resources of the Program to Provide Technical Assistance
- a) Assist the Soybean Oil Processors Association to get training on how to use the futures market at the Chicago Board of Trade. Perhaps this could be done through ACE.
 - b) Commission of study of the soybean market, including the relationship between soybean seed and soybean oil prices and the cross-price relationships with other edible oil. This could be done by a local university with a good agricultural economics department.

Annex Table I.1

Cropping Pattern: 1949-50 to 1991-92

	Gross Area (Lakh hectares)			% share in total gross cropped area			Variation in area between 1950 & 1992		
	1949-50	1962-63	1989-90	1949-50	1962-63	1989-90	Lakh hectares	% share in total	CAGR (%)
	to 1951-52	to 1964-65	to 1991-92	to 1951-52	to 1964-65	to 1991-92			
Foodgrains	978.5	1,177.9	1,254.1	81.5	77.7	73.4	275.6	54.2	0.6
Cereals	785.1	936.9	1,018.6	65.4	61.8	59.6	233.5	45.9	0.6
Rice	303.9	359.9	423.9	25.3	23.7	24.8	120.0	23.6	0.8
Jowar	156.8	182.8	139.3	13.1	12.1	8.1	-17.5	-3.4	-0.3
Bajra	92.7	113.0	104.7	7.7	7.5	6.1	12.0	2.4	0.3
Mnize	32.4	46.1	58.7	2.7	3.0	3.4	26.2	5.2	1.4
Ragi	22.0	25.2	22.2	1.8	1.7	1.3	0.2	neg.	neg.
Small millets	49.3	46.5	24.7	4.1	3.1	1.4	-24.6	-4.8	-1.6
Wheat	96.6	135.0	235.5	8.0	8.9	13.8	138.9	27.3	2.1
Barley	31.5	28.3	9.7	2.6	1.9	0.6	-21.9	-4.3	-2.8
Pulses	193.4	241.1	235.5	16.1	15.9	13.8	42.1	8.3	0.5
Gram	75.7	91.4	65.5	6.3	6.0	3.8	-10.2	-2.0	-0.3
Tur	22.9	25.2	36.5	1.9	1.7	2.1	13.5	2.7	1.1
Other pulses	94.9	124.5	133.6	7.9	8.2	7.8	38.7	7.6	0.8
Non-foodgrains	222.4	337.7	455.0	18.5	22.3	26.6	232.6	45.8	1.7
Oilseeds	114.2	169.7	256.3	9.5	11.2	15.0	142.1	28.0	1.9
Groundnuts	44.6	71.8	85.6	3.7	4.7	5.0	41.0	8.1	1.6
Sesamum	22.2	24.8	25.0	1.8	1.6	1.5	2.9	0.6	0.3
Rapeseed & mustard	21.4	30.3	57.4	1.8	2.0	3.4	36.0	7.1	2.4
Linseed	14.1	19.8	10.5	1.2	1.3	0.6	-3.7	-0.7	-0.7
Castorseed	5.8	4.6	7.4	0.5	0.3	0.1	1.7	0.3	0.6
Safflower	...	4.8	7.2	0.0	0.3	0.4	7.2	1.4	
Nigerseed	...	4.9	6.3	0.0	0.3	0.4	6.3	1.2	
Coconut	6.2	8.1	15.0	0.5	0.5	0.9	8.9	1.7	2.1
Soyabean	...	0.2	25.5	0.0	0.0	1.5	25.5	5.0	
Sunflower	...	0.3	16.4	0.0	0.0	1.0	16.4	3.2	
Fibres	67.9	95.5	86.9	5.7	6.3	5.1	19.0	3.7	0.6
Cotton	57.9	81.1	76.1	4.8	5.3	4.5	18.2	3.6	0.7
Jute	6.1	8.5	7.7	0.5	0.6	0.5	1.6	0.3	0.6
Mesta	1.9	3.9	2.4	0.2	0.3	0.1	0.5	0.1	0.5
Sannhemp	2.0	2.1	0.7	0.2	0.1	0.0	-1.3	-0.3	-2.4
Plantation crops	4.7	6.1	10.3	0.4	0.4	0.6	5.7	1.1	1.9
Tea	3.1	3.4	4.2	0.3	0.2	0.2	1.0	0.2	0.7
Coffee	0.9	1.2	2.5	0.1	0.1	0.1	1.6	0.3	2.5
Rubber	0.6	1.5	3.6	0.1	0.1	0.2	3.0	0.6	4.3
Condiments & Spices	7.6	13.6	19.6	0.6	0.9	1.1	12.0	2.4	2.3
Chillies	5.6	7.0	8.5	0.5	0.5	0.5	2.9	0.6	1.0
Ginger	0.2	0.2	0.5	0.0	0.0	0.0	0.3	0.1	2.4
Turmeric	0.5	0.6	1.2	0.0	0.0	0.1	0.7	0.1	2.0
Pepper	0.8	1.0	1.7	0.1	0.1	0.1	0.9	0.2	1.8
Arecanuts	0.0	1.4	2.1	0.0	0.1	0.1	2.1	0.4	
Coriander	0.0	2.8	3.5	0.0	0.2	0.2	3.5	0.7	
Cardamom	0.5	0.6	1.2	0.0	0.0	0.1	0.7	0.1	2.1
Garlic	0.0	0.0	0.9	0.0	0.0	0.1	0.9	0.2	
Vegetables & Fruits	7.7	12.0	19.9	0.6	0.8	1.2	12.2	2.4	2.3
Potatoes	2.4	4.2	9.5	0.2	0.3	0.6	7.1	1.4	3.3
Sweet Potato	1.5	1.4	1.5	0.1	0.1	0.1	neg.	neg.	neg.
Cashewnuts	...	2.1	0.0	0.0	0.1	0.0	0.0	0.0	
Tapioca	2.4	2.4	2.4	0.2	0.2	0.1	0.1	neg.	0.1
Bananas	1.4	1.9	3.4	0.1	0.1	0.2	1.9	0.4	2.1
Onions	0.0	0.0	3.0	0.0	0.0	0.2	3.0	0.6	
Miscellaneous Crops	20.4	40.8	62.0	1.7	2.7	3.6	41.7	8.2	2.7
Sugarcane	17.0	23.6	36.4	1.4	1.6	2.1	19.3	3.8	1.8
Tobacco	3.3	4.2	4.2	0.3	0.3	0.2	0.9	0.2	0.5
Guarseed	...	13.0	21.5	0.0	0.9	1.3	21.5	4.2	
All crops	1,200.9	1,515.7	1,709.2	100.0	100.0	100.0	508.2	100.0	0.8

Source : CMIE, Basic Statistics Relating to the Indian Economy, August, 1993

Annex Table I.2

SUNFLOWER SEEDS: STATE-WISE PRODUCTION: 1981-82 TO 1991-92

Sta.	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	Average		CARG(%) bet. triennia ended 1983-84 & 1991-92
												1987-88	% share	
												to 1991-92		
Karnataka	50.0	60.0	161.0	237.0	120.0	291.0	352.0	143.0	245.8	369.8	508.4	323.8	42.9	18.4
Maharashtra	92.0	115.0	109.0	170.0	136.0	84.0	196.0	154.0	257.5	303.3	147.0	211.6	12.4	10.6
Andhra Pradesh	2.9	4.0	9.3	11.3	14.0	34.4	66.0	40.0	63.6	139.4	190.6	99.9	16.1	49.0
Tamil Nadu	7.0	28.0	15.0	17.0	7.0	8.0	15.0	15.0	13.3	12.3	11.7	13.5	1.0	-3.6
All-India	159.0	230.0	300.0	440.0	281.0	420.0	635.0	370.0	631.0	873.0	1185.0	738.3	100.0	18.6

SOYABEANS: STATE-WISE PRODUCTION: 1981-82 TO 1991-92

State	1981-82	1982-83	1983-84	1984-85	1985-86	1986-87	1987-88	1988-89	1989-90	1990-91	1991-92	Average		CARG(%) bet. triennia ended 1983-84 & 1991-92
												1987-88	% share	
												to 1991-92		
Madhya Pradesh	307.0	584.0	614.0	770.0	829.0	677.0	767.0	1313.0	1496.5	2183.8	1887.0	1529.5	32.9	17.8
Uttar Pradesh	102.0	117.0	127.0	148.0	154.0	136.0	19.0	21.0	27.5	28.0	24.0	23.9	1.1	-16.8
Gujarat	4.5	4.5	4.5	4.5	1.0	6.0	3.0	12.0	19.1	14.7	15.2	12.8	0.7	17.5
Sikkim	2.0	3.0	3.0	4.0	6.0	6.0		6.0	7.3	7.5	4.8	5.1	0.2	11.9
Arunachal Pradesh			1.0	1.0	1.0	1.0	1.0	2.0	2.4	2.6	4.2	2.4	0.2	
Nagaland								2.0	2.4	2.0	3.5	2.0	0.2	
Meghalaya	1.0	1.0	1.0	1.0	1.0	1.0		1.0	0.9	0.9	0.9	0.7		-1.3
Mizoram										1.0	1.7	0.5		0.0
All-India	352.0	491.0	614.0	955.0	1024.0	891.0	898.0	1547.0	1806.0	2602.0	2275.0	1825.6	100.0	21.0

Annex Table I.3

INDIA: SOYBEAN AREA AND PRODUCTION ESTIMATES BY STATE
(AREA IN THA; PRODUCTION IN TMT; YIELD IN KGS/HA)

	1970/71	1973/74	1976/77	1980/81	1986/87	1987/88	1988/89	1989/90	1990/91	1991/92	1992/93 G	1993/94
GUJARAT												
AREA	0.6	0.6	0.0	11.0	22.4	10.2	16.5	22.9	12.9	22.6	17	20
PRODUCTION	0.3	0.1	0.0	4.5	6.0	3.1	12.3	19.1	14.7	15.2	14	17
YIELD	2.0	6.0		409.1	267.9	303.9	745.5	834.1	1,139.5	672.6	823.5	850
MADHYA PRADESH												
AREA	7.7	25.3	80.9	454.8	1,209.6	1,329.4	1,475.8	1,877.7	2,149.4	2,295.6	2899	3300
PRODUCTION	7.7	22.0	89.0	350.0	677.4	767.1	1,313.4	1,496.5	2,183.8	1,887.0	2322	3135
YIELD	1,000.0	869.6	1,100.1	769.6	560.0	577.0	890.0	797.0	1,016.0	822.0	801.0	950
MAHARASHTRA												
AREA	18.2	1.1	0.0	0.0	54.6	76.7	87.0	126.9	200.0	273.7	365	550
PRODUCTION	2.3	0.4	0.0	0.0	19.8	24.6	56.2	100.1	189.3	191.2	361	550
YIELD	126.4	363.6			362.6	320.7	646.0	788.8	946.5	698.6	989.0	1000
RAJASTHAN												
AREA	0.0	0.0	0.0	4.8	52.0	84.0	106.5	169.0	144.1	171.9	278	380
PRODUCTION	0.0	0.0	0.0	2.5	39.2	61.6	123.0	135.2	160.4	130.2	325	380
YIELD				520.8	753.8	733.3	1,154.9	800.0	1,113.1	757.4	1,169.1	1000
UTTAR PRADESH												
AREA	5.9	20.5	43.9	135.0	167.4	18.0	15.9	21.4	23.9	25.0	22	30
PRODUCTION	3.5	15.9	34.4	84.0	135.5	18.6	20.9	27.5	31.8	30.0	33	39
YIELD	593.2	824.4	783.6	622.2	809.4	1,033.3	1,314.5	1,285.0	1,330.5	1,200.0	1,500.0	1300
OTHER STATES												
AREA	0.0	0.0	0.1	2.0	20.8	24.3	32.4	35.1	33.9	32.4	89.0	120.0
PRODUCTION	0.0	0.0	0.0	1.2	13.5	23.3	21.3	27.2	21.5	21.6	54.0	79.0
YIELD			0.0	600.0	649.0	958.8	657.4	774.9	634.2	666.7	606.7	658.3
TOTAL INDIA												
AREA	32.4	47.5	124.9	607.6	1,526.6	1,542.6	1,734.1	2,253.0	2,564.2	2,821.2	3670	4400
PRODUCTION	13.8	39.4	123.4	442.2	891.4	898.3	1,547.1	1,805.6	2,601.5	2,275.2	3109	4200
YIELD	425.9	829.5	988.0	727.8	583.8	582.3	892.2	801.4	1,014.5	806.5	847.1	954.5

Foreign Agricultural Affairs office estimate
Preliminary official estimate

Source: USDA, Foreign Agricultural Affairs Office, New Delhi

Annex Table I.4
Projections of Soybean Area, Yield, & Production

Area	1000 ha						
	94/95	95/96	96/97	97/98	98/99	99/00	
Madhya Pradesh	3450	3600	3750	3900	4050	4200	
Maharashtra	750	950	1150	1350	1550	1750	
Rajasthan	440	500	560	620	680	740	
Other	190	210	230	250	270	290	
Total	4830	5260	5690	6120	6550	6980	
Yield	kg/ha						
	94/95	95/96	96/97	97/98	98/99	99/00	
Madhya Pradesh	1050	1100	1150	1200	1250	1300	
Maharashtra	1100	1175	1250	1325	1400	1475	
Rajasthan	1150	1225	1300	1375	1450	1500	
Other	900	950	1000	1150	1200	1250	
Total	1061	1119	1179	1243	1304	1363	
Production	1000 mt						
	94/95	95/96	96/97	97/98	98/99	99/00	
Madhya Pradesh	3622.5	3960	4312.5	4680	5062.5	5460	
Maharashtra	825	1116.25	1437.5	1788.75	2170	2581.25	
Rajasthan	506	612.5	728	852.5	986	1110	
Other	171	199.5	230	287.5	324	362.5	
Total	5125	5888	6708	7609	8543	9514	

Source: USDA, Foreign Agricultural Affairs Office, New Delhi

Annex Table 1.5

Minimum Support/Procurement Prices: 1980-81 to 1993-94

(Marketing Year)

(Rs. per quintal)

	1980- 81	1985- 86	1986- 87	1987- 88	1988- 89	1989- 90	1990- 91	1991- 92	1992- 93	1993- 94	CARG 1981-94
Wheat	117	157	162	166	173	183	215	225	275 *	330 *	8.3
Paddy (Common)	105	142	146	150	160	185	205	230	270	310	8.7
Coarse grains	105	130	132	135	145	165	180	205	240 **	260 ***	7.2
Barley	105	130	132	135	135	145	180	200	210	260	7.2
Gram	145		260	280	290	325	421	450	500	600	11.5
Arhar (Tur)	190	300	320	325	360	425	480	545	640	700	10.6
Moong	200	300	320	325	360	425	480	545	640	700	10.1
Urad	200	300	320	325	360	425	480	545	640	700	10.1
Rapeseed & mustard	NA	385	400	415	430	460	575	600	670	760	9.8
Tona			360	375	400	430	545	570	645	725	10.5
Groundnut: pods	206	350	370	390	430	500	580	645	750	800	11.0
Sunflower seed	183	335	350	390	450	530	600	670	800	850	12.5
Soyabean (black)	183	250	255	260	275	325	350	395	475	525	8.4
Safflower khardi			400	415	415	440	550	575	640	720	8.8
Coira						1500	1600	1700			
Cotton (F414/H177)		425	430	440	500	570	620	695	800	900	11.1
Cotton (Kapas H-4)	NA	535	540	550	600	690	750	840	950	1050	10.0
Jute (W-5 grade)											
Ex-Arson)	160	215	225	240	250	295	320	375	400	450	8.3
Tobacco		1200	1200	1200	1220	1280	1350	1425	1600	1750	5.5
Sugarcane	13	16.5	17	18.5	19.5	22	23	26	31	32.5	7.3
(Statutory)											

* Inclusive of Rs.25 as bonus.

** Maize, it is Rs. 245.00 per quintal.

*** Maize, it is Rs. 265.00 per quintal

Annex Table 1.6

Potential Yields of High Yielding Varieties of Seeds
A Comparative Picture

Crop	Potential of high yielding Indian varieties (Kg./hectare)	India's yield	Actual yield (Kg/hectare) in 1991-92			
			World's largest producer		World's highest	
			Yield	Country	Yield	Country
Food Crops						
Rice	4,000 - 5,810	2,629	8,157	China	8,157	Australia
Wheat	6,000 - 6,800	2,274	3,151	China	7,989	Ireland
Jowar	3,000 - 4,200	720	3,704	U.S.A	5,704	Spain
Maize	6,000 - 8,000	1,439	6,815	U.S.A	23,810	Netherland
Barley	Upto 2,500	1,681	2,782	Canada	6,000	Belgium-Luxemburg
Non-food Crops						
Groundnut: pods	2,000 - 3,000	847	817	India	6,667	Israel
Rapeseed	1,500 - 2,000	900	1,282	China	6,349	Algeria
Soyabean	1,500 - 2,500	792	2,304	U.S.A	5,098	Ethopia
Sesamum	Upto 2,000	306	306	India	3,077	Leban
Jute	2,500 - 3,000	1,565	1,565	India	3,556	Bhutan
Tobacco	2,530 - 2,865	1,461	1,990	China	11,429	UAE
Potato	23,800 - 30,900	16,195	35,533	China	44,318	Belgium-Luxemburg

Source: CMIE, Basic Statistics, 1993

Annex Table I.7a

Global Economic Data Exchange System						
Commodity: Total Oilseeds (2230000) (1000 HA) (1000 TREES) (K MT)						
Beg. Month/Year of Marketing Year: 00 / 91 00 / 92 00 / 93						
INDIA	Revised 1991		Prelim 1992		Forecast 1993	
	Old	New	Old	New	Old	New
Area Planted	0	28678	0	28915	0	30100
Area Harvested	0	28675	0	28912	0	30095
Beginning Stocks	0	0	0	0	0	0
Production	0	21113	0	23781	0	24313
MY Imports	0	0	0	0	0	0
MY Imp. from U.S.	0	0	0	0	0	0
MY Imp. from the EC	0	0	0	0	0	0
TOTAL SUPPLY	0	21113	0	23781	0	24313
MY Exports	0	1	0	30	0	50
MY Exp. to the EC	0	0	0	0	0	0
Crush Dom. Consumption	0	17872	0	20102	0	20808
Food Use Dom. Consump.	0	885	0	1035	0	955
Feed,Seed,Waste Dm.Cn.	0	2355	0	2614	0	2500
TOTAL Dom. Consumption	0	21112	0	23751	0	24263
Ending Stocks	0	0	0	0	0	0
TOTAL DISTRIBUTION	0	21113	0	23781	0	24313
Calendar Year Imports	0	0	0	0	0	0
Calendar Yr Imp. U.S.	0	0	0	0	0	0
Calendar Year Exports	0	6	0	20	0	50
Calndr Yr Exp. to U.S.	0	0	0	0	0	0

Source: USDA, Foreign Agricultural Affairs Office, New Delhi

Annex Table I.7b

Global Economic Data Exchange System						
Commodity: Total Oils (4240000) (1000 METRIC TONS)						
Beg. Month/Year of Marketing Year: 00 / 91 00 / 92 00 / 93						
INDIA	Revised 1991		Prelim 1992		Forecast 1993	
	Old	New	Old	New	Old	New
Crush	0	17872	0	20102	0	20808
Extr. Rate, 999.9999	0	0	0	0	0	0
Beginning Stocks	0	50	0	80	0	70
Production	0	4951	0	5441	0	5532
MY Imports	0	259	0	92	0	115
MY Imp. from U.S.	0	65	0	45	0	45
MY Imp. from the EC	0	0	0	0	0	0
TOTAL SUPPLY	0	5260	0	5613	0	5717
MY Exports	0	0	0	0	0	0
MY Exp. to the EC	0	0	0	0	0	0
Industrial Dom. Consum	0	357	0	392	0	382
Food Use Dom. Consump.	0	4823	0	5151	0	5285
Feed Waste Dom. Consum	0	0	0	0	0	0
TOTAL Dom. Consumption	0	5180	0	5543	0	5667
Ending Stocks	0	80	0	70	0	50
TOTAL DISTRIBUTION	0	5260	0	5613	0	5717
Calendar Year Imports	0	174	0	112	0	95
Calendar Yr Imp. U.S.	0	65	0	65	0	25
Calendar Year Exports	0	0	0	0	0	0
Calndr Yr Exp. to U.S.	0	0	0	0	0	0

Source: USDA, Foreign Agricultural Affairs Office, New Delhi

Annex Table 1.7c

Global Economic Data Exchange System							
Commodity: Total Oilmeals (0810000) (1000 METRIC TONS)							
Beg. Month/Year of Marketing Year: 00 / 91							
INDIA							
	Revised 1991		Prelim 1992		Forecast 1993		
	Old	New	Old	New	Old	New	
Crush	0	17872	0	20102	0	20808	
Extr. Rate, 999.9999	0	0	0	0	0	0	
Beginning Stocks	0	0	0	0	0	0	
Production	0	9761	0	10926	0	11716	
MY Imports	0	0	0	0	0	0	
MY Imp. from U.S.	0	0	0	0	0	0	
MY Imp. from the EC	0	0	0	0	0	0	
TOTAL SUPPLY	0	9761	0	10926	0	11716	
MY Exports	0	2236	0	3065	0	3865	
MY Exp. to the EC	0	0	0	0	0	0	
Industrial Dom. Consum	0	0	0	0	0	0	
Food Use Dom. Consump.	0	40	0	55	0	50	
Feed Waste Dom. Consum	0	7485	0	7806	0	7801	
TOTAL Dom. Consumption	0	7525	0	7861	0	7851	
Ending Stocks	0	0	0	0	0	0	
TOTAL DISTRIBUTION	0	9761	0	10926	0	11716	
Calendar Year Imports	0	0	0	0	0	0	
Calendar Yr Imp. U.S.	0	0	0	0	0	0	
Calendar Year Exports	0	3017	0	3175	0	3905	
Calndr Yr Exp. to U.S.	0	0	0	0	0	0	

Source: USDA, Foreign Agricultural Affairs Office, New Delhi

Annex Table 1.7d

Global Economic Data Exchange System							
Commodity: Oilseed, Soybean (2222000) (1000 HECTARES)(1000 MT)							
Beg. Month/Year of Marketing Year: 10 / 91							
INDIA							
	Revised 1991		Prelim 1992		Forecast 1993		
	Old	New	Old	New	Old	New	
Area Planted	2821	2821	3670	3670	3750	4400	
Area Harvested	2821	2821	3670	3670	3750	4400	
Beginning Stocks	0	0	0	0	0	0	
Production	2275	2275	3109	3109	3300	4200	
MY Imports	0	0	0	0	0	0	
MY Imp. from U.S.	0	0	0	0	0	0	
MY Imp. from the EC	0	0	0	0	0	0	
TOTAL SUPPLY	2275	2275	3109	3109	3300	4200	
MY Exports	0	0	0	0	0	0	
MY Exp. to the EC	0	0	0	0	0	0	
Crush Dom. Consumption	2035	2035	2810	2810	2980	3850	
Food Use Dom. Consump.	40	40	50	50	60	70	
Feed,Seed,Waste Dm.Cn.	200	200	249	249	260	280	
TOTAL Dom. Consumption	2275	2275	3109	3109	3300	4200	
Ending Stocks	0	0	0	0	0	0	
TOTAL DISTRIBUTION	2275	2275	3109	3109	3300	4200	
Calendar Year Imports	0	0	0	0	0	0	
Calendar Yr Imp. U.S.	0	0	0	0	0	0	
Calendar Year Exports	0	0	0	0	0	0	
Calndr Yr Exp. to U.S.	0	0	0	0	0	0	

Source: USDA, Foreign Agricultural Affairs Office, New Delhi

Annex Table 1.7e

Global Economic Data Exchange System							
Commodity: Oil, Soybean (4232000) (1000 METRIC TONS)							
Beg. Month/Year of Marketing Year: 10 / 91							
INDIA	Revised 1991		Prelim 1992		Forecast 1993		
	Old	New	Old	New	Old	New	
Crush	2035	2035	2810	2810	2980	3850	
Extr. Rate, 999.9999	1794	1794	1779	1779	1795	1792	
Beginning Stocks	0	0	40	40	0	0	
Production	365	365	500	500	535	690	
MY Imports	65	65	65		20	-	
MY Imp. from U.S.	65	65	65	65	20	20	
MY Imp. from the EC	0	0	0	0	0	0	
TOTAL SUPPLY	430	430	605	605	555	710	
MY Exports	0	0	0	0	0	0	
MY Exp. to the EC	0	0	0	0	0	0	
Industrial Dom. Consum	0	0	0	0	0	0	
Food Use Dom. Consump.	390	390	605	605	555	710	
Feed Waste Dom. Consum	0	0	0	0	0	0	
TOTAL Dom. Consumption	390	390	605	605	555	710	
Ending Stocks	40	40	0	0	0	0	
TOTAL DISTRIBUTION	430	430	605	605	555	710	
Calendar Year Imports	65	65	65	65	20	20	
Calendar Yr Imp. U.S.	65	65	65	65	20	20	
Calendar Year Exports	0	0	0	0	0	0	
Calndr Yr Exp. to U.S.	0	0	0	0	0	0	

Source: USDA, Foreign Agricultural Affairs Office, New Delhi

Annex Table 1.7f

Global Economic Data Exchange System							
Commodity: Meal, Soybean (0813100) (1000 METRIC TONS)							
Beg. Month/Year of Marketing Year: 10 / 91							
INDIA	Revised 1991		Prelim 1992		Forecast 1993		
	Old	New	Old	New	Old	New	
Crush	2035	2035	2810	2810	3850	3850	
Extr. Rate, 999.9999	7961	7961	8007	8007	8000	8000	
Beginning Stocks	0	0	0	0	0	0	
Production	1620	1620	2250	2250	3080	3080	
MY Imports	0	0	0	0	0	0	
MY Imp. from U.S.	0	0	0	0	0	0	
MY Imp. from the EC	0	0	0	0	0	0	
TOTAL SUPPLY	1620	1620	2250	2250	3080	3080	
MY Exports	1180	1180	1800	1800	2500	2500	
MY Exp. to the EC	0	0	0	0	0	0	
Industrial Dom. Consum	0	0	0	0	0	0	
Food Use Dom. Consump.	30	30	40	40	40	40	
Feed Waste Dom. Consum	410	410	410	410	540	540	
TOTAL Dom. Consumption	440	440	450	450	580	580	
Ending Stocks	0	0	0	0	0	0	
TOTAL DISTRIBUTION	1620	1620	2250	2250	3080	3080	
Calendar Year Imports	0	0	0	0	0	0	
Calendar Yr Imp. U.S.	0	0	0	0	0	0	
Calendar Year Exports	1770	1770	1850	1850	1950	2500	
Calndr Yr Exp. to U.S.	0	0	0	0	0	0	

Source: USDA, Foreign Agricultural Affairs Office, New Delhi

ANNEX TABLE I.8 – PER CAPITA AVAILABILITY OF EDIBLE OILS

Year	Edible Oil (Million tonnes)			Mid-Year Population (Millions)	Per Capita availability (Kgs. per annum)
	Indigenous Production	Imports*	Total Availability (Col.2+3)		
(1)	(2)	(3)	(4)	(5)	(6)
1981-82	3.2	1.00(31.1)	4.22	690.1	6.1
1982-83	2.73	1.15(42.1)	3.88	705.2	5.5
1983-84	3.28	1.37(41.8)	4.65	720.4	6.5
1984-85	3.45	1.14(33.0)	4.59	735.6	6.2
1985-86	2.96	1.04(35.1)	4.00	750.9	5.3
					Average 5.9
1986-87	3.05	1.47(48.2)	4.52	766.1	5.9
1987-88	3.46	1.95(56.4)	5.41	781.4	6.9
1988-89	4.80	1.08(22.5)	5.88	796.6	7.4
1989-90	4.59	0.29(P)(6.3)	4.88	811.8	6
1990-91	5.28(E)	0.09(2.0)**	5.37	827.1	6.5
					Average 6.5

* Figures in brackets indicate the percentage share of imports in total indigenous production of edible oils indicated in col. (2)

(E) – Estimated

** – Relates to November, 1990 to July, 1991

Source: Agrawal, P. K., "Indian Oilseeds & Edible Oils Economy during last Decade (1981-91) – An Analytical study, in Agricultural Situation in India, September, 1991, P. 445

Annex Table I.9

Major Items of Import : 1950-51 to 1992-93

	(Rs crore)										
	Cereal & preparations	Pulses	Edible oil	Fertilisers	Crude oil & prod.	Coal	Paper	Iron & steel	Non-ferrous metals	Ores & metal scrap	Capital goods
1950-51	95		3	12	55	-	10	16	26	2	132
1951-52	227		6	6	72	-	14	17	21	1	166
1952-53	151		4	2	77	-	11	19	21	0	137
1953-54	61		7	3	85		11	19	15	0	123
1954-55	38		3	2	83		12	26	25	1	133
1955-56	17		3	2	55		15	60	25	1	194
1956-57	8		5	4	75		13	129	40	2	252
1957-58	60		4	7	108		12	136	39	3	310
1958-59	159		3	10	70		8	92	32	2	238
1959-60	149		4	19	86		11	84	39	4	280
1960-61	181		4	12	69		19	122	47	3	356
1961-62	117		5	15	96		23	108	49	2	367
1962-63	144		4	30	88		22	89	55	2	387
1963-64	180		4	30	104		22	93	55	2	437
1964-65	282		5	45	69		21	105	58	5	448
1965-66	322		8	56	68		19	98	68	2	492
1966-67	586		11	115	61		32	91	536	5	464
1967-68	518		17	181	75		28	106	106	5	503
1968-69	337		10	169	132		28	86	86	6	514
1969-70	261		17	86	136		36	81	74	7	396
1970-71	213		23	84	135		37	147	119	11	395
1971-72	131		28	102	194		35	238	102	9	471
1972-73	81	131	15	113	204		31	226	108	6	450
1973-74	464	80	57	163	560		29	249	140	13	652
1974-75	764	1	12	436	1,157		58	424	179	5	696
1975-76	1,343	1	15	434	1,126		74	306	98	20	935
1976-77	867	2	101	192	1,413	-	68	219	157	31	1,048
1977-78	122	4	712	253	1,551	1	103	263	192	45	1,110
1978-79	87	22	537	371	1,687	10	147	462	245	68	1,260
1979-80	106	37	446	371	3,267	65	159	869	353	92	1,368
1980-81	100	30	683	652	5,263	27	204	852	477	115	1,821
1981-82	348	44	625	510	5,189	37	286	1,204	397	203	1,654
1982-83	230	37	397	270	5,622	125	196	1,172	347	194	2,573
1983-84	125	83	734	311	4,832	30	251	1,049	391	193	3,174
1984-85	242	101	950	1,144	5,409	49	371	941	412	185	3,168
1985-86	110	189	749	1,739	4,989	223	471	1,395	542	363	4,286
1986-87	87	234	634	921	2,811	219	460	1,556	517	472	6,488
1987-88	66	275	969	508	4,043	207	569	1,320	639	442	6,566
1988-89	631	384	730	933	4,258	420	559	1,937	786	677	6,939
1989-90	378	228	211	1,776	6,318	562	662	2,305	1,253	883	8,831
1990-91	151	473	322	1,697	10,820	780	917	1,984	1,108	1,209	10,466
1991-92	173	255	248	2,046	13,123	1,036	642	1,741	839	1,175	10,006
1992-93	924	316	172	2,477	17,153	1,379	722	2,092	1,119	1,792	12,453

Source: CMIE, Basic Statistics....., 1993

Annex Table I.10

India's Imports, Exports and Trade Balance: 1950-51 to 1992-93

	Rs. crore			% increase		As % of GDP			Exports as % of world exports
	Imports	Exports	Trade balance	Imports	Exports	Imports	Exports	Trade balance	
1950-51	608	606	-2			6.5	6.5	0.0	1.88
1951-52	890	716	-174	46.4	18.2	8.9	7.2	-1.7	1.97
1952-53	702	578	-124	-21.1	19.3	7.2	5.9	-1.3	1.59
1953-54	610	531	-79	-13.1	8.1	5.7	5.0	-0.7	1.29
1954-55	700	592	107	14.8	11.7	6.9	5.9	-1.1	1.35
1955-56	774	609	165	10.6	2.7	7.5	5.9	-1.6	1.35
1956-57	841	605	-236	8.7	-0.7	6.9	5.0	-1.9	1.21
1957-58	1,035	561	-474	23.1	-7.3	8.2	4.5	-3.8	1.22
1958-59	906	581	-325	-12.5	3.6	6.5	4.1	-2.3	1.12
1959-60	961	640	-321	6.1	10.2	6.5	4.3	-2.2	1.14
1960-61	1,122	642	-480	16.8	0.3	6.9	4.0	-3.0	1.03
1961-62	1,090	660	-430	2.9	2.8	6.3	3.8	-2.5	1.03
1962-63	1,131	685	-446	3.8	3.8	6.1	3.7	-2.4	1.25
1963-64	1,223	793	-430	8.1	15.8	5.8	3.7	-2.0	1.05
1964-65	1,349	816	-533	10.3	2.9	5.4	3.3	-2.2	0.98
1965-66	1,409	810	599	4.4	0.7	5.4	3.1	-2.3	0.89
1966-67	2,078	1,157	-921	47.5	42.8	7.0	3.9	-3.1	0.95
1967-68	2,008	1,199	-809	3.4	3.6	5.8	3.5	-2.3	0.74
1968-69	1,909	1,358	551	4.9	13.3	5.2	3.7	-1.5	0.73
1969-70	1,582	1,413	-169	-17.1	4.1	3.9	3.5	-0.4	0.67
1970-71	1,634	1,535	-99	3.3	8.6	3.8	3.6	-0.2	0.65
1971-72	1,825	1,608	-217	11.7	4.8	3.9	3.5	-0.5	0.58
1972-73	1,867	1,971	104	2.3	22.6	3.7	3.9	0.2	0.59
1973-74	2,955	2,523	-432	58.3	28.0	4.8	4.1	-0.7	0.50
1974-75	4,519	3,329	-1,190	52.9	31.9	6.2	4.5	-1.6	0.47
1975-76	5,265	4,036	-1,229	16.5	21.2	6.7	5.1	-1.6	0.50
1976-77	5,074	5,142	68	-3.6	27.4	6.0	6.1	0.1	0.56
1977-78	6,020	5,408	-612	18.6	5.2	6.3	5.6	-0.6	0.57
1978-79	6,811	5,726	-1,085	13.1	5.9	6.5	5.5	-1.0	0.51
1979-80	9,143	6,418	-2,725	34.2	12.1	8.0	5.6	-2.4	0.48
1980-81	12,549	6,711	-5,838	37.3	4.6	9.2	4.9	-4.3	0.43
1981-82	13,608	7,806	-5,802	8.4	16.3	8.5	4.9	-3.6	0.42
1982-83	14,293	8,803	-5,490	5.0	12.8	8.0	4.9	-3.1	0.51
1983-84	15,831	9,771	-6,060	10.8	11.0	7.6	4.7	-2.9	0.50
1984-85	17,134	11,744	-5,390	8.2	20.2	7.4	5.1	-2.3	0.52
1985-86	19,658	10,895	-8,763	14.7	-7.2	7.5	4.2	-3.3	0.47
1986-87	20,096	12,452	-7,644	2.2	14.3	6.9	4.3	-2.6	0.44
1987-88	22,244	15,674	-6,570	10.7	25.9	6.7	4.7	-2.0	0.46
1988-89	28,235	20,232	-8,003	26.9	29.1	7.2	5.1	-2.0	0.47
1989-90	35,416	27,681	-7,735	25.4	36.8	7.9	6.1	-1.7	0.53
1990-91	43,193	32,553	-10,640	22.0	17.6	8.2	6.1	-2.0	0.53
1991-92	47,851	44,042	-3,809	10.8	15.3	7.9	7.2	-0.6	0.50
1992-93	62,923	53,351	-9,572	31.5	21.1	9.1	7.7	-1.4	0.50

Source: CMIE, Basic Statistics....., 1993

Annex Table I.11
Soybean Prices in Selected Indian Markets
1988 - 1993

Date	-----Indore-----		Bombay	Delhi	
	Soybean Seed Yellow (Rs/MT)	Soybean Oil Crude (Rs/MT)	Soybean Oil Refined (Rs/MT)	Soybean Oil Refined (Rs/MT)	
S88	5,300		19,067	19,064	18,413
O	4,950		19,317	19,316	18,671
N	4,940		18,042	18,473	17,646
D	4,790	16,000	17,525	17,708	
J89	5,180	15,033	16,450	17,355	
F	5,190	14,625	15,925	16,848	15,300
M	5,490	14,870	16,180	16,370	15,760
A	6,010	17,016	18,573	18,784	17,995
M	6,180	17,633	19,066	19,257	18,450
J	5,860	16,810	18,110	19,169	17,770
J	5,610	17,200	18,625		18,225
A	5,790	18,725	20,400		19,425
S	5,820	19,438	20,969		20,318
O	4,810	18,380	20,180	20,570	18,925
N	4,670	17,420	19,140	17,480	18,100
D	4,340	16,672	18,160	18,605	18,130
J90	4,950	17,041	18,627	19,016	
F	4,970	17,658	19,487	19,862	18,313
M	5,460	18,760	20,453	20,471	19,320
A	5,350	20,542	22,317	22,150	20,135
M	5,900	19,971	21,726	21,763	20,907
J	6,390	22,850	24,825	23,975	23,825
J	6,990	25,999	27,903	26,620	26,962
A	6,370	25,656	27,577	27,837	26,495
S	5,970	26,600	28,025	27,125	27,600
O	5,550	27,575	31,625	28,900	23,325
N	5,190	24,850	27,100	27,975	25,760
D	5,910	25,570	27,775	27,470	26,337
J91	6,680	28,865	31,435	31,400	29,417
F	6,750	27,500	30,135	29,765	28,367
M	6,720	25,905	28,050	27,895	26,739
A	6,780	25,210	27,235	26,255	26,257
M	7,120	26,760	29,025	28,410	28,219
J	7,380	27,250	29,400	30,540	28,755
J	8,010	28,620	30,985	31,025	29,504
A	8,960	31,240	33,711	33,266	32,168
S	8,390	31,430	33,533	32,875	32,374
O	7,970	31,786	34,125	33,593	33,609
N	8,490	30,805	33,610	33,305	31,650
D	9,010	30,165	32,895	32,615	31,287
J92	8,720	27,825	30,530	30,740	28,875
F	8,260	24,845	27,015	26,790	25,833
M	8,310	24,450	26,600	25,775	25,475
A	8,710	27,150	28,725	28,400	28,148
M	8,750	25,990	28,250	28,030	27,380
J	5,580	25,210	27,320	28,020	26,167
J	8,870	26,240	28,255	29,285	27,170
A	8,350	26,425	28,685	28,875	28,023
S	7,690	25,590	27,850	27,890	26,723
O	7,590	24,811	27,050	27,300	25,844
N	6,870	22,645	24,870	25,515	23,624
D	6,710	21,160	23,550	24,270	22,189
J93	6,750	20,235	22,320	22,915	21,781
F	6,850	18,760	20,805	20,830	19,669
M	7,170	19,183	21,124	21,230	20,219
A	7,840	21,370	23,074	22,765	22,527
M	8,160	22,074	24,000	23,442	23,029
J	8,810	24,825	26,639	26,510	25,791
J	9,140	24,966	26,889	27,078	25,965
A	9,420	25,736	27,865	28,477	26,945
S	9,461	27,909	29,896	30,084	28,653
O	7,430	24,680	27,100	27,488	26,016
N*	6,703	23,066	25,200	26,575	25,217

* Price for November 1

Source: SOPA Digest, Soybean Processors of India, Indore

Annex Table I.12
Analysis of Soybean Prices
India By Year - 1988-1993

	1988-1989				
	Indore Seed	Indore Crude	Indore Refined	Bombay Refined	Delhi Refined
Average	5,441	16,435	18,107	18,294	17,765
High	6,180	18,725	20,400	19,316	19,425
Low	4,790	14,625	15,925	16,848	15,300
Standard Deviation	434	1,318	1,311	931	1,218
Coefficient of Variation	8.0%	8.0%	7.2%	5.1%	6.9%
	1989-- 1990				
	Indore Seed	Indore Crude	Indore Refined	Bombay Refined	Delhi Refined
Average	5,502	20,031	21,780	21,668	21,039
High	6,990	25,989	27,903	27,837	26,962
Low	4,340	16,672	18,160	17,480	18,100
Standard Deviation	772	3,065	3,174	3,133	3,103
Coefficient of Variation	14.0%	15.3%	14.6%	14.5%	14.7%
	1990-1991				
	Indore Seed	Indore Crude	Indore Refined	Bombay Refined	Delhi Refined
Average	6,752	27,162	29,542	29,169	28,205
High	8,960	31,240	33,711	33,266	32,168
Low	5,190	24,850	27,100	26,255	25,780
Standard Deviation	1,008	1,725	1,978	1,973	1,735
Coefficient of Variation	14.9%	6.3%	6.7%	6.8%	6.2%
	1991-1992				
	Indore Seed	Indore Crude	Indore Refined	Bombay Refined	Delhi Refined
Average	8,534	27,693	29,962	29,917	28,832
High	9,010	31,786	34,125	33,393	33,609
Low	7,970	24,450	26,600	25,775	25,475
Standard Deviation	282	2,553	2,712	2,509	2,625
Coefficient of Variation	3.3%	9.2%	9.1%	8.4%	9.1%
	1992-1993				
	Indore Seed	Indore Crude	Indore Refined	Bombay Refined	Delhi Refined
Average	7,750	22,605	24,670	24,852	23,692
High	9,420	25,736	27,865	28,477	26,945
Low	6,710	18,760	20,805	20,830	19,669
Standard Deviation	915	2,409	2,451	2,521	2,414
Coefficient of Variation	11.8%	10.7%	9.9%	10.1%	10.2%

Source: Annex Table I.11

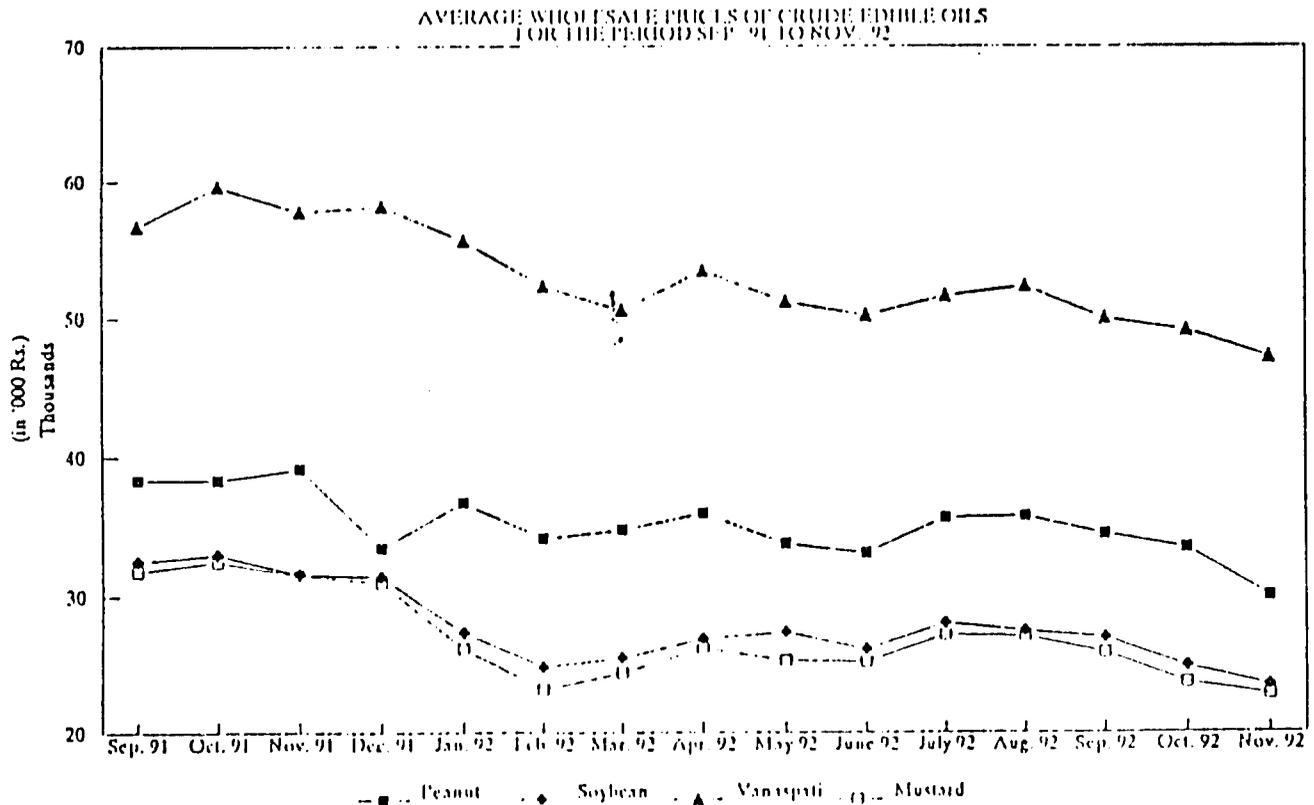
Annex Table I.13

AVERAGE WHOLESALE PRICES OF CRUDE EDIBLE OILS
FOR THE PERIOD SEPTEMBER '91 TO NOVEMBER '92

(in Rs. per ton)

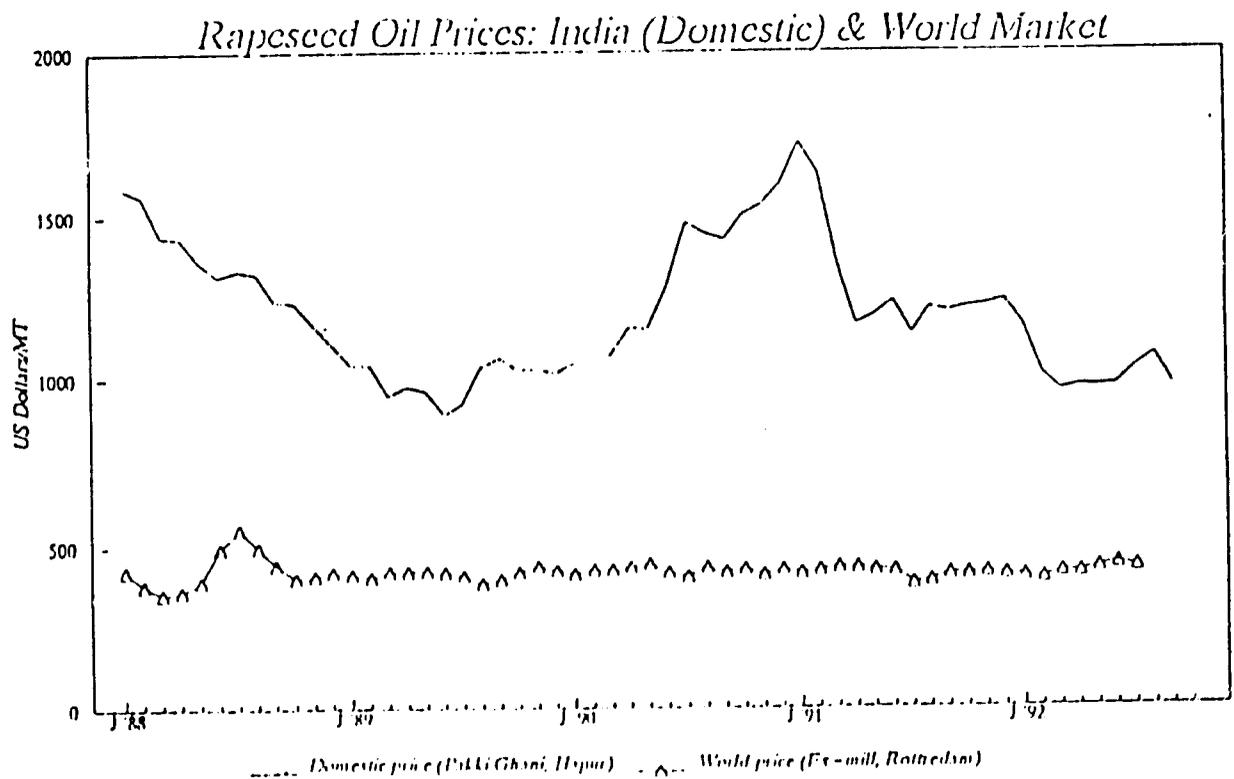
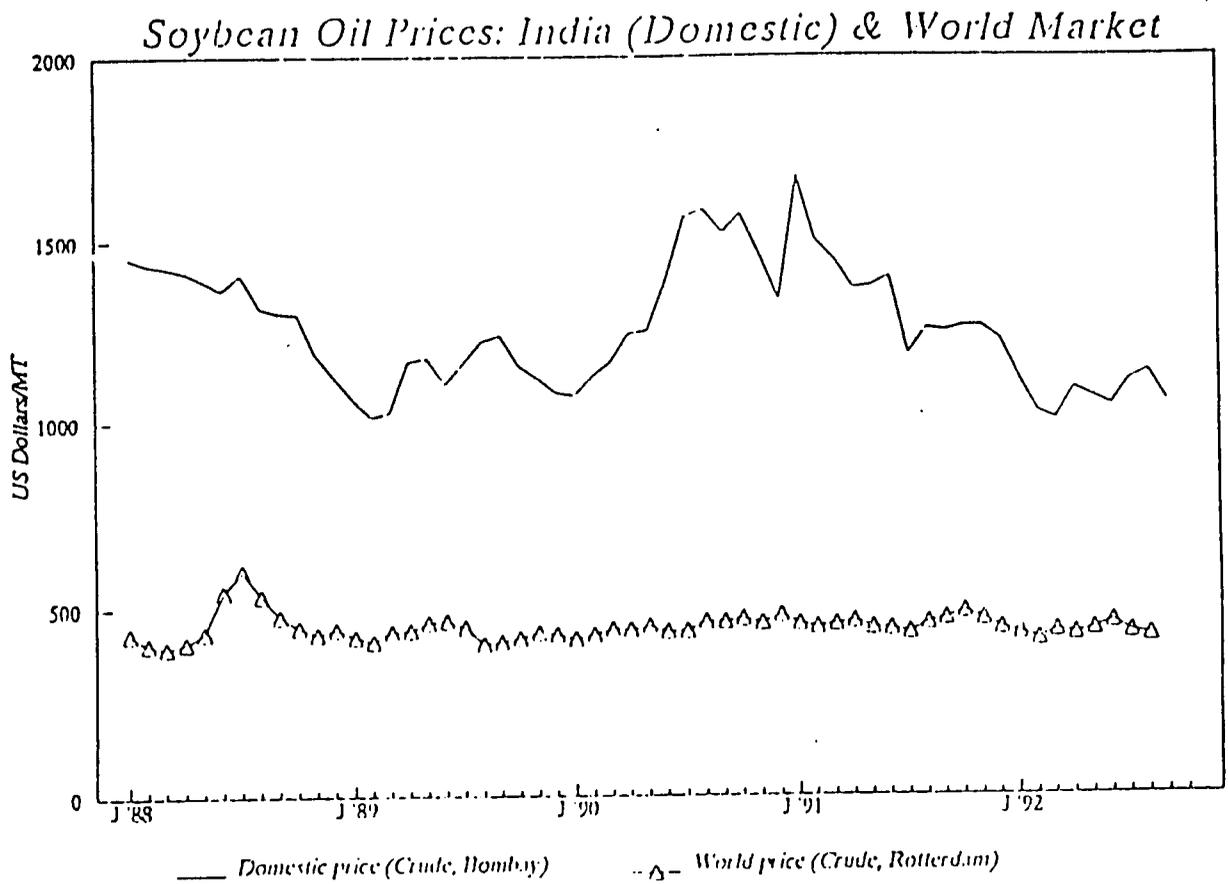
	Peanut	Soybean	Vanaspati	Mustard
September 91	38,300	32,500	56,600	31,800
October 91	38,300	33,000	59,600	32,500
November 91	39,100	31,600	57,700	31,500
December 91	33,400	31,400	58,100	31,000
January 92	36,700	27,400	55,600	26,200
February 92	34,100	24,900	52,300	23,200
March 92	34,700	25,500	50,600	24,400
April 92	35,900	26,900	53,400	26,200
May 92	33,700	27,400	51,200	25,300
June 92	33,100	26,100	50,200	25,200
July 92	35,600	28,100	51,600	27,200
August 92	35,700	27,500	52,300	27,100
September 92	34,400	27,000	50,000	25,900
October 92	33,400	24,900	49,100	23,700
November 92	30,000	23,500	47,200	22,800

Source : Vanaspati Manufacturers' Association



Source: USDA, Foreign Agricultural Affairs Office, New Delhi

Annex Figure I.14



Source: USDA, Foreign Agricultural Affairs Office, New Delhi

STATE TRADING CORPORATION OF INDIA, LTD.
 PL-480 TITLE III DEGUMMED SOLVENT EXTRACTED SOYBEAN OIL TENDER
 SCHEME NO. STC/SESO/92/01

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SUMMARY OF AUCTION RESULTS

AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
01-Sep-92	13	0			2,550	0	0	0	0
03-Sep-92	9	0			1,400	0	0	0	0
08-Sep-92	6	0			700	0	0	0	0
10-Sep-92	6	0			750	0	0	0	0
15-Sep-92	9	3	27,000	24,500	1,100	300	7,350,000	300	7,350,000
17-Sep-92	10	6	27,000	24,500	1,500	1,050	25,725,000	1,350	33,075,000
22-Sep-92	15	9	28,000	25,000	2,370	1,700	42,500,000	3,050	75,575,000
24-Sep-92	15	15	28,000	25,000	3,170	3,170	79,250,000	6,220	154,825,000
29-Sep-92	10	4	27,500	25,100	1,450	500	12,550,000	6,720	167,375,000
01-Oct-92	7	5	27,500	25,000	1,300	1,100	27,500,000	7,820	194,875,000
07-Oct-92	8	8	27,100	24,500	1,050	1,050	25,725,000	8,870	220,600,000
08-Oct-92	8	4	26,800	24,500	900	600	14,700,000	9,470	235,300,000
13-Oct-92	10	8	26,200	24,200	1,200	1,100	26,620,000	10,570	261,920,000
15-Oct-92	10	8	26,400	24,200	1,500	1,350	32,670,000	11,920	294,590,000
20-Oct-92	8	4	26,000	24,200	900	350	8,470,000	12,270	303,060,000
22-Oct-92	5	1	24,600	24,000	500	100	2,400,000	12,370	305,460,000
28-Oct-92	6	6	23,700	22,000	920	920	20,240,000	13,290	325,700,000
29-Oct-92	8	3	23,700	22,000	704	250	5,500,000	13,540	331,200,000

* MILL DELIVERED DELHI

SUMMARY OF AUCTION RESULTS

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
03-Nov-92	7	2	23,600	22,000	850	150	3,300,000	13,690	334,500,000
05-Nov-92	13	13	23,800	22,000	1,900	1,900	41,800,000	15,590	376,300,000
11-Nov-92	14	3	24,200	22,500	2,050	490	11,025,000	16,080	387,325,000
12-Nov-92	14	7	23,800	22,200	1,820	870	19,314,000	16,950	406,639,000
17-Nov-92	13	4	23,800	22,500	1,870	710	15,975,000	17,660	422,614,000
19-Nov-92	12	2	24,000	23,000	1,910	250	5,750,000	17,910	428,364,000
24-Nov-92	12	8	23,600	22,500	1,830	1,230	27,675,000	19,140	456,039,000
26-Nov-92	10	3	22,900	22,000	1,250	470	10,340,000	19,610	466,379,000
BOMBAY	6	5		21,500	910	610	13,115,000	12,710	299,507,000
KANDLA	3	1		21,200	400	100	2,120,000	7,610	182,107,000
01-Dec-92	9	6	22,100		1,310	710	15,235,000	20,320	481,614,000
BOMBAY	5	0		No sale	560	0	0	12,710	299,507,000
KANDLA	7	2		21,700	1,200	500	10,850,000	8,110	192,957,000
03-Dec-92	12	2	22,700		1,760	500	10,850,000	20,820	492,464,000
BOMBAY	4	2		22,000	600	200	4,400,000	12,910	303,907,000
KANDLA	4	0		No sale	850	0	0	8,110	192,957,000
08-Dec-92	8	2	22,700		1,450	200	4,400,000	21,020	496,864,000
BOMBAY	4	2		22,100	560	360	7,956,000	13,270	511,863,000
KANDLA	3	2		21,500	700	450	9,675,000	8,560	202,632,000
10-Dec-92	7	4	22,700		1,260	810	17,631,000	21,830	514,495,000
BOMBAY	3	1		21,800	510	60	1,308,000	13,330	313,171,000
KANDLA	4	3		21,200	700	600	12,720,000	9,160	215,352,000
15-Dec-92	7	4	22,500		1,210	660	14,028,000	22,490	528,523,000
BOMBAY	4	4		21,500	440	440	9,480,000	13,770	322,631,000
KANDLA	3	3		20,900	250	250	5,225,000	9,410	220,577,000
17-Dec-92	7	7	22,100		690	690	14,685,000	23,180	543,208,000

* MILL DELIVERED DELHI

SUMMARY OF AUCTION RESULTS

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	2	0		No sale	240	0	0	13,770	322,631,000
KANDLA	6	0		No sale	800	0	0	9,410	220,577,000
22-Dec-92	8	0	21,500		1,040	0	0	23,180	543,208,000
BOMBAY	3	0		No sale	330	0	0	13,770	322,631,000
KANDLA	5	0		No sale	900	0	0	9,410	220,577,000
24-Dec-92	8	0	21,500		1,230	0	0	23,180	543,208,000
BOMBAY	3	2		21,600	380	330	7,128,000	14,100	329,759,000
KANDLA	6	0		No sale	1,100	0	0	9,410	220,577,000
29-Dec-92	9	2	21,900		1,480	330	7,128,000	23,510	550,336,000
BOMBAY	2	0		No sale	150	0	0	14,100	329,759,000
KANDLA	5	4		21,000	950	750	15,750,000	10,160	236,327,000
31-Dec-92	7	4	22,100		1,100	750	15,750,000	24,260	566,086,000
BOMBAY	3	1		22,000	330	150	3,300,000	14,250	333,059,000
KANDLA	5	4		21,400	1,000	800	17,120,000	10,960	253,447,000
05-Jan-93	8	5	22,700		1,330	950	20,420,000	25,210	586,506,000
BOMBAY	2	0		No sale	150	0	0	14,250	333,059,000
KANDLA	3	0		No sale	400	0	0	10,960	253,447,000
07-Jan-93	5	0	22,000		550	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	2	0		No sale	300	0	0	10,960	253,447,000
12-Jan-93	2	0	21,000		300	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	2	0		No sale	300	0	0	10,960	253,447,000
14-Jan-93	2	0	21,400		300	0	0	25,210	586,506,000
BOMBAY	2	0		No sale	170	0	0	14,250	333,059,000
KANDLA	3	0		No sale	400	0	0	10,960	253,447,000
19-Jan-93	5	0	21,400		570	0	0	25,210	586,506,000
BOMBAY	1	0		No sale	60	0	0	14,250	333,059,000
KANDLA	1	0		No sale	150	0	0	10,960	253,447,000
21-Jan-93	2	0	20,500		210	0	0	25,210	586,506,000

* MILL DELIVERED DELHI

SUMMARY OF AUCTION RESULTS

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AUCTION DATES	TOTAL NO OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs)*	SALE PRICE (Rs)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	2	0		No sale	250	0	0	10,960	253,447,000
27-Jan-93	2	0	19,700		250	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	2	0		No sale	50	0	0	10,960	253,447,000
28-Jan-93	2	0	19,800		250	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	1	0		No sale	200	0	0	10,960	253,447,000
02-Feb-93	1	0	18,600		200	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	1	0		No sale	250	0	0	10,960	253,447,000
04-Feb-93	1	0	18,700		250	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	0	0		No sale	0	0	0	10,960	253,447,000
09-Feb-93	0	0	19,000		0	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	3	0		No sale	900	0	0	10,960	253,447,000
11-Feb-93	3	0	20,100		900	0	0	25,210	586,506,000
BOMBAY	1	0		No sale	110	0	0	14,250	333,059,000
KANDLA	2	0		No sale	550	0	0	10,960	253,447,000
16-Feb-93	3	0	20,100		660	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	2	0		No sale	600	0	0	10,960	253,447,000
18-Feb-93	2	0	19,500		600	0	0	25,210	586,506,000
BOMBAY	1	0		No sale	170	0	0	14,250	333,059,000
KANDLA	4	0		No sale	900	0	0	10,960	253,447,000
23-Feb-93	5	0	20,200		1,070	0	0	25,210	586,506,000
BOMBAY	1	0		No sale	190	0	0	14,250	333,059,000
KANDLA	0	0		No sale	0	0	0	10,960	253,447,000
25-Feb-93	1	0	20,400		190	0	0	25,210	586,506,000

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	3	0		No sale	500	0	0	10,960	253,447,000
02-Mar-93	3	0	20,300		500	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	2	0		No sale	400	0	0	10,960	253,447,000
04-Mar-93	2	0	20,100		400	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	0	0		No sale	0	0	0	10,960	253,447,000
09-Mar-93	0	0	20,500		0	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	0	0		No sale	0	0	0	10,960	253,447,000
11-Mar-93	0	0	20,500		0	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	0	0		No sale	0	0	0	10,960	253,447,000
16-Mar-93	0	0	20,000		0	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	0	0		No sale	0	0	0	10,960	253,447,000
18-Mar-93	0	0	20,200		0	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	0	0		No sale	0	0	0	10,960	253,447,000
23-Mar-93	0	0	20,200		0	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	0	0		No sale	0	0	0	10,960	253,447,000
25-Mar-93	0	0			0	0	0	25,210	586,506,000
BOMBAY	0	0		No sale	0	0	0	14,250	333,059,000
KANDLA	1	0		No sale	300	0	0	10,960	253,447,000
30-Mar-93	1	0	21,000		300	0	0	25,210	586,506,000

* MILL DELIVERED DELHI

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	2	0		No sale	500	0	0	14,250	333,059,000
KANDLA	2	0		No sale	500	0	0	10,950	253,447,000
02-Apr-93	4	0	21,600		1,000	0	0	25,210	586,506,000
BOMBAY	3	0		No sale	800	0	0	14,250	333,059,000
KANDLA	2	1		21,500	500	300	6,450,000	11,260	259,897,000
06-Apr-93	5	1	22,900		1,300	300	6,450,000	25,510	592,956,000
BOMBAY	3	0		21,800	500	100	2,180,000	14,350	335,239,000
KANDLA	2	1		No sale	250	0	0	11,260	259,897,000
08-Apr-93	5	1	22,600		750	100	2,180,000	25,610	595,136,000
BOMBAY	1	0		No sale	150	0	0	14,350	335,239,000
KANDLA	5	2		21,200	750	300	6,360,000	11,560	266,257,000
13-Apr-93	6	2	22,600		900	300	6,360,000	25,910	601,496,000
BOMBAY	1	0		No sale	50	0	0	14,350	335,239,000
KANDLA	6	2		21,200	1,050	400	8,480,000	11,960	274,737,000
15-Apr-93	7	2	22,600		1,100	400	8,480,000	26,310	609,976,000
BOMBAY	2	0		No sale	150	0	0	14,350	335,239,000
KANDLA	7	5		21,500	1,416	250	5,375,000	12,210	280,112,000
20-Apr-93	9	5	23,000		1,566	250	5,375,000	26,560	615,351,000
BOMBAY	1	0		No sale	100	0	0	14,350	335,239,000
KANDLA	6	0		No sale	1,150	0	0	12,210	280,112,000
22-Apr-93	7	0	23,100		1,250	0	0	26,560	615,351,000
BOMBAY	2	1		22,000	200	150	3,300,000	14,500	338,539,000
KANDLA	3	1		21,700	500	100	2,170,000	12,310	282,282,000
27-Apr-93	5	2	22,800		700	250	5,470,000	26,810	620,821,000
BOMBAY	2	2		22,200	200	200	4,440,000	14,700	342,979,000
KANDLA	3	2		21,800	600	400	8,720,000	12,710	291,002,000
29-Apr-93	5	4	23,000		800	600	13,160,000	27,410	633,981,000
BOMBAY	1	0		No sale	100	0	0	14,700	342,979,000
KANDLA	3	0		No sale	500	0	0	12,710	291,002,000
04-May-93	4	0	22,800		600	0	0	27,410	633,981,000

* MILL DELIVERED DELHI

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	0	0		No sale	0	0	0	14,700	342,979,000
KANDLA	3	0		No sale	350	0	0	12,710	291,002,000
07-May-93	3	0	22,800		350	0	0	27,410	633,981,000
BOMBAY	2	1		22,000	150	100	2,200,000	14,800	345,179,000
KANDLA	2	0		No sale	400	0	0	12,710	291,002,000
11-May-93	4	1	22,300		550	100	2,200,000	27,510	636,181,000
BOMBAY	1	1		21,800	100	100	2,180,000	14,900	347,359,000
KANDLA	0	0		No sale	0	0	0	12,710	291,002,000
13-May-93	1	1	22,400		100	100	2,180,000	27,610	638,361,000
BOMBAY	2	0		No sale	300	0	0	14,900	347,359,000
KANDLA	2	0		No sale	400	0	0	12,710	291,002,000
18-May-93	4	0	23,000		700	0	0	27,610	638,361,000
BOMBAY	4	2		22,200	360	260	5,772,000	15,160	353,131,000
KANDLA	3	4		21,500	700	400	8,600,000	13,110	299,602,000
20-May-93	7	6	22,800		1,060	660	14,372,000	28,270	652,733,000
BOMBAY	3	2		22,500	310	200	4,500,000	15,360	357,631,000
KANDLA	7	6		21,700	1,360	860	18,662,000	13,970	318,264,000
25-May-93	10	8	23,300		1,670	1,060	23,162,000	29,330	675,895,000
BOMBAY	2	1		22,600	230	100	2,260,000	15,460	359,891,000
KANDLA	7	7		21,800	1,150	600	13,080,000	14,570	331,344,000
27-May-93	9	8	23,600		1,380	700	15,340,000	30,030	691,235,000
BOMBAY	2	0		No sale	270	0	0	15,460	359,891,000
KANDLA	8	1		23,100	1,570	200	4,620,000	14,770	335,964,000
01-Jun-93	10	1	24,500		1,840	200	4,620,000	30,230	695,855,000
BOMBAY	5	2		25,000	1,040	340	8,500,000	15,800	368,391,000
KANDLA	6	0		No sale	1,050	0	0	14,770	335,964,000
03-Jun-93	11	2	25,800		2,090	340	8,500,000	30,570	704,355,000

* MILL DELIVERED DELHI

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	2	0		No sale	190	0	0	15,800	368,391,000
KANDLA	8	0		No sale	1,100	0	0	14,770	335,964,000
08-Jun-93	10	0	25,700		1,290	0	0	30,570	704,355,000
BOMBAY	5	1		24,800	560	110	2,728,000	15,910	371,119,000
KANDLA	7	0		No sale	900	0	0	14,770	335,964,000
10-Jun-93	12	1	26,200		1,460	110	2,728,000	30,680	707,083,000
BOMBAY	4	2		24,800	310	150	3,720,000	16,060	374,839,000
KANDLA	9	2		24,200	1,620	500	12,100,000	15,270	348,064,000
15-Jun-93	13	4	26,200		1,930	650	15,820,000	31,330	722,903,000
BOMBAY	2	1		25,100	100	50	1,255,000	16,110	376,094,000
KANDLA	6	4		24,100	550	300	7,230,000	15,570	355,294,000
17-Jun-93	8	5	26,000		650	350	8,485,000	31,680	731,388,000
BOMBAY	2	2		25,100	110	110	2,761,000	16,220	378,855,000
KANDLA	6	5		24,400	950	850	20,740,000	16,420	376,034,000
22-Jun-93	8	7	26,300		1,060	960	23,501,000	32,640	754,889,000
BOMBAY	2	1		25,100	200	100	2,510,000	16,320	381,365,000
KANDLA	3	2		24,500	350	250	6,125,000	16,670	382,159,000
24-Jun-93	5	3	26,200		550	350	8,635,000	32,990	763,524,000
BOMBAY	2	1		25,000	150	50	1,250,000	16,370	382,615,000
KANDLA	3	0		No sale	350	0	0	16,670	382,159,000
29-Jun-93	5	1	25,600		500	50	1,250,000	33,040	764,774,000
BOMBAY	2	1		No sale	160	0	0	16,370	382,615,000
KANDLA	5	0		24,000	650	150	3,600,000	16,820	385,759,000
02-Jul-93	7	1	25,600		810	150	3,600,000	33,190	768,374,000
BOMBAY	3	1		24,500	260	110	2,695,000	16,480	385,310,000
FANDLA	4	1		23,900	500	100	2,390,000	16,920	388,149,000
06-Jul-93	7	2	25,600		760	210	5,085,000	33,400	773,459,000
BOMBAY	2	0		No sale	240	0	0	16,480	385,310,000
KANDLA	5	0		No sale	600	0	0	16,920	388,149,000
08-Jul-93	7	0	25,400		840	0	0	33,400	773,459,000

* MILL DELIVERED DELHI

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	2	2		24,200	240	240	5,808,000	16,720	391,118,000
KANDLA	4	1		23,700	650	200	4,740,000	17,120	392,889,000
13-Jul-93	6	3	25,200		890	440	10,548,000	33,840	784,007,000
BOMBAY	2	1		24,500	210	100	2,450,000	16,820	393,568,000
KANDLA	6	3		23,800	1,000	500	11,900,000	17,620	404,789,000
15-Jul-93	8	4	25,200		1,210	600	14,350,000	34,440	798,357,000
BOMBAY	4	3		25,200	510	410	10,332,000	17,230	403,900,000
KANDLA	7	2		24,500	1,400	500	12,250,000	18,120	417,039,000
20-Jul-93	11	5	26,300		1,910	910	22,582,000	35,350	820,939,000
BOMBAY	1	1		25,800	190	190	4,902,000	17,420	408,802,000
KANDLA	7	2		24,700	970	300	7,410,000	18,420	424,449,000
22-Jul-93	8	3	26,500		1,160	490	12,312,000	35,840	833,251,000
BOMBAY	1	0		No sale	60	0	0	17,420	408,802,000
KANDLA	4	1		24,700	700	150	3,705,000	18,570	428,154,000
27-Jul-93	5	1	26,600		760	150	3,705,000	35,990	836,956,000
BOMBAY	1	1		25,600	140	140	3,584,000	17,560	412,386,000
KANDLA	6	4		24,700	820	420	10,374,000	18,990	438,528,000
29-Jul-93	7	5	26,500		960	560	13,958,000	36,550	850,914,000
BOMBAY	1	0		No sale	100	0	0	17,560	412,386,000
KANDLA	6	3		24,700	970	370	9,139,000	19,360	447,667,000
03-Aug-93	7	3	26,500		1,070	370	9,139,000	36,920	860,053,000
BOMBAY	4	0		No sale	360	0	0	17,560	412,386,000
KANDLA	4	2		24,700	950	500	12,350,000	19,860	460,017,000
05-Aug-93	8	2	26,600		1,310	500	12,350,000	37,420	872,403,000
BOMBAY	3	1		25,100	350	100	2,510,000	17,660	414,896,000
KANDLA	6	6		24,500	1,000	550	13,475,000	20,410	473,492,000
10-Aug-93	9	7	26,600		1,350	650	15,985,000	38,070	888,388,000

* MILL DELIVERED DELHI

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	1	1		25,100	120	120	3,012,000	17,780	417,908,000
KANDLA	4	0		No sale	400	0	0	20,410	473,492,000
12-Aug-93	5	1	26,500		520	120	3,012,000	38,190	891,400,000
BOMBAY	3	2		25,100	360	260	6,526,000	18,040	424,434,000
KANDLA	9	5		24,700	1,470	720	17,784,000	21,130	491,276,000
17-Aug-93	12	7	26,700		1,830	980	24,310,000	39,170	915,710,000
BOMBAY	4	4		25,100	700	700	17,570,000	18,740	442,004,000
KANDLA	5	4		24,700	520	320	7,904,000	21,450	499,180,000
19-Aug-93	9	8	26,700		1,220	1,020	25,474,000	40,190	941,184,000
BOMBAY	5	1		26,100	580	180	4,698,000	18,920	446,702,000
KANDLA	12	9		25,200	2,100	1,800	45,360,000	23,250	544,540,000
24-Aug-93	17	10	27,500		2,680	1,980	50,058,000	42,170	991,242,000
BOMBAY	3	0		No sale	250	0	0	18,920	446,702,000
KANDLA	8	3		25,500	1,100	350	8,925,000	23,600	553,465,000
26-Aug-93	11	3	27,800		1,350	350	8,925,000	42,520	1,000,167,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	16	4		27,500	2,700	850	23,375,000	24,450	576,840,000
01-Sep-93	16	4	29,200		2,700	850	23,375,000	43,370	1,023,542,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	9	5		27,500	1,410	510	14,025,000	24,960	590,865,000
02-Sep-93	9	5	29,200		1,410	510	14,025,000	43,880	1,037,567,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	6	0		No sale	900	0	0	24,960	590,865,000
07-Sep-93	6	0	29,000		900	0	0	43,880	1,037,567,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	5	0		No sale	750	0	0	24,960	590,865,000
09-Sep-93	5	0	28,400		750	0	0	43,880	1,037,567,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	7	0		26,700	1,050	450	12,015,000	25,410	602,880,000
14-Sep-93	7	0	28,500		1,050	450	12,015,000	44,330	1,049,582,000

* MILL DELIVERED DELHI

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	6	3		26,700	1,000	400	10,680,000	25,810	613,560,000
16-Sep-93	6	3	28,700		1,000	400	10,680,000	44,730	1,060,262,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	5	0		No Sale	1,000	0	0	25,810	613,560,000
21-Sep-93	5	0	28,300		1,000	0	0	44,730	1,060,262,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	5	0		No Sale	600	0	0	25,810	613,560,000
23-Sep-93	5	0	28,200		600	0	0	44,730	1,060,262,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	5	1		25,500	600	200	5,100,000	26,010	618,660,000
28-Sep-93	5	1	28,000		600	200	5,100,000	44,930	1,065,362,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	5	3		25,500	800	400	10,200,000	26,410	628,860,000
30-Sep-93	5	3	27,600		800	400	10,200,000	45,330	1,075,562,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	2	0		No Sale	150	0	0	26,410	628,860,000
05-Oct-93	2	0	25,600		150	0	0	45,330	1,075,562,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	3	2		23,200	550	500	11,600,000	26,910	640,460,000
07-Oct-93	3	2	25,000		550	500	11,600,000	45,830	1,087,162,000
BOMBAY	1	0		No stock	0	0	0	18,920	446,702,000
KANDLA	7	3		23,700	1,280	680	16,116,000	27,590	656,576,000
12-Oct-93	8	3	25,700		1,280	680	16,116,000	46,510	1,103,278,000
BOMBAY	0	0		No stock	0	0	0	18,920	446,702,000
KANDLA	10	6		24,000	1,200	700	16,800,000	28,290	673,376,000
14-Oct-93	10	6	26,200		1,200	700	16,800,000	47,210	1,120,078,000
BOMBAY	3	1		23,500	400	100	2,350,000	19,020	449,052,000
KANDLA	4	4		23,000	450	450	10,350,000	28,740	683,726,000
19-Oct-93	7	5	25,700		850	550	12,700,000	47,760	1,132,778,000

* MILL DELIVERED DELHI

SUMMARY.WK1:09/14/93:MGujral

SUMMARY OF AUCTION RESULTS

Annex 2a

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AUCTION DATES	TOTAL NO. OF BIDDERS	NO. OF SUCCESSFUL BIDDERS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	QUANTITY BID (MT)	QUANTITY SOLD (MT)	SALES GENERATION (Rs.)	CUMULATIVE SALES (MT)	CUMULATIVE SALES GENERATION (Rs.)
BOMBAY	4	4		23,500	460	460	10,810,000	19,480	459,862,000
KANDLA	7	5		23,000	1,050	800	18,400,000	29,540	702,126,000
21-Oct-93	11	9	25,600		1,510	1,260	29,210,000	49,020	1,161,988,000
BOMBAY	2	2		23,500	130	130	3,055,000	19,610	462,917,000
KANDLA	6	6		23,000	750	750	17,250,000	30,290	719,376,000
26-Oct-93	8	8	25,400		880	880	20,305,000	49,900	1,182,293,000
BOMBAY	1	0		No Sale	50	0	0	19,610	462,917,000
KANDLA	7	4		22,500	550	300	6,750,000	30,590	726,126,000
28-Oct-93	8	4	25,000		600	300	6,750,000	50,200	1,189,043,000
BOMBAY	1	1		22,500	50	50	1,125,000	19,660	464,042,000
KANDLA	5	1		22,000	525	50	1,100,000	30,640	727,226,000
02-Nov-93	6	2	23,500		575	100	2,225,000	50,300	1,191,268,000
BOMBAY	1	1		22,600	100	100	2,260,000	19,760	466,302,000
KANDLA	6	5		22,200	700	650	14,430,000	31,290	741,656,000
04-Nov-93	7	6	23,500		800	750	16,690,000	51,050	1,207,958,000
BOMBAY	2	1		22,600	160	110	2,486,000	19,870	468,788,000
KANDLA	5	0		No Sale	350	0	0	31,290	741,656,000
09-Nov-93	7	1	24,000		510	110	2,486,000	51,160	1,210,444,000
BOMBAY	1	1		22,100	90	90	1,989,000	19,960	470,777,000
KANDLA	4	0		No Sale	450	0	0	31,290	741,656,000
11-Nov-93	5	1	23,000		540	90	1,989,000	51,250	1,212,433,000
BOMBAY	4	4		22,100	430	430	9,503,000	20,390	480,280,000
KANDLA	5	2		21,500	700	450	9,675,000	31,740	751,331,000
16-Nov-93	9	6	22,700		1,130	880	19,178,000	52,130	1,231,611,000
BOMBAY	2	0		No Sale	200	0	0	20,390	480,280,000
KANDLA	5	0		No Sale	600	0	0	31,740	751,331,000
18-Nov-93	7	0	22,700		800	0	0	52,130	1,231,611,000
BOMBAY	2	2		22,000	160	160	3,520,000	20,550	483,800,000
KANDLA	6	2		21,400	1,050	400	8,560,000	32,140	759,891,000
23-Nov-93	8	4	23,200		1,210	560	12,080,000	52,690	1,243,691,000
BOMBAY	4	4		22,100	730	730	16,133,000	21,280	499,933,000
KANDLA	7	2		21,700	900	350	7,595,000	32,490	767,486,000
25-Nov-93	11	6	23,200		1,630	1,080	23,728,000	53,770	1,267,419,000
BOMBAY	3	3		22,300	560	560	12,488,000	21,840	512,421,000
KANDLA	6	3		22,600	1,070	370	8,362,000	32,860	775,848,000
CALCUTTA	1	0		No sale	50	0	0	0	0
30-Nov-93	10	6	24,000	44,900	1,680	930	20,850,000	54,700	1,288,269,000

Original Auctions (same reserve price for Bombay and Kandla)

AUC- TION DATES	BIDS BIDS	MARKET WON	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA & SALES PR. PRICE (Rs.)*	SALES PR. BELOW MARKET PR.	FORMULA & DIFFER. PR. BELOW PR. & FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)	
1992												
09/01	13	0						2,550	0	0.0%	0	
09/03	9	0						400	0	0.0%	0	
09/08	6	0						700	0	0.0%	0	
09/10	6	0						750	0	0.0%	0	
09/15	9	3	27,000	24,500	25,129	-9.3%	-6.9%	-2.5%	1,100	300	27.3%	7,350,000
09/17	10	6	27,000	24,500	25,129	-9.3%	-6.9%	-2.5%	1,500	1,050	70.0%	25,725,000
09/22	15	9	28,000	25,000	26,074	-10.7%	-6.9%	-4.1%	2,370	1,700	71.7%	42,500,000
09/24	15	15	28,000	25,000	26,074	-10.7%	-6.9%	-4.1%	3,170	3,170	100.0%	79,250,000
09/29	10	4	27,500	25,100	25,602	-8.7%	-6.9%	-2.0%	1,450	500	34.5%	12,550,000
10/01	7	5	27,500	25,000	25,602	-9.1%	-6.9%	-2.3%	1,300	1,100	84.6%	27,500,000
10/07	8	8	27,100	24,500	25,223	-9.6%	-6.9%	-2.9%	1,050	1,050	100.0%	25,725,000
10/08	8	4	26,800	24,500	24,940	-8.6%	-6.9%	-1.8%	900	600	66.7%	14,700,000
10/13	10	8	26,200	24,200	24,372	-7.6%	-7.0%	-0.7%	1,200	1,100	91.7%	26,620,000
10/15	10	8	25,400	24,200	24,562	-8.3%	-7.0%	-1.5%	1,500	1,350	90.0%	32,670,000
10/20	8	4	26,000	24,200	24,183	-6.9%	-7.0%	0.1%	900	350	38.9%	8,470,000
10/22	5	1	24,600	24,000	22,960	-2.4%	-7.1%	5.0%	500	100	20.0%	2,400,000
10/28	6	6	23,700	22,000	22,009	-7.2%	-7.1%	-0.0%	920	920	100.0%	20,240,000
10/29	8	3	23,700	22,000	22,009	-7.2%	-7.1%	-0.0%	704	250	35.5%	5,500,000
11/03	7	2	23,600	22,000	21,914	-6.8%	-7.1%	0.4%	850	150	17.6%	3,300,000
11/05	13	13	23,800	22,000	22,103	-7.6%	-7.1%	-0.5%	1,900	1,900	100.0%	41,800,000
11/11	14	3	24,200	22,500	22,481	-7.0%	-7.1%	0.1%	2,050	490	23.9%	11,025,000
11/12	14	7	23,800	22,200	22,103	-6.7%	-7.1%	0.4%	1,820	870	47.8%	19,314,000
11/17	13	4	23,800	22,500	22,103	-5.5%	-7.1%	1.8%	1,870	710	38.0%	15,975,000
11/19	12	2	24,000	23,000	22,292	-4.2%	-7.1%	3.2%	1,910	250	13.1%	5,750,000
11/24	12	8	23,600	22,500	21,914	-4.7%	-7.1%	2.7%	1,830	1,230	67.2%	27,675,000
11/26	10	3	22,900	22,000	21,252	-3.9%	-7.2%	3.5%	1,250	470	37.6%	10,340,000
Mean	10	5	25,418	23,518	23,633	-7.4%	-7.0%	-0.4%	1,440	754	0	17,937,654
High	15	15	28,000	25,100	26,074	-2.4%	-6.9%	5.0%	3,170	3,170	1	79,250,000
Low	5	0	22,900	22,000	21,252	-10.7%	-7.2%	-4.1%	500	0	0	0
Std.Dv	3	4	1,713	1,191	1,619	2.1%	0.1%	2.4%	633	714	0	17,470,460
C.Var.	30%	78%	7%	5%	7%				44%	95%	71%	97%

BOMBAY BIDS

AUC- TION DATES	BIDS BIDS WON	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA % PRICE (Rs.)*	SALES PR. BELOW MARKET PR.	FORMULA % PR. BELOW MARKET PR.	DIFFER. BET. SALES & FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)	
1992												
12/01	6	5	22,100	21,500	19,896	-2.7%	-10.0%	8.1%	910	610	67.0%	13,115,000
12/03	5	0	22,700		20,463		-9.9%		560	0	0.0%	0
12/08	4	2	22,700	22,000	20,463	-3.1%	-9.9%	7.5%	600	200	33.3%	4,400,000
12/10	4	2	22,700	22,100	20,463	-2.6%	-9.9%	8.0%	560	350	64.3%	7,956,000
12/15	3	1	22,500	21,800	20,274	-3.1%	-9.9%	7.5%	510	60	11.8%	1,308,000
12/17	4	4	22,100	21,500	19,896	-2.7%	-10.0%	8.1%	440	440	100.0%	9,460,000
12/22	2	0	21,500		19,329		-10.1%		240	0	0.0%	0
12/24	3	0	21,500		19,329		-10.1%		330	0	0.0%	0
12/29	3	2	21,900	21,600	19,707	-1.4%	-10.0%	9.6%	380	330	86.8%	7,128,000
12/31	2	0	22,100		19,896		-10.0%		150	0	0.0%	0
1993												
01/05	3	1	22,700	22,000	20,463	-3.1%	-9.9%	7.5%	330	150	45.5%	3,300,000
01/07	2	0	22,000		19,801		-10.0%		150	0	0.0%	0
01/12	0	0	21,000		18,856		-10.2%		0	0		0
01/14	0	0	21,400		19,234		-10.1%		0	0		0
01/19	2	0	21,400		19,234		-10.1%		170	0	0.0%	0
01/21	1	0	20,600		18,478		-10.3%		60	0	0.0%	0
01/27	0	0	19,700		17,627		-10.5%		0	0		0
01/28	0	0	19,800		17,721		-10.5%		0	0		0
02/02	0	0	18,600		16,587		-10.8%		0	0		0
02/04	0	0	18,700		16,681		-10.8%		0	0		0
02/09	0	0	19,000		16,965		-10.7%		0	0		0
02/11	0	0	20,100		18,005		-10.4%		0	0		0
02/16	1	0	20,100		18,005		-10.4%		110	0	0.0%	0
02/18	0	0	19,500		17,438		-10.6%		0	0		0
02/23	1	0	20,200		18,099		-10.4%		170	0	0.0%	0
02/25	1	0	20,400		18,288		-10.4%		190	0	0.0%	0
03/02	0	0	20,300		18,194		-10.4%		0	0		0
03/04	0	0	20,100		18,005		-10.4%		0	0		0
03/09	0	0	20,500		18,383		-10.3%		0	0		0
03/11	0	0	20,500		18,383		-10.3%		0	0		0
03/16	0	0	20,000		17,910		-10.4%		0	0		0
03/18	0	0	20,200		18,099		-10.4%		0	0		0
03/23	0	0	20,200		18,099		-10.4%		0	0		0
03/25	0	0	20,600		18,478		-10.3%		0	0		0
03/30	2	0	21,000		18,856		-10.2%		500	0	0.0%	0

BOMBAY BIDS

AUC- TION DATES	BIDS BIDS WON	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA & SALES PR. PRICE (Rs.)* MARKET PR.	% SALES PR. BELOW PR. MARKET PR.	FORMULA & DIFFER. PR. BELOW BET. SALES & FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)
1993										
04/02	3	0	21,600	19,423		-10.1%	800	0	0.0%	0
04/06	3	0	22,900	21,800	20,652	-4.8%	500	100	20.0%	2,190,000
04/08	1	0	22,600		20,369		150	0	0.0%	0
04/13	1	0	22,600		20,369		50	0	0.0%	0
04/15	2	0	22,600		20,369		150	0	0.0%	0
04/20	1	0	23,000		20,747		100	0	0.0%	0
04/22	2	1	23,100	22,000	20,841	-4.8%	200	150	75.0%	3,300,000
04/27	2	2	22,800	22,200	20,558	-2.6%	200	200	100.0%	4,440,000
04/29	1	0	23,000		20,747		100	0	0.0%	0
05/04	0	0	22,800		20,558		0	0		0
05/07	2	1	22,800	22,000	20,558	-3.5%	150	100	66.7%	2,200,000
05/11	1	1	22,300	21,800	20,085	-2.2%	100	100	100.0%	2,180,000
05/13	2	0	22,400		20,180		300	0	0.0%	0
05/18	4	2	23,000	22,200	20,747	-3.5%	360	260	72.2%	5,772,000
05/20	3	2	22,800	22,500	20,558	-1.3%	310	200	64.5%	4,500,000
05/25	2	1	23,300	22,600	21,030	-3.0%	230	100	43.5%	2,260,000
05/27	2	0	23,600		21,314		270	0	0.0%	0
06/01	5	2	24,500	25,000	22,165	2.0%	1,040	340	32.7%	8,500,000
06/03	2	0	25,800		23,394		190	0	0.0%	0
06/08	5	1	25,700	24,800	23,300	-3.5%	560	110	19.6%	2,728,000
06/10	4	2	26,200	24,800	23,772	-5.3%	310	150	48.4%	3,720,000
06/15	2	1	26,200	25,100	23,772	-4.2%	100	50	50.0%	1,255,000
06/17	2	2	26,000	25,100	23,583	-3.5%	110	110	100.0%	2,761,000
06/22	2	1	26,300	25,100	23,867	-4.6%	200	100	50.0%	2,510,000
06/24	2	1	26,200	25,000	23,772	-4.6%	150	50	33.3%	1,250,000
06/29	2	1	25,600		23,205		160	0	0.0%	0
07/02	3	1	25,600	24,500	23,205	-4.3%	260	110	42.3%	2,695,000
07/06	2	0	25,600		23,205		240	0	0.0%	0
07/08	2	2	25,400	24,200	23,016	-4.7%	240	240	100.0%	5,808,000
07/13	2	1	25,200	24,500	22,827	-2.8%	210	100	47.6%	2,450,000
07/15	4	3	25,200	25,200	22,827	0.0%	510	410	80.4%	10,332,000
07/20	1	1	26,300	25,800	23,867	-1.9%	190	190	100.0%	4,902,000
07/22	1	0	26,500		24,056		60	0	0.0%	0
07/27	1	1	26,600	25,600	24,151	-3.8%	140	140	100.0%	3,584,000
07/29	1	0	26,500		24,056		100	0	0.0%	0

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BOMBAY BIDS

AUC- TION DATES	BIDS BIDS WON	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA % PRICE (Rs.)*	SALES PR. BELOW MARKET PR.	% PR.	FORMULA % PR. BELOW MARKET PR.	% & FORM. PR.	DIFFER. SALES PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)
1993													
08/03	4	0	26,500		24,056		-9.2%			360	0	0.0%	0
08/05	3	1	26,600	25,100	24,151		-5.6%	-9.2%	3.9%	350	100	28.6%	2,510,000
08/10	1	1	26,600	25,100	24,151		-5.6%	-9.2%	3.9%	120	120	100.0%	3,012,000
08/12	2	2	26,500	25,100	24,056		-5.3%	-9.2%	4.3%	360	260	72.2%	6,526,000
08/17	4	4	26,700	25,100	24,245		-6.0%	-9.2%	3.5%	700	700	100.0%	17,570,000
08/19	5	1	26,700	26,100	24,245		-2.2%	-9.2%	7.7%	580	180	31.0%	4,698,000
08/24	3	0	27,500		25,002			-9.1%		250	0	0.0%	0
08/26	0	0	27,800		25,285			-9.0%		0	0		0
09/01	0	0	29,200		26,609			-8.9%		0	0		0
09/02	0	0	29,200		26,609			-8.9%		0	0		0
09/07	0	0	29,000		26,420			-8.9%		0	0		0
09/09	0	0	28,400		25,853			-9.0%		750	0	0.0%	0
09/14	0	0	28,400		25,853			-9.0%		0	0		0
09/16	0	0	28,700		26,136			-8.9%		0	0		0
09/21	0	0	28,300		25,758			-9.0%		0	0		0
09/23	0	0	28,200		25,663			-9.0%		0	0		0
09/28	0	0	28,000		25,474			-9.0%		0	0		0
09/30	0	0	27,600		25,096			-9.1%		0	0		0
10/05	0	0	25,600		23,205			-9.4%		0	0		0
10/07	0	0	25,000		22,638			-9.4%		0	0		0
10/12	1	0	25,700		23,300			-9.3%		0	0		0
10/14	0	0	26,200		23,772			-9.3%		0	0		0
10/19	3	1	25,200	23,500	22,827		-6.7%	-9.4%	2.9%	400	100	25.0%	2,350,000
10/21	4	4	25,600	23,500	23,205		-8.2%	-9.4%	1.3%	460	460	100.0%	10,810,000
10/26	2	2	25,400	23,500	23,016		-7.5%	-9.4%	2.1%	130	130	100.0%	3,055,000
10/28	1	0	25,000		22,638			-9.4%		50	0	0.0%	0
11/02	1	1	23,500	22,500	21,220		-4.3%	-9.7%	6.0%	50	50	100.0%	1,125,000
11/04	1	1	23,500	22,600	21,220		-3.8%	-9.7%	6.5%	100	100	100.0%	2,260,000
11/09	2	1	24,000	22,600	21,692		-5.8%	-9.6%	4.2%	160	110	68.8%	2,486,000
11/11	1	1	23,000	22,100	20,747		-3.9%	-9.8%	6.5%	90	90	100.0%	1,989,000
Mean	2	1	23,806	23,528	21,509		-3.8%	-9.7%	6.4%	200	79	39.4%	1,843,250
High	6	5	29,200	26,100	26,609		2.0%	-8.9%	12.8%	1,040	700	100.0%	17,570,000
Low	0	0	18,600	21,500	16,587		-8.2%	-10.8%	1.3%	0	0	0.0%	0
Std.Dv	2	1	2,782	1,488	2,631		1.9%	0.5%	2.2%	225	135	39.9%	3,177,071
C.Var.	94%	155%	12%	6%	12%					113%	172%	101%	172%

KANDLA BIDS

AUC- TION DATES	BIDS BIDS WON	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA % PRICE (Rs.)*	SALES PR. BELOW PR. MARKET	FORMULA % PR. BELOW PR. MARKET	DIFFER. BET. SALES & FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)	
1992												
12/01	3	1	22,100	21,200	20,496	-4.1%	-7.3%	3.4%	400	100	25.0%	2,120,000
12/03	7	2	22,700	21,700	21,063	-4.4%	-7.2%	3.0%	1,200	500	41.7%	10,850,000
12/08	4	0	22,700		21,063		-7.2%		850	0	0.0%	0
12/10	3	2	22,700	21,500	21,063	-5.3%	-7.2%	2.1%	700	450	64.3%	9,675,000
12/15	4	3	22,500	21,200	20,874	-5.8%	-7.2%	1.6%	700	600	85.7%	12,720,000
12/17	3	3	22,100	20,900	20,496	-5.4%	-7.3%	2.0%	250	250	100.0%	5,225,000
12/22	6	0	21,500		19,929		-7.3%		800	0	0.0%	0
12/24	5	0	21,500		19,929		-7.3%		900	0	0.0%	0
12/29	6	0	21,900		20,307		-7.3%		1,100	0	0.0%	0
12/31	5	4	22,100	21,000	20,496	-5.0%	-7.3%	2.5%	950	750	78.9%	15,750,000
01/05	5	4	22,700	21,400	21,063	-5.7%	-7.2%	1.6%	1,000	800	80.0%	17,120,000
01/07	3	0	22,000		20,401		-7.3%		400	0	0.0%	0
01/12	2	0	21,000		19,456		-7.4%		300	0	0.0%	0
01/14	2	0	21,400		19,834		-7.3%		300	0	0.0%	0
01/19	3	0	21,400		19,834		-7.3%		400	0	0.0%	0
01/21	1	0	20,600		19,078		-7.4%		150	0	0.0%	0
01/27	2	0	19,700		18,227		-7.5%		250	0	0.0%	0
01/28	2	0	19,800		18,321		-7.5%		250	0	0.0%	0
02/02	1	0	18,600		17,187		-7.6%		200	0	0.0%	0
02/04	1	0	18,700		17,281		-7.6%		250	0	0.0%	0
02/09	0	0	19,000		17,565		-7.6%		0	0		0
02/11	3	0	20,100		18,605		-7.4%		900	0	0.0%	0
02/16	2	0	20,100		18,605		-7.4%		550	0	0.0%	0
02/18	2	0	19,500		18,038		-7.5%		600	0	0.0%	0
02/23	4	0	20,200		18,699		-7.4%		900	0	0.0%	0
02/25	0	0	20,400		18,888		-7.4%		0	0		0
03/02	3	0	20,300		18,794		-7.4%		500	0	0.0%	0
03/04	2	0	20,100		18,605		-7.4%		400	0	0.0%	0
03/09	0	0	20,500		18,983		-7.4%		0	0		0
03/11	0	0	20,500		18,983		-7.4%		0	0		0
03/16	0	0	20,000		18,510		-7.4%		0	0		0
03/18	0	0	20,200		18,699		-7.4%		0	0		0
03/23	0	0	20,200		18,699		-7.4%		0	0		0
03/25	0	0	20,600		19,078				0	0		0
03/30	1	0	21,000		19,456		-7.4%		300	0	0.0%	0

KANDLA BIDS

AUC- TION DATES	BIDS BIDS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA % PRICE (Rs.)*	SALES PR. BELOW MARKET PR.	FORMULA % PR. BELOW MARKET PR.	DIFFER. BET. SALES & FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)	
1993												
04/02	2	0	21,600					500	0	0.0%	0	
04/06	2	1	22,900	21,500	21,252	-6.1%	-7.2%	1.2%	500	300	60.0%	6,450,000
04/08	2	1	22,600		20,969		-7.2%		250	0	0.0%	0
04/13	5	2	22,600	21,200	20,969	-6.2%	-7.2%	1.1%	750	300	40.0%	6,360,000
04/15	6	2	22,600	21,200	20,969	-6.2%	-7.2%	1.1%	1,050	400	38.1%	8,480,000
04/20	7	5	23,000	21,500	21,347	-6.5%	-7.2%	0.7%	1,416	250	17.7%	5,375,000
04/22	6	0	23,100		21,441		-7.2%		1,150	0	0.0%	0
04/27	3	1	22,800	21,700	21,158	-4.8%	-7.2%	2.6%	500	100	20.0%	2,170,000
04/29	3	2	23,000	21,800	21,347	-5.2%	-7.2%	2.1%	600	400	66.7%	8,720,000
05/04	3	0	22,800		21,158		-7.2%		500	0	0.0%	0
05/07	3	0	22,800		21,158		-7.2%		350	0	0.0%	0
05/11	2	0	22,300		20,685		-7.2%		400	0	0.0%	0
05/13	0	0	22,400		20,780		-7.2%		0	0	0.0%	0
05/18	2	0	23,000		21,347		-7.2%		400	0	0.0%	0
05/20	3	4	22,800	21,500	21,158	-5.7%	-7.2%	1.6%	700	400	57.1%	8,600,000
05/25	7	6	23,300	21,700	21,630	-6.9%	-7.2%	0.3%	1,360	860	63.2%	18,662,000
05/27	7	7	23,600	21,800	21,914	-7.6%	-7.1%	-0.5%	1,150	600	52.2%	13,080,000
06/01	8	1	24,500	23,100	22,765	-5.7%	-7.1%	1.5%	1,570	200	12.7%	4,620,000
06/03	6	0	25,800		23,994		-7.0%		1,050	0	0.0%	0
06/08	8	0	25,700		23,900		-7.0%		1,100	0	0.0%	0
06/10	7	0	26,200		24,372		-7.0%		900	0	0.0%	0
06/15	9	2	26,200	24,200	24,372	-7.6%	-7.0%	-0.7%	1,620	500	30.9%	12,100,000
06/17	6	4	26,000	24,100	24,183	-7.3%	-7.0%	-0.3%	550	300	54.5%	7,230,000
06/22	6	5	26,300	24,400	24,467	-7.2%	-7.0%	-0.3%	950	850	89.5%	20,740,000
06/24	3	2	26,200	24,500	24,372	-6.5%	-7.0%	0.5%	350	250	71.4%	6,125,000
06/29	3	0	25,600		23,805		-7.0%		350	0	0.0%	0
07/02	5	0	25,600	24,000	23,805	-6.3%	-7.0%	0.8%	650	150	23.1%	3,600,000
07/06	4	1	25,600	23,900	23,805	-6.6%	-7.0%	0.4%	500	100	20.0%	2,390,000
07/08	5	0	25,400		23,616		-7.0%		600	0	0.0%	0
07/13	4	1	25,200	23,700	23,427	-6.0%	-7.0%	1.2%	650	200	30.8%	4,740,000
07/15	6	3	25,200	23,800	23,427	-5.6%	-7.0%	1.6%	1,000	500	50.0%	11,900,000
07/20	7	2	26,300	24,500	24,467	-6.8%	-7.0%	0.1%	1,400	500	35.7%	12,250,000
07/22	7	2	26,500	24,700	24,656	-6.8%	-7.0%	0.2%	970	300	30.9%	7,410,000
07/27	4	1	26,600	24,700	24,751	-7.1%	-7.0%	-0.2%	700	150	21.4%	3,705,000
07/29	6	4	26,500	24,700	24,656	-6.8%	-7.0%	0.2%	820	420	51.2%	10,374,000

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KANDLA BIDS

AUC- TION DATES	BIDS BIDS	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA % PRICE (Rs.)*	SALES PR. BELOW MARKET PR.	FORMULA % PR. BELOW MARKET PR.	DIFFER. BET. SALES & FORM. PR.	QUAN. BID (MT)	QUAN. Q. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)	
1993												
08/03	6	3	26,500	24,700	24,656	-6.8%	-7.0%	0.2%	970	370	38.1%	9,139,000
08/05	4	2	26,600	24,700	24,751	-7.1%	-7.0%	-0.2%	950	500	52.6%	12,350,000
08/10	6	6	26,600	24,500	24,751	-7.9%	-7.0%	-1.0%	1,000	550	55.0%	13,475,000
08/12	4	0	26,500		24,656		-7.0%		400	0	0.0%	0
08/17	9	5	26,700	24,700	24,845	-7.5%	-6.9%	-0.6%	1,470	720	49.0%	17,784,000
08/19	5	4	26,700	24,700	24,845	-7.5%	-6.9%	-0.6%	520	320	61.5%	7,904,000
08/24	12	9	27,500	25,200	25,602	-8.4%	-6.9%	-1.6%	2,100	1,800	85.7%	45,360,000
08/26	3	3	27,800	25,500	25,885	-8.3%	-6.9%	-1.5%	1,100	350	31.8%	8,925,000
09/01	16	4	29,200	27,500	27,209	-5.8%	-6.8%	1.1%	2,700	850	31.5%	23,375,000
09/02	9	5	29,200	27,500	27,209	-5.8%	-6.8%	1.1%	1,410	510	36.2%	14,025,000
09/07	6	0	29,000		27,020		-6.8%		900	0	0.0%	0
09/09	5	0	28,500		26,547		-6.9%		750	0	0.0%	0
09/14	7	3	28,400	26,700	26,453	-6.0%	-6.9%	0.9%	1,050	450	42.9%	12,015,000
09/16	6	3	28,700	26,700	26,736	-7.0%	-6.8%	-0.1%	1,000	400	40.0%	10,680,000
09/21	5	0	28,300		26,358		-6.9%		1,000	0	0.0%	0
09/23	5	0	28,200		26,263		-6.9%		600	0	0.0%	0
09/28	5	1	28,000	25,500	26,074	-8.9%	-6.9%	-2.2%	600	200	33.3%	5,100,000
09/30	5	3	27,600	25,500	25,696	-7.6%	-6.9%	-0.8%	800	400	50.0%	10,200,000
10/05	2	0	25,600		23,805		-7.0%		150	0	0.0%	0
10/07	3	2	25,000	23,200	23,238	-7.2%	-7.0%	-0.2%	550	500	90.9%	11,600,000
10/12	7	3	25,700	23,700	23,900	-7.8%	-7.0%	-0.8%	1,280	680	53.1%	16,116,000
10/14	10	6	26,200	24,000	24,372	-8.4%	-7.0%	-1.5%	1,200	700	58.3%	16,800,000
10/19	4	4	25,200	23,000	23,427	-8.7%	-7.0%	-1.8%	450	450	100.0%	10,350,000
10/21	7	5	25,600	23,000	23,805	-10.2%	-7.0%	-3.4%	1,050	800	76.2%	18,400,000
10/26	6	6	25,400	23,000	23,616	-9.4%	-7.0%	-2.6%	750	750	100.0%	17,250,000
10/28	7	4	25,000	22,500	23,238	-10.0%	-7.0%	-3.2%	550	300	54.5%	6,750,000
11/02	5	1	23,500	22,000	21,820	-6.4%	-7.2%	0.8%	525	50	9.5%	1,100,000
11/04	6	5	23,500	22,200	21,820	-5.5%	-7.2%	1.7%	700	650	92.9%	14,430,000
11/09	5	0	24,000		22,292		-7.1%		350	0	0.0%	0
11/11	4	0	23,000		21,347		-7.2%		450	0	0.0%	0
Mean	4	2	23,807	23,473	22,110	-6.8%	-7.1%	0.3%	701	238	29.2%	5,616,690
High	16	9	29,200	27,500	27,209	-4.1%	-6.8%	3.4%	2,700	1,800	100.0%	45,360,000
Low	0	0	18,600	20,900	17,187	-10.2%	-7.6%	-3.4%	0	0	0.0%	0
Std.Dv	3	2	2,784	1,765	2,632	1.3%	0.2%	1.5%	467	310	31.6%	7,473,227
C.Var.	63%	126%	12%	8%	12%				67%	131%	108%	133%

COMBINED BOMBAY AND KANDLA BIDS

AUC- TION DATES	BIDS BIDS WON	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA & SALES PR. PRICE (Rs.)*	& SALES PR. BELOW PR.	& FORMULA PR. BELOW MARKET PR.	& DIFFER. BET. SALES & FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)	
1992												
09/01	13	0						2,550	0	0.0%	0	
09/03	9	0						1,400	0	0.0%	0	
09/08	6	0						700	0	0.0%	0	
09/10	6	0						750	0	0.0%	0	
09/15	9	3	27,000	24,500	25,129	-9.3%	-6.9%	-2.5%	1,100	300	27.3%	7,350,000
09/17	10	6	27,000	24,500	25,129	-9.3%	-6.9%	-2.5%	1,500	1,050	70.0%	25,725,000
09/22	15	9	28,000	25,000	26,074	-10.7%	-6.9%	-4.1%	2,370	1,700	71.7%	42,500,000
09/24	15	15	28,000	25,000	26,074	-10.7%	-6.9%	-4.1%	3,170	3,170	100.0%	79,250,000
09/29	10	4	27,500	25,100	25,602	-8.7%	-6.9%	-2.0%	1,450	500	34.5%	12,550,000
10/01	7	5	27,500	25,000	25,602	-9.1%	-6.9%	-2.3%	1,300	1,100	84.6%	27,500,000
10/07	8	2	27,100	24,500	25,223	-9.6%	-6.9%	-2.9%	1,050	1,050	100.0%	25,725,000
10/08	8	4	26,800	24,500	24,940	-8.6%	-6.9%	-1.8%	900	600	66.7%	14,700,000
10/13	10	8	26,200	24,200	24,372	-7.6%	-7.0%	-0.7%	1,200	1,100	91.7%	26,620,000
10/15	10	8	26,400	24,200	24,562	-8.3%	-7.0%	-1.5%	1,500	1,350	90.0%	32,670,000
10/20	8	4	26,000	24,200	24,183	-6.9%	-7.0%	0.1%	900	350	38.9%	8,470,000
10/22	5	1	24,600	24,000	22,860	-2.4%	-7.1%	5.0%	500	100	20.0%	2,400,000
10/28	6	6	23,700	22,000	22,009	-7.2%	-7.1%	-0.0%	920	920	100.0%	20,240,000
10/29	8	3	23,700	22,000	22,009	-7.2%	-7.1%	-0.0%	704	250	35.5%	5,500,000
11/03	7	2	23,600	22,000	21,914	-6.8%	-7.1%	0.4%	800	150	17.6%	3,300,000
11/05	13	13	23,800	22,000	22,103	-7.6%	-7.1%	-0.5%	1,900	1,900	100.0%	41,800,000
11/11	14	3	24,200	22,500	22,481	-7.0%	-7.1%	0.1%	2,050	490	23.9%	11,025,000
11/12	14	7	23,800	22,200	22,103	-6.7%	-7.1%	0.4%	1,520	870	47.8%	19,314,000
11/17	13	4	23,800	22,500	22,103	-5.5%	-7.1%	1.8%	1,870	710	38.0%	15,975,000
11/19	12	2	24,000	23,000	22,292	-4.2%	-7.1%	3.2%	1,910	250	13.1%	5,750,000
11/24	12	8	23,600	22,500	21,914	-4.7%	-7.1%	2.7%	1,430	1,230	67.2%	27,675,000
11/26	10	3	22,900	22,000	21,252	-3.9%	-7.2%	3.5%	1,250	470	37.6%	10,340,000
12/01	9	6	22,100	21,350	20,196	-3.4%	-8.6%	5.7%	1,310	710	54.2%	15,235,000
12/03	12	2	22,700	21,700	20,763	-4.4%	-8.5%	4.5%	1,760	500	28.4%	10,850,000
12/08	8	2	22,700	22,000	20,763	-3.1%	-8.5%	6.0%	1,450	200	13.8%	4,400,000
12/10	7	4	22,700	21,800	20,763	-4.0%	-8.5%	5.0%	1,260	810	64.3%	17,631,000
12/15	7	4	22,500	21,500	20,574	-4.4%	-8.6%	4.5%	1,210	660	54.5%	14,028,000
12/17	7	7	22,100	21,200	20,196	-4.1%	-8.6%	5.0%	690	690	100.0%	14,685,000
12/22	8	0	21,500		19,629		-8.7%		1,040	0	0.0%	0
12/24	8	0	21,500		19,629		-8.7%		1,230	0	0.0%	0
12/29	9	2	21,900	21,600	20,007	-1.4%	-8.6%	8.0%	1,480	330	22.3%	7,128,000
12/31	7	4	22,100	21,000	20,196	-5.0%	-8.6%	4.0%	1,100	750	68.2%	15,750,000

COMBINED BOMBAY AND KANDLA BIDS

AUC- TION DATES	BIDS BIDS WON	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA & SALES PR. PRICE (Rs.)*	& SALES PR. BELOW MARKET PR.	FORMULA & DIFFER. PR. BELOW MARKET PR.	& DIFFER. BET. SALES & FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)	
1993												
01/05	8	5	22,700	21,700	20,763	-4.4%	-8.5%	4.5%	1,330	950	71.4%	20,420,000
01/07	5	0	22,000		20,101		-8.6%		550	0	0.0%	0
01/12	2	0	21,000		19,156		-8.8%		300	0	0.0%	0
01/14	2	0	21,400		19,534		-8.7%		300	0	0.0%	0
01/19	5	0	21,400		19,534		-8.7%		570	0	0.0%	0
01/21	2	0	20,600		18,778		-8.8%		210	0	0.0%	0
01/27	2	0	19,700		17,927		-9.0%		250	0	0.0%	0
01/28	2	0	19,800		18,021		-9.0%		250	0	0.0%	0
02/02	1	0	18,600		16,887		-9.2%		200	0	0.0%	0
02/04	1	0	18,700		16,981		-9.2%		250	0	0.0%	0
02/09	0	0	19,000		17,265		-9.1%		0	0		0
02/11	3	0	20,100		18,305		-8.9%		900	0	0.0%	0
02/16	3	0	20,100		18,305		-8.9%		660	0	0.0%	0
02/18	2	0	19,500		17,738		-9.0%		600	0	0.0%	0
02/23	5	0	20,200		18,399		-8.9%		1,070	0	0.0%	0
02/25	1	0	20,400		18,588		-8.9%		190	0	0.0%	0
03/02	3	0	20,300		18,494		-8.9%		500	0	0.0%	0
03/04	2	0	20,100		18,305		-8.9%		400	0	0.0%	0
03/09	0	0	20,500		18,583		-8.9%		0	0		0
03/11	0	0	20,500		18,583		-8.9%		0	0		0
03/16	0	0	20,000		18,210		-8.9%		0	0		0
03/18	0	0	20,200		18,399		-8.9%		0	0		0
03/23	0	0	20,200		18,399		-8.9%		0	0		0
03/25	0	0	20,600		18,778		-8.8%		0	0		0
03/30	3	0	21,000		19,156		-8.8%		800	0	0.0%	0
04/02	5	0	21,600		19,723		-8.7%		1,300	0	0.0%	0
04/06	5	1	22,900	21,650	20,952	-5.5%	-8.5%	3.3%	1,000	400	40.0%	8,630,000
04/08	3	1	22,600		20,669		-8.5%		400	0	0.0%	0
04/13	6	2	22,600	21,200	20,669	-6.2%	-8.5%	2.6%	800	300	37.5%	6,360,000
04/15	8	2	22,600	21,200	20,669	-6.2%	-8.5%	2.6%	1,200	400	33.3%	8,480,000
04/20	8	5	23,000	21,500	21,047	-6.5%	-8.5%	2.2%	1,516	250	16.5%	5,375,000
04/22	8	1	23,100	22,000	21,141	-4.8%	-8.5%	4.1%	1,350	150	11.1%	3,300,000
04/27	5	3	22,800	21,950	20,858	-3.7%	-8.5%	5.2%	700	300	42.9%	6,610,000
04/29	4	2	23,000	21,800	21,047	-5.2%	-8.5%	3.6%	700	400	57.1%	8,720,000

COMBINED BOMBAY AND KANDLA BIDS

AUC- TION DATES	BIDS WON	MARKET BIDS PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA % PRICE (Rs.)*	SALES PR. BELOW MARKET PR.	FORMULA % PR. BELOW MARKET PR.	DIFFER. BET. SALES & FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)	
1993												
05/04	3	0	22,800			-8.5%		500	0	0.0%	0	
05/07	5	1	22,800	22,000	20,858	-3.5%	-8.5%	5.5%	500	100	20.0%	2,200,000
05/11	3	1	22,300	21,800	20,385	-2.2%	-8.6%	6.9%	500	100	20.0%	2,180,000
05/13	2	0	22,400		20,480		-8.6%		300	0	0.0%	0
05/19	6	2	23,000	22,200	21,047	-3.5%	-8.5%	5.5%	760	260	34.2%	5,772,000
05/20	6	6	22,800	22,000	20,858	-3.5%	-8.5%	5.5%	1,010	600	59.4%	13,100,000
05/25	9	7	23,300	22,150	21,330	-4.9%	-8.5%	3.8%	1,590	960	60.4%	20,922,000
05/27	9	7	23,600	10,900	21,614	-53.8%	-8.4%	-49.6%	1,420	600	42.3%	13,080,000
06/01	13	3	24,500	24,050	22,465	-1.8%	-8.3%	7.1%	2,610	540	20.7%	13,120,000
06/03	8	0	25,800		23,694		-8.2%		1,240	0	0.0%	0
06/08	13	1	25,700	24,800	23,600	-3.5%	-8.2%	5.1%	1,660	110	6.6%	2,728,000
06/10	11	2	26,200	24,800	24,072	-5.3%	-8.1%	3.0%	1,210	150	12.4%	3,720,000
06/15	11	3	26,200	24,650	24,072	-5.9%	-8.1%	2.4%	1,720	550	32.0%	13,355,000
06/17	8	6	26,000	24,600	23,883	-5.4%	-8.1%	3.0%	660	410	62.1%	9,991,000
06/22	8	6	26,300	24,750	24,167	-5.9%	-8.1%	2.4%	1,150	950	82.6%	23,250,000
06/24	5	3	26,200	24,750	24,072	-5.5%	-8.1%	2.8%	500	300	60.0%	7,375,000
06/29	5	1	25,600		23,505		-8.2%		510	0	0.0%	0
07/02	8	1	25,600	24,250	23,505	-5.3%	-8.2%	3.2%	910	260	28.6%	6,295,000
07/06	6	1	25,600	23,900	23,505	-6.6%	-8.2%	1.7%	740	100	13.5%	2,390,000
07/08	7	2	25,400	24,200	23,316	-4.7%	-8.2%	3.8%	840	240	28.6%	5,808,000
07/13	6	2	25,200	24,100	23,127	-4.4%	-8.2%	4.2%	860	300	34.9%	7,190,000
07/15	10	6	25,200	24,500	23,127	-2.8%	-8.2%	5.9%	1,510	910	60.3%	22,232,000
07/20	8	3	26,300	25,150	24,167	-4.4%	-8.1%	4.1%	1,590	690	43.4%	17,152,000
07/22	8	2	26,500	24,700	24,356	-6.8%	-8.1%	1.4%	1,030	300	29.1%	7,410,000
07/27	5	2	26,600	25,150	24,451	-5.5%	-8.1%	2.9%	840	290	34.5%	7,289,000
07/29	7	4	26,500	24,700	24,356	-6.8%	-8.1%	1.4%	920	420	45.7%	10,374,000
08/03	10	3	26,500	24,700	24,356	-6.8%	-8.1%	1.4%	1,330	370	27.8%	9,139,000
08/05	7	3	26,600	24,900	24,451	-6.4%	-8.1%	1.8%	1,300	600	46.2%	14,860,000
08/10	7	7	26,600	24,800	24,451	-6.8%	-8.1%	1.4%	1,120	670	59.8%	16,487,000
08/12	7	2	26,500	25,100	24,356	-5.3%	-8.1%	3.1%	760	260	34.2%	6,526,000
08/17	13	9	26,700	24,900	24,545	-6.7%	-8.1%	1.4%	2,170	1,420	65.4%	35,354,000
08/19	10	5	26,700	25,400	24,545	-4.9%	-8.1%	3.5%	1,100	500	45.5%	12,602,000
08/24	15	9	27,500	25,200	25,302	-8.4%	-8.0%	-0.4%	2,350	1,800	76.6%	45,360,000
08/26	8	3	27,800	25,500	25,585	-8.3%	-8.0%	-0.3%	1,100	350	31.8%	8,925,000

COMBINED BOMBAY AND KANDLA BIDS

AUC- TION	DATES	BIDS WON	MARKET PRICE (Rs.)*	SALE PRICE (Rs.)	FORMULA & SALES PR. PRICE (Rs.)*	SALES PR. BELOW MARKET PR.	FORMULA & DIFFER. PR. BELOW MARKET PR. & FORM. PR.	QUAN. BID (MT)	QUAN. SOLD (MT)	Q. Sold as % Q. Bid	SALES GENERATION (Rs.)
1993											
09/01	16	4	29,200	27,500	26,909	-5.8%	-7.8%	2,700	850	31.5%	23,375,000
09/02	9	5	29,200	27,500	26,909	-5.8%	-7.8%	1,410	510	36.2%	14,025,000
09/07	6	0	29,000		26,720		-7.9%	900	0	0.0%	0
09/09	5	0	28,500		26,200		-8.1%	1,500	0	0.0%	0
09/14	7	3	28,400	26,700	26,153	-6.0%	-7.9%	1,050	450	42.9%	12,015,000
09/16	6	3	28,700	26,700	26,436	-7.0%	-7.9%	1,000	400	40.0%	10,680,000
09/21	5	0	28,300		26,058		-7.9%	1,000	0	0.0%	0
09/23	5	0	28,200		25,963		-7.9%	600	0	0.0%	0
09/28	5	1	28,000	25,500	25,774	-8.9%	-7.9%	600	200	33.3%	5,100,000
09/30	5	3	27,600	25,500	25,396	-7.6%	-8.0%	800	400	50.0%	10,200,000
10/05	2	0	25,600		23,505		-8.2%	150	0	0.0%	0
10/07	3	2	25,000	23,200	22,938	-7.2%	-8.2%	550	500	90.9%	11,600,000
10/12	8	3	25,700	23,700	23,600	-7.8%	-8.2%	1,280	680	53.1%	16,116,000
10/14	10	6	26,200	24,000	24,072	-8.4%	-8.1%	1,200	700	58.3%	16,800,000
10/19	7	5	25,200	23,250	23,127	-7.7%	-8.2%	850	550	64.7%	12,700,000
10/21	11	9	25,600	23,250	23,505	-9.2%	-8.2%	1,510	1,260	83.4%	29,210,000
10/26	8	8	25,400	23,250	23,316	-9.5%	-8.2%	880	880	100.0%	20,305,000
10/28	8	4	25,000	22,500	22,938	-10.0%	-8.2%	600	300	50.0%	6,750,000
11/02	6	2	23,500	22,250	21,520	-5.3%	-8.4%	575	100	17.4%	2,225,000
11/04	7	6	23,500	22,400	21,520	-4.7%	-8.4%	800	750	93.8%	16,690,000
11/09	7	1	24,000	22,600	21,992	-5.8%	-8.4%	510	110	21.6%	2,486,000
11/11	5	1	23,000	22,100	21,047	-3.9%	-8.5%	540	90	16.7%	1,989,000
Mean	7	3	24,098	23,401	22,138	-6.6%	-8.2%	1,013	407	34.4%	9,622,484
High	16	15	29,200	27,500	26,909	-1.4%	-6.9%	3,170	3,170	100.0%	79,250,000
Low	0	0	18,600	10,900	16,887	-53.8%	-9.2%	0	0	0.0%	0
Std.Dv	4	3	2,696	2,083	2,577	5.5%	0.6%	612	488	30.6%	11,802,928
C.Var.	54%	105%	11%	9%	12%			60%	120%	89.1%	123%

SCOPE OF WORK

I. BACKGROUND

The USAID and GOI signed a two year, Title III Agreement on May 28, 1992 for the import of Crude Degummed Soybean Oil (CDSO). Under the first year of the program, approximately 47,000 metric tons of CDSO, worth \$25 million (inclusive of freight) arrived in September 1992 and is since being sold by the State Trading Corporation of India Ltd. (STC) through free, open, competitive auctions held twice weekly at the STC New Delhi office. Of the first tranche quantity, nearly 33,500 metric tons have been sold. The remaining is expected to be sold by August 1993. The second year of the program has been approved for \$23 million and a supplementary agreement to that effect was signed on June 16, 1993. The second tranche of approximately 44,000 metric tons under the second year of the program is expected to arrive in October-November 1993.

The Title III auctions mark the first time that donated food commodities have been sold through a competitive process open to all interested parties, rather than, as previously done, distributed at subsidized fixed rates to pre-selected groups. The government has been highly satisfied with the transparency of these auctions and has evinced interest in using this mechanism for other imported food commodities as well.

II. SCOPE OF WORK:

The Contractor is required, in conjunction with the USAID and STC, to examine and evaluate all details of the existing auction mechanism, STC's tendering procedures and make recommendations regarding different facets of the auction process in order to make it more effective in terms of rapid sales and higher generation.

The assignment will be carried out in two stages as detailed below :

First Stage

This stage involves review and evaluation of all aspects of the on-going Title III auction mechanism. This would involve a study of the edible oil production and trade scenario in India, in the context of the Title III auctions. Specific areas to be discussed and commented upon include the following :

1. The degree to which the auctions have been free, open, and competitive.
2. Is 'stop-out' mechanism the most effective auction mechanism?
3. Of the nearly 60-70 vanaspati units in the country why are only 8-10 bidding regularly? Why have the refiners stayed away from the auction? What can be done to increase participation in the auctions?
4. Would it be worthwhile to make the payment and other terms easier in order to attract more participants? How would a credit mechanism like an LOC work? Would it help to increase the number of days in which to make the payment?
5. Would it help to increase or decrease the frequency of the auction ?
6. Currently each participant is required to pay an earnest money deposit of Rs. 1,000 per ton. Should this be reduced?
7. Would it be worthwhile to reduce lot size so that smaller firms can participate? Currently the smallest lot available is 50 tons and a firm would have to raise approximately Rs. 1.15 million in three working days to purchase this quantity.
8. Would it be useful to provide STC with the option of allowing a bidder whose bid has been rejected to match the fair price set by STC, if he so wishes, for the quoted quantity? On days when none of the bids are in line with the market, would it be useful for STC to declare their fair market price and allow only those firms who have bid to match that price for their quoted quantities?
9. The tender system is decidedly more cumbersome than the usual purchase for a buyer. From the market, he gets his oil delivered to his factory door and gets credit to pay for it. Are the deductions made in the fair market price formula sufficient to make up for this?
10. Can the mechanism of determining fair market prices based on mill-delivered Delhi price be refined further? For eg. an important determinant of quantities sold and prices quoted is the availability and price of substitute oils. Can this be factored into the fair market price calculation?
11. How will the fair price ex-Calcutta be determined?

12. Should the STC be paid a flat rate per ton plus a percentage of gross sales instead of the current flat rate plus 2% of C&F value for storage and handling charges?
13. Would it be feasible to add an element of Futures trading to the sale procedure?
14. Can a mechanism be evolved to reduce/prevent collusion by bidders in quoting prices?
15. Can something be done to try and obtain exemption from octroi for the second tranche?

Second Stage

Discuss the findings and suggested modifications with USAID, STC and possibly GOI officials to determine and finalize the auction modalities for the second tranche.

III. REPORT

A written report will be prepared at the conclusion of both stages and will include a detailed evaluation of the on-going auction mechanism, an analysis of the specific areas mentioned above, and constructive proposals for improvements.

IV. MEETINGS

To assist the Contractor in performing all the above, several meetings will be arranged with the following organizations :

- a) State Trading Corporation
- b) Vanaspathi Manufacturers Association
- c) Wipro Ltd. / Shriram Foods
- d) Major oil refiners in Delhi/Bombay
- e) Soybean Processors Association of India
- f) Soybean trade representatives at Indore
- g) Department of Economic Affairs
- h) Ministry of Civil Supplies and Public Distribution