

Research Study Number 2013/03

**EVALUATION OF PRICE SUPPORT SCHEME
(Sunflower in Haryana)**

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September 2013

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Acknowledgement

We express our gratitude to the ministry; the officers of the government of Haryana, specifically the directorate of Agriculture, the Haryana State Marketing Board, the HAFED and the APMCs located in Kurukshetra and Ambala districts for providing us the available data and allowed us to visit the markets, fields etc. for practical observation of the operations.

I am thankful to the coordinator of the study who very meticulously went through the earlier draft and made some valuable comments (some unwarranted also) which resulted in thorough revision of the draft.

At the centre, I am thankful to the chairperson of the governing body who ignored the Acting Director's habitual overtures to create hurdles in the conduct of field work and allowed us to revisit the study area for the collection of the remaining data from district Ambala. Otherwise the Acting Director, first, obstinately set the condition of selecting an agency which demanded the lowest allowance for the field work, in the instant case about Rs. 20000 for field work of two different crops in Haryana and Uttarakhand. Second, when the agency did not fulfill its commitments which nobody could be expected to do with this meager amount, she as usual defended the agency by not asking it to complete the work. Third, she did her best to delay the field work at every stage starting from collection of preliminary information when I had to give it in writing that the file was being closed, till the last when despite my unambiguous request she issued a worthless letter of authority to our investigators which was rightly rejected by the concerned officers and did not provide data, and finally, for revisit to collect data the chairperson probably had to intervene.

I am thankful to my colleagues Dr. Subhas Chandra, Mr. VS Meena, Mr. Krishna Kant and Miss Shalini Singh who were always ready to welcome any project related work we asked them to do. Mr. Narinder Singh as usual was always enthusiastic to do every computing work even during weekends when the need arose. I express my deepest gratitude and thank them all.

I will be failing in gratitude if I do not thank our always helpful library staff Miss Nandi and Mr. Gyan Chand and office staff Mr. Asghar Ali, Mr. Shri Chand, Mr. Himanshu Verma, Mr. Parmod Kumar, Mr. Akhtar and Mr. Rajkumar. All of them did their best and promptly, whatever we asked them to do whether it was photocopying or typing. I am obliged and thank them all.

D.S. Bhupal

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Chapter I

I Introduction:

In the neo-liberal framework of economic development, 'free market' if on the one hand has led economic growth rate breaking all barriers and taking higher trajectory, it started on the other hand taking its toll in the form of unprecedented farmers' suicides, increasing income disparity, rising agricultural input costs and also huge imbalance in demand and supply of domestically produced agricultural commodities. The reasons are obvious. Either half hearted economic reforms in the field of agriculture did not bring in much needed investment from the private sector or because the public sector investment in agriculture for which the entire farming community was habituated could not maintain its earlier tempo. Edible oil seeds sector is a classic example of imbalance in supply and demand. By 1993-94 due to impact of Technology Mission on Oilseeds and Pulses (TMOP) set up in 1986, the country became almost self-sufficient in edible oils when a negligible quantity of edible oils was imported. But once the edible oil sector was put on Open General License, the imports have gone up to 60% and more of the country's needs. Notwithstanding of late tremendous increase in the supply of horticultural produce, the imbalance in the demand and supply of this is one of the major reasons of food inflation. Similarly, food grains production has been going up regularly but the overall availability of food grains per capita is almost stagnant at 1961 levels.

The environmental degradation along with disparate rural income has been other concern. The reflection is manifested in the form of diminishing soil fertility in major food producing states and in diminishing number of farmers in the agriculture sector in the country.

Rural income can be increased either by increasing overall production or by higher returns per unit of output or by both. Further, higher returns can be achieved either by reducing per unit cost of production or increasing per unit price of the commodity or by both. Because higher returns depend upon market which is beyond the control of the farmers, hence, their emphasis has been on more production and in order to increase production they have been putting more emphasis on yield, obviously because area expansion has uncontrollable restrictions. To obtain higher yield more use of inputs like fertilizers, pesticides, water and more intensive use of land holdings has been most common. Intensive and regressive land use leaves no land vacant to recoup its natural health which has been declining over time. Also, the quality of soil and water due to over use of chemical fertilizers and pesticides has been deteriorating.

Market plays an important role in the determination of not only farmers' income but also in land use, overall production, demand for agricultural commodities and supply thereof.

Instances of market failure are more frequent for agricultural commodities and for the developing countries. Consequences of market failure for either producer or consumer of agricultural commodities are enormous. Government therefore intervenes in agricultural market for the sake of protection of producers, consumers, food security and national stability. In mid sixties food riots in Latin America can be cited as an example where many governments like one in Peru was forcibly replaced.

In India Government intervention in agricultural market takes a distinct form. Price Support Scheme (PSS) and Market intervention scheme (MIS) are important interventions. In the PSS government besides announcing MSP for major agricultural commodities (25) also defend the said price by organizing procurement of these commodities through various public and cooperative agencies like Food Corporation of India (FCI), Cotton Corporation of India (CCI), Jute Corporation of India (JCI), Central Warehousing Corporation (CWC), National Consumer Cooperative Federation of India (NCCF), National Agriculture Cooperative Marketing Federation (NAFED), Tobacco Board in addition to state level intervention by various state governments, monopoly cotton procurement scheme of Maharashtra state, for example.

During peak period of arrivals prices of other commodities (excluding 25) many times fall to low levels. To avoid such situation the Union Government on the request of state government arranges procurement of specific commodity at prices agreed between central and state governments under the MIS. The MIS is applicable in two situations: one – when production is more than 10% of the preceding year and price is likely to go down due to extra production, and two – when price of a commodity falls below 10% of the preceding year whatever may be the level of production. The MIS is achieved with the help of several public and cooperative agencies. The MIS unlike PSS is an *ad hoc* arrangement. The MIS is operational for certain commodities during the selected period of the year while PSS is applicable for the above 25 commodities during the entire year.

The Central agency often incurs loss in its operation of PSS and MIS due to obvious reasons, such as they have to operate against all the market norms, i.e., buy at more than prevailing market price and cannot sell to make losses good even if they are aware of further fall in the price. Also they have to shell out payment immediately and wait for the receipts from the government for months and at times for years. The loss incurred in undertaking the PSS is reimbursed up to 15 percent of MSP by the central government. In the MIS operation loss is shared equally between Central and State Governments. For many agricultural commodities at times market price continues to rule below the Government announced support price. Along with protecting the interests of the farmers, consumers, food security etc. due to budgetary constraints when fiscal deficit is mounting, govt. has to and should review its policies to maintain a healthy fiscal balance by cutting avoidable expenditures, particularly if they are unproductive and also do not cause much heart burn among the stake holders. Keeping this in mind an All India study was planned to evaluate the MIS/ PSS schemes.

We (AERC Delhi) have two very contrasting states, as far as agricultural production and practices are concerned. Haryana has seen tremendous growth in agricultural production, intensive land use due to use of modern inputs and farm machinery and surface and ground water irrigation. On the other hand, in Uttarakhand largely due to topography of the state, agricultural production is at pre green revolution level. Use of farm machinery is absolutely nil in hill areas and plains are miniscule in the state. Use of high breed seeds is limited and use of fertilizers and pesticides is also restricted. As far marketing of farm produce is concerned, Haryana has sufficient number of regulated markets (main market yards -106, sub market yards -178 and village purchase centres in addition to them). Though the state has at least one market for 64 villages and average area per market yard is about 152 square kilometers, it faces heavy rush of peak season arrivals and therefore a significant role of public sector procurement agencies. In contrast due to limited production of commodities and limited local demand marketing of farm produce in Uttarakhand is a very difficult operation. Of late due to change in land use practices

in favour of horticultural produce, if the state faces shortage of cereals, pulses, edible oils etc it faces problems of marketing of horticultural produce as well¹.

In both the cases, however, the role of state agencies in the marketing of farm produce is increasing instead of diminishing against the objective of the policy makers who envisaged a larger role for private trade in the liberal economic atmosphere.

The present study is planned to evaluate direct role of the state in the marketing of farm produce with reference to maintenance of price stability, particularly during the peak of arrivals of farm commodities, because due to obvious reasons a huge percentage of farmers cannot withhold the produce for the prices to move up. Therefore the market intervention scheme and price support system play crucial role. But after liberalization the state has been making efforts to curtail its fiscal imbalance notwithstanding without affecting the social welfare commitments, particularly after the huge loss of farmers' lives due to uneconomic returns of their produce.

II Objectives:

The AERC, Delhi has been entrusted with the task of evaluating PSS in the case of Sunflower in Haryana and MIS in the case of Apple 'C' grade in Uttarakhand. In this report we take up the case of sunflower marketing in Haryana. The objective about evaluating the efficiency of the state level agency was not pursued because of miniscule size of PSS as compared to a number of activities/ businesses and in colossal proportions by the state level agency, The Haryana State Cooperative Supply and Marketing Federation Limited (HAFED), undertaking PSS operations in Haryana.

However, to meet the requirement of the coordination a brief comment with detailed information about its businesses (other than PSS operations for sunflower) has been made.

The other specific objectives are given below:

- To analyze the extent of coverage of PSS with respect to **farmers of sunflower in the chosen districts (Kurukshetra and Ambala)** and the Haryana State.
- To ascertain the socio-economic **factors that influence coverage** of villages and farmers in PSS.
- To understand **problems of different stakeholders** in operation of PSS.
- To study the effect of PSS on the market price of sunflower in Haryana, and,
- To suggest policy measures to improve operations of PSS.

III Data and Methodology:

The literature suggests that the MIS has been in operation for following commodities apples, kinnoo / malta, garlic, oranges, galgal, grapes, mushrooms, clove, black pepper, pineapple, ginger, red-chilies, coriander seed, isabgol, chicory, onions, potatoes, cabbage, mustard seed, castor seed, copra and palm oil. The beneficiary States of MIS are Himachal Pradesh, Haryana, Punjab, Andhra Pradesh, Maharashtra, Karnataka, Rajasthan, Gujarat,

¹ See Bhupal, D.S. Impact assessment of agricultural market reforms, AERC, Delhi, 2009

Kerala, Jammu and Kashmir, Mizoram, Sikkim, Meghalaya, Tripura, Uttar Pradesh, West Bengal, Madhya Pradesh, Andaman and Nicobar islands, Lakshadweep etc. But for the purpose of this study PSS in the case of Sunflower in Haryana has been selected for evaluation.

After allotment of the project an effort was made to look into the areas where Sunflower is grown in Haryana. Unfortunately the area covered under the crop in the state is too little to find place in the Statistical Abstract of Haryana or in any other published document of the state government. Hence, from the offices of the Directorate of Economics and Statistics, Directorate of Agriculture, NAFED and HAFED details of the area, production, marketing of sunflower were obtained. It was noticed from the information that only in two districts, Ambala and Kurukshetra sunflower is grown and mostly marketed. Most of the oil extraction mills are located in Shahabad (Kurukshetra) and Ambala. Therefore the two districts as suggested by the coordinator and by the officials were selected and from the two districts four blocks/ tehsils : Shahabad and Thanesar from district Kurukshetra and Barara and Saha from district Ambala were selected as only in these tehsils major part of Sunflower was grown. At the next stage of selection 4 villages from each district viz. Padlu and Damli from Shahabad tehsil and Bir Mathana and Kaulapur from Thanesar of Kurukshetra district were selected and villages Barara, Jamalrajra, Nahoni and Ugala were selected from district Ambala.

Secondary data from the district headquarters regarding cropping pattern, marketing practices, demographic details etc were obtained. Detailed questionnaires for households survey, village schedule and district schedule supplied by the coordinator were canvassed for collection of all the relevant information from the farmers of all categories viz. marginal, small, medium and large, for village schedule from village elders and local body heads viz. pardhan or sarpanch or village patwari and for district schedule from the department of agriculture. Data for market arrivals and prices were collected from the Agricultural Produce Market Committees (APMC). Despite lot of efforts by our support staff data from Ambala could not be obtained earlier. First, because there is almost negligible coverage under sunflower and the district agricultural authorities do not record data separately of sunflower. Second, whatever efforts were made by staff were nullified by the acting director by issuing a worthless letter of authority which was rightly rejected by the APMC and directorate of agriculture at Ambala. Therefore team has to be sent again, that was also probably with the intervention of the chairperson of the GB.

Sampling Framework

The details of sample are given in Table 1.1

Table 1.1: Sample Size

Item	Haryana	Total
Selected Distt.	Ambala, Kurukshetra	2
Tehsil/ block	Barara, Saha; Shahabad, Thanesar	4
Crop	Sunflower	
Beneficiary/ non- beneficiaries farmers@	96	96
District schedules	2	2
Village schedules	8	8

@ None can be described as beneficiary or non-beneficiary

Marketing Practice: Categorizing the respondent farmers into beneficiary and non-beneficiary is confusing, because in Haryana there were no such farmers who directly sold to HAFED. The marketing practice is that farmers bring the produce to the APMC market (Main market yard, sub-market yard or purchase centre as the case may be)² the produce after cleaning sifting etc. is auctioned, if the sale price is less than MSP, the HAFED intervenes and buys at the MSP, otherwise highest bidder than that price gets the produce. After auction, commodity is weighed and filled in standard packs. The entire proceeds viz. name of the seller, name of the buyer, quantity of the produce sold, rate at which sold, name and details of the ardtia (commission agent) and total value of the produce are noted. The commission agent is supposed to make payment to the seller and he in turn gets the entire money including his commission and other expanses from the buyer, in the some cases under PSS from the HAFED. Otherwise the HAFED directly pays to seller, and other charges like market fee to the APMC and commission to the ardtia.

In fact all the respondents were sunflower growing farmers but none of them a marginal farmer with less than 1hectare of land. The number of respondents instead of 60 beneficiaries and 60 non-beneficiaries therefore is 96 in total. In fact 120 farmers were contacted but due to discrepancies in schedules we have to reject rest of the schedules. Thus our study is based on 96 respondents.

As the PSS in the state is implemented in a very limited way, the sampling design as proposed by the coordinator could not be strictly applied. Rather we have taken the entire Universe as our sample, for example both the sunflower producing districts, four major sunflower producing tehsils and all the major sunflower selling APMCs where PSS was implemented. However the scheme suggested by the coordinator was as follows:

For the selected crops two districts where MIS/ PSS was in operation would be selected at the first stage. In each of the selected district the most important regulated market was to be chosen which would have been used as benchmark for selection of village clusters. It was proposed that three clusters of two villages in each of the cluster will be selected. These clusters will capture market and infrastructure related variability of the district. The village clusters might preferably be chosen from different administrative units (tehsil/ sub-division/ blocks) located on different directions from the benchmark market. The village clusters must be more than 10 KM away from the benchmark. The village clusters must be separated from each other by a distance of more than 15 km.

The process of selection of village clusters was as follows. A list of villages located on District road at a distance of 10 km away from the benchmark was to be prepared. Subsequently one village would be chosen randomly from the list; another village adjacent to the above village but away from the district road was to be selected, a cluster of two villages was thus formed. From each of the cluster of two villages, a list of farmers cultivating targeted crop would be made or procured from the village head. Another list of beneficiary farmers could be procured from Assistant / Manager of the above Scheme (MIS/PSS). A comparison of the above two lists of cultivators would indicate participation of farmers in the above scheme.

² The other two methods of sale are: Sale to the village merchant and sale to itinerant trader in the village.

From each of the above two groups, five (5) farmers will be selected by adopting systematic sampling; thus a total of 10 farmers were to be selected from each cluster. Since the study proposed three clusters in each district, the sample will consist of a minimum of 30 farmers from the district and for targeted crop there will be a minimum of 60 farmers in the state.

This scientific and rational sample would have been applicable in the case of larger Universe. As stated above we have very limited number of districts, villages and sunflower growing farmers. Secondly as would be seen later, there was no such thing as the beneficiary farmers in the state, because the PSS in the case of sunflower has been undertaken for two years, and that too to a very limited extent. Thirdly, the procurement agency did not buy from the farmers directly. They bought from the regulated market through the commission agent like any other buyer.

The questionnaires as supplied by the coordinator have been canvassed without any modification.

Chapter scheme: The chapter scheme as suggested by the coordinator has been followed except in those areas where there was no information available.

The second chapter presents basic information of the state, district level information about sunflower, marketing system etc and socio-economic back ground of the respondents.

Chapter 3 presents detailed information about marketing practices in the state, and conclusions and finally, in chapter 4 a summary of the report, findings, conclusions and suggestions are presented.

Chapter - II

Background details of the selected area – districts, blocks and villages

Haryana which lies between latitude 30.30' N and longitude 74.60' E has been administratively divided into 4 divisions (Ambala, Gurgaon, Hissar and Rohtak), 21 districts, 57 sub-divisions, 78 tehsils, 43 sub-tehsils and 124 blocks. Districts Ambala and Kurukshetra are two districts where Sunflower is grown in the entire state. The crop covers miniscule area and therefore production is also not much. That is why we do not find separate area and production of sunflower in the statistics published by the state in the form of Statistical Abstract or other official publications. It is covered under Rabi oils in Ambala and probably under the heading other oils in Kurukshetra.

District Ambala is located between 30°2' N Latitude and 76°52' E longitude. The District is divided into three subdivisions/ tehsils namely Ambala, Naraingarh and Barara. There are four sub tehsils in the district namely Ambala Cantt, Mulana, Saha and Shahzadpur. The district has six blocks namely Ambala -I, Ambala -II, Saha, Barara, Shahzadpur and Naraingarh. Out of these 6 blocks we have selected 2 blocks namely Saha and Barara for our sample. In fact, in other blocks either there is no sunflower or it is almost negligible.

Another district which was selected for our study is Kurukshetra. Kurukshetra district lies between latitude 29.52' to 30.12' and longitude 76.26' to 77.04'. It has three subdivisions / tehsils namely Pehova, Shahabad and Thanesar. The district is further divided into 3 sub tehsils namely Ladwa, Ismailabad and Babain and 6 blocks namely Thanesar, Ladwa, Pehova, Babain, Ismailabad and Shahabad. For the purpose of this study two tehsils/ blocks namely Thanesar and Shahabad were selected. In other blocks very little sunflower is grown.

Table 2.1 below gives the details of size class wise and village wise number of selected sample farmers.

Table 2.1: Distribution of sample farmers

District	Regulated market	Blocks/ Tehsil	Village cluster	Respondents	farmers (as per holding size)			
					Marginal (< 1 ha)	Small (1-2 ha)	Med. (2-5 ha)	Large (>5 ha)
Kurukshetra	Shahabad	Shahabad	Padlu	15	0	1	5	9
Kurukshetra	Thanesar	Thanesar	Bir Mathana	11	0	0	3	8
Kurukshetra	Shahabad	Shahabad	Damli	11	0	1	5	5
Kurukshetra	Thanesar	Thanesar	Kaulapur	10	0	1	6	3
Ambala	Barara	Barara	Barara	10	0	0	5	5
Ambala	Barara	Barara	Jamalmajra	7	0	1	4	2
Ambala	Mulana	Saha	Nahoni	13	0	1	5	7
Ambala	Barara	Barara	Ugala	9	0	0	6	3
Ambala	Barara	Barara	Saha	10	0	0	4	6
Total respondents				96@	0	5	43	48

@ All the sunflower growers are covered under the PSS scheme. In fact the growers are not directly involved as they sell through their commission agents in the market from where the PSS scheme implementing agencies procure.

Despite the best efforts, no marginal farmer could be located in both the districts. In fact, sunflower does not serve the purpose of daily food requirement of the households, hence those with no extra land to use for commercial purposes prefer the subsistence crops. Fifty percent of the sample therefore comes from the largest size of households and other 46% from the medium size class, thus less than 5% small size holdings prefer to grow sunflower. With overall 80-90 % holdings falling under marginal and small sizes, it would be very difficult for them to grow crops like sunflower. Secondly as we were told potato is the most suitable complementary crop to form an ideal crop rotation, it would again be difficult for the farmers to go for two non-subsistence crops. We are aware that unlike Europe, potato is not used to replace cereal needs of the households in India.

Table 2.2 gives the details of demographic features of the two districts vis-à-vis the state of Haryana (1990-91 to 2010-11). Geographical area is given in thousand hectares whereas villages, and block population are given in numbers and state population in millions.

Table 2.2: Demographic features of selected districts vis-à-vis state over 1990-91

Particulars	Kurukshetra			Ambala			Haryana (millions)		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11
Geographical area	160	168	168	208	151	154	4378	4402	4370
Inhabited villages	389	409	407	469	482	461	6759	6781	6642
Total Population	641943	828120	964231	1116878	1013660	1136784	16.463	21.083	25.353
Rural Population	487809	612300	685296	719884	656997	632243	12.409	14.969	16.531
Urban population	154134	215820	278935	396994	356663	504541	4.055	6.114	8.822
Male Population	341612	443841	510370	592538	542366	604044	8.827	11.327	13.505
Female population	300331	384374	453861	524340	471274	532740	7.636	9.755	11.848
Male literacy (%)	56.89	66.90	73.09	62.67	71.91	78.46	56.08	66.73	73.99
Female literacy (%)	38.69	52.93	61.28	47.23	60.22	68.70	32.72	47.84	58.34

Source :Statistical Abstract of Haryana (various issues)

If we look at the geographical area of the state there is a little variation because of accuracy in measurement of the hilly area particularly bordering Himachal Pradesh. Similar is the case with regard to the area in the district of Kurukshetra, whereas area in district Ambala has gone down due to carving out of district Panchkula. However, the number of inhabited villages increased initially because of coming up of new villages by rural population and later on it decreased because of merger of villages in urban areas. As far as population is concerned, we find that in district Kurukshetra total population, rural population, urban population, male and female population has respectively increased during both the decadal censuses by 2.9%, 2.55%, 4.0%, 2.99 % and 2.8% annually between 1990-91 and 2000-01, and by 1.64%, 1.19%, 2.9%, 1.5% and 1.9% respectively per annum during the years 2000-01 and 2010-11. The corresponding figures of percentage change in district Ambala are in the negative mainly because the district was cut short due to carving out of another district. The negative increase respectively on the above cited parameters is 0.9%, 0.8%, 1%, 0.8%, and 1% during the period 1990 -91 and 2000-01 and annual percentage increase during 2010-11 over 2000-01 is 1.2%, (-)0.03%, 4.1%, 1.1%, and

1.3% respectively. In the state as a whole, the annual percentage increase with regard to above parameters was 2.8%, 2.1%, 5.0%, 2.8% and 2.1% during the decade of 1990-91 and 2000-01 whereas in the following decade the annual percentage change has been 2%, 1%, 4.4% and 1.9% respectively. The serious implication is with regard to declining number of female population vis-à-vis male population in the districts as well as in the state, though there is considerable increase in the number of female population per se and also between the decade earlier and the current one. In district Kurukshetra female population declined from 879 to 866 per thousand male population, in Ambala from 885 to 869 and in the state from 865 to 861 between 1990-91 and 2000-01 but increased marginally in both districts as well as in the state as a whole between 2000-01 and 2010-11 in Kurukshetra from 866 to 889 per thousand, in Ambala from 869 to 882 and in the state from 861 to 877. Hopefully with all the efforts being made to protect the girl child, to ensure their education, marriages and financial and medical help to the mothers, the parity gap may be reduced if not fully eliminated in a decade or two. As far as female literacy is concerned, though there is tremendous progress with respect to 1990-91 when it was 39% in Kurukshetra, 47% in Ambala and 33% in the state. But as per the latest census, still 39% females in Kurukshetra, 31% in Ambala and 42% in the state as a whole were illiterate.

The state though borders Delhi from three sides and has metro benefits of Delhi in the development of Gurgaon, Faridabad, Sonapat etc. in the form of industrial hubs, shopping malls and company head quarters etc. , still it is largely agricultural. Most of the people find livelihood either directly in agriculture or in associated activities, therefore it is necessary that we should have a broader outline of agriculture in the state.

Table 2.3 gives land use pattern in the state and two districts.

Table 2.3: Land Use Classification of selected districts and state ('000Ha)

Particulars	Kurukshetra			Ambala			Haryana		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11
Geographical area	160	168	168	208	151	154	4378	4402	4370
Land under non-agricultural uses.	5	13	14	8	10	40	320	368	522
Net area sown.	139	150	152	146	125	106	3575	3526	3518
Area sown >once.	116	112	120	94	75	100	2344	2589	2987
Gross Cropped Area.	255	262	271	240	200	204	5919	6115	6505

Source :Statistical Abstract of Haryana (various issues)

There has been continuous increase in area under non-agricultural usage both in the selected districts as well as in the state as a whole. In percentage terms the non-agricultural area in District Kurukshetra increased by 160% between 1990-91 and 2000-01 and by 7.7% in the following decade. The percentage increase in district Ambala has been 25% and 300% respectively during the two decades. In the state as a whole the increase in this category of area has been 15% and 42% respectively. However, in district Kurukshetra net sown area has been on the regular increase by 7.9% and 1.3% respectively during the two decades. But in district Ambala and in the state net sown area due to urbanization has decreased by 14.4% and 15% during the two decades, whereas in the state it declined by 1.4% and 0.2%. But interesting is to look at area sown more than once. In Kurukshetra it declined in the first decade by about 3.5% but increased by 7% in the following decade, whereas in Ambala the decline was huge in the first

decade by more than 20% but increased by 1/3rd in the next decade. In the state however, the area used more than once increased by more than 10% and more than 15% during the decades under consideration. Barring Ambala in the first decade due to formation of new districts gross cropped area has increased all around between 2% and 3% in the districts and more than 6% in the state. It happened due to improved irrigation facilities and seeds as well as package of practices. As would be seen from Table 2.4 below improved irrigation facilities brought more area under canal and tube well irrigation both in district Kurukshetra and the state.

Table 2.4: Net area irrigated with alternate source of irrigation (000Ha)

Sources	Kurukshetra			Ambala			Haryana		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11
Tube-well	114	112	123	77	97	90	1248	1467	1650
Canals	19	27	28	1	14	4	1339	1476	1236
Tanks	-	-	-	1	1	-	1	1	- -
Others	-	-	-	4	1	-	14	14	1

Source: Statistical Abstract of Haryana (various issues)

As far as irrigation in Haryana is concerned, barring a few districts in South-West Haryana like Mahendergarh, Luharu, Rewari, Bhiwani etc. most of the area is irrigated by both surface and ground water sources. In the selected districts it is mostly tube wells and canals that irrigation takes place. In both the districts as well as in the state irrigated area by tube wells has been increasing. In Kurukshetra, it declined marginally in the first decade, but increased substantially by almost 10% in the second one. In Ambala it increased by about 26% in the first decade but later on due to subdivision of the district it declined by about 7%. However, in the state, area under tube well irrigation increased by about 18% and 12% during the two decades under reference. Area under canal irrigation increased in Kurukshetra by 42% and 4%, In Ambala it increased by 1300 % in the first decade but decreased by about 71% during the second decade. In the state area under canal irrigation increased by about 10% during the first decade, but decreased by about 16% during the second decade. In would have been surprising if other factors were ignored, as to how command area under canal can go down in a state like Haryana. But the fact is that it has happened due mostly to irrigated area under urban fringes being converted into non-agricultural uses. However, there are reports that public investment in irrigation and other infrastructure has benefitted the land holders, large size holders more. Therefore to have a look at the holding pattern in the state Table 2.5 gives details of different categories of farm households in the selected districts and the state.

Table 2.5: Different categories of farm households (1990-91, 2000-01, 2010-11)

Size of Farms	Kurukshetra			Ambala			Haryana		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11
0-1 hectare	25648	25222	24920	44904	32655	33902	622026	704013	778142
1.1-2 hectare	12169	12769	10477	13781	11091	10837	303718	294102	314818
2.1-5 hectare	16268	15045	11669	18593	10125	10331	420386	349884	354624
5.1-10 Hect	7213	4959	4575	5911	3197	3210	175722	130000	123898
>10 hectare	2138	1604	2310	1353	1014	1071	45965	49775	45829
Total	63436	59599	53951	84542	58082	59351	156781	152777	161731

Source: Statistical Abstract of Haryana (various issues)

As far as number of holdings is concerned, we find in Kurukshetra aggregate holdings declined between 1990-91 and 2000-01, holdings below 1 hectare by 1.7%, between 1 to 2 hectares increased by 5 %, between 2 -5 hectares decreased by 8%, between 5-10 hectares decreased by 31% and more than 10 hectares declined by 25% and all the holdings decreased by 6% in the district. Similarly in the next decade, all size class of holdings declined in the district barring the largest size class which increased by 44%. In other words, during the years 2000-01 to 2010-11 land has been consolidated in the largest size group of farmers. In district Ambala the figures during the first decade are not comparable as another district was carved out and all size groups of holdings decreased hugely between 20% and 46%. But in the following decade, in Ambala barring second group (1 -2 hectares) in rest all the groups the number of holdings has increased. In the state however, the number of marginal holdings has increased in both the decades handsomely by 13% and 11% respectively, also in the second group of holdings (1-2 hectares), the number decreased in the first decade, but increased by 7% in the second decade, and the largest group has shown increase in the first decade but increased in the second decade. Interestingly the matching percentage change in opposite directions in the second group and the largest group in the second decade appears to be complementing each other. Most striking is the 26% decline in the size group (5-10 hect) in the first decade. Overall in the second decade, most of the larger holdings (upper two groups) have gone down while the lower three size groups show increase. That is to say sub- division of holdings is continuing.

Size of holding plays important role in the level of production, but area, other infrastructure like machinery, storage, marketing, transportation, chemical inputs and seeds also play crucial role in improvement of yield thereby overall production. Table below gives information about such facilities.

Table 2.6: Implements, Infrastructure and Institutions (1990-91, 2000-01 and 2010-11)

Particulars	Kurukshetra			Ambala			Haryana		
	1990-91	2000-01	2010-11	1990-91	2000-01	2010-11	1990-91	2000-01	2011-12
Tractors (no.)	15641	7124	14243	4971	1653	8686	22099	40473	257231
% of villages electrified	100	100	100	100	100	100	100	100	100
Electric tube wells (no.)	26773	33407	41322	16896	73759	18372	34142	334171	512311
Motor able road (km)	970	1008	1293	1625	1093	1307	1409	22960	25127
Villages linked with roads (%)	99.73	99.15	99.15	97.31	97.31	97.31	98.94	98.98	99.68
Bank Offices	48	56	109	115	100	156	1260	1508	5878
Post office	106	107	107	141	137	142	2523	2653	2661
Co-operative Society	431	763	902	792	1209	925	11152	22969	35305
Existence of KGK / KVK	1	1	1	1	1	1	13	13	13
Ag. Produce Market	9	7	13	5	7	11	97	105	117
PSS procurement centre*	x	x	x	x	x	x	x	x	x

*No specific PSS centre has been established in the state. Sales under PSS take place in purchase centres, which are also under the supervision of the APMC. However some of these have been designated as PSS Centres.

Source: Statistical Abstract of Haryana (various issues)

Because district level data will be discussed later also, we at this place take up only state data as given in the table No. 2.5. Tractors are the main tool in the state agriculture. Their number has increased tremendously in the last decade. There was about 83% increase in the first decade as compared to about 536% increase in the last decade. However, in the first decade

number of electric tube wells galloped with increase of 879% in that decade. Due to obvious reasons of over exploitation of ground water, restrictions on new connections and also due to spread of canal irrigation number of electric tube wells increased by about 53% in the last decade. As far as motor able roads are concerned we find huge increase during the decade of 1990-91 to 2000-01. It was more than 1530% increase, mainly because during eighties or earlier, a very little emphasis was given to roads. As we see now because most of the area and villages are covered under roads, a 9 % increase has taken place during the current decade, prime minister's gram sadak yojna notwithstanding. Almost all the villages in the state are connected with roads, whatever a little progress has been made is due to coming up of new villages and hamlets (dhanies in local parlance). We find handsome increase in the number of banks also. The percentage change during the first decade was only 20% as compared to huge increase in the last decade, a change of 290%. Due to policies of the central government to restrict the number of employees and also due to technological revolution in the communications, number of post offices has marginally increased during this period in the state. As far as number of cooperative societies is concerned, though it increased in both the decades, but during the last decade it has increased by only 54% as compared to about 106% during the earlier decade. There is no increase in the number of KVK etc. but regulated markets has increased by about 11% as compared to 8% in the earlier decade. Increase in both, KVK and regulated markets has not been compatible with increase in agricultural production.

The quantity purchased or procured mainly depends upon production of the crop which is the outcome of the cropping pattern. We have very briefly discussed cropping pattern in the districts and in the state in Table 2.7.

Table 2.7: Area under different crops in the selected districts (000'ha)

Crop	1990-92 (average)		2000-02 (average)		2010-11(average)	
	Ambala	Kurukshetra	Ambala	Kurukshetra	Ambala	Kurukshetra
Paddy	2385	3172	2573	3203	81.9	119.8
Jowar	0	0	0	0	0.4	0
Bajra	0	0	695	0	@	@
Maize	784	0	1692	1594	1.5	@
Wheat	4171	4572	2412	3397	2504	142.6
Barley	0	0	1947	0	@	0
Gram	570	0	534	699	0.1	0.1
Mash	150	0	465	415	0.7	0.1
Moong	0.7	0	500	696	@	@
Massur	650	1200	456	902	0.7	0.4
Groundnut	0	0	803	0	0	0
Sesame	0	0	456	521	0	0
Rapeseed mustard	1248	0	904	333	1.2	1.0
Linseed	0	0	1000	600	0	0
Cotton	408	0	189	0	0	@
Sugarcane	4826	6094	5673	6516	9.6	8.5
potato	17500	16300	15736	13469	1.7	6.8

@ Less than 50 hectares

Source: Statistical Abstract of Haryana (various issues)

It would have been worthwhile had area under the targeted crop viz. sunflower could have found place in the published documents of the state government? As the crop is grown on a miniscule area in the state, including both the districts probably it finds no mention. In Ambala district, it was confirmed by the officials that sunflower is not separately enumerated rather it is included in Rabi oils.

Table 2.8: Demographic features of blocks and districts (2011)

Particulars	Blocks				Districts	
	Shahabad	Thanesar	Barara	Saha	Kurukshetra	Ambala
Geo. Area KM ²	277.13	891.4	330.28	477.67	1682	1530
Villages (no)	107	110	138	77	267	407
Population '00	130288	578733	243466	228709	609943	657383
Rural popu '00	87622	42666	213820	197741	6852296	632243
Urban popu '00	42666	183855	29646	30968	278935	504541
Male '00	81081	94339	117937	48560	510370	604044
Female '00	70720	82216	105031	42462	453861	532740
Male literacy (%)	80.5	79.5	79.2	77.6	(81)	(78.46)
Female lit (%)	63.9	62.0	68.9	66.7	(64.9)	(68.7)

Source: District Statistical Diary of Kurukshetra and Dy. Director Agriculture, Ambala

In Table 2.8 we have given the demographic details of the selected blocks of the two districts. With the increase in number of districts in the state there has been reorganization of blocks tehsils also. Some of the districts formed during nineties have been carved out by taking a few blocks/ tehsils here and there, i.e. from nearby districts. But we discuss two aspects one change in gender aspects of the population and two the literacy rates of males vis-à-vis females. In the blocks barring Barara females per 1000 males are far less starting from 872 in Shahabad, 871 in Thanesar, 891 in Barara, 874 in Saha in comparison to gender ratio in the respective districts which were 889 in the case of Kurukshetra and 882 in the case of Ambala. Similarly, the literacy rates of both males as well as females are also low in the selected blocks as compared to the respective districts.

Table 2.9: Land use classification (00ha), 2011

Particulars	Blocks				Districts	
	Shahabad	Thanesar	Barara	Saha	Kurukshetra	Ambala
Geo. Area km ²	202	873	330.3	477.67	1682	1574
Nonagrl use (.00ha)	25	78	29.15	23.13	154	14
Net area sown “	177	782	23.2	17.74	1504	106
Area sown > once “	167	523	2.64	3.41	1174	100
GCA “	344	1305	Na	na	2678	206

Source: District Statistical Diary of Kurukshetra and Dy. Director Agriculture, Ambala

Information about land use as collected by the agency in the selected blocks has been shown in Table 2.9. However, on linking the earlier data about the area under non-agricultural uses it is noticed that area under cultivation has been going down in both the districts as well as in all the blocks mentioned in the table, in Barara more sharply as compared to Saha and in

Thanesar as compared to Shahabad. Similarly area sown more than once also has increased in all the blocks as compared to last 3-4 years. As per the reports of the respondents (in this case district officials) the net area sown constituted about 93% in Barara and 86% in Saha. Similarly in Thanesar block Net Sown Area was about 84% as compares to about 88% in Shahabad. As most of the area in these districts is irrigated and area covers more than one crop, cropping intensity and GCA are almost twice of the net sown area in the blocks.

Table 2.10: Implements, Infrastructure and Institutions (no.) in studied blocks and districts

Particulars	Block I Shahabad	Block II Thanesar	Block III Barara	Block-IV Saha	District Kurukshetra	District Ambala
Tractors (no.)	3291	4201	2184	1950	14878	8676
Tube wells (no.)	7702	12121	3682	3296	74204	27082
% of Villages Electrified	100	100	100	100	100	100
Electric operated tube wells (no)	7702	12101	3233	2566	65086	22058
Motor able road (km)	na	na	na	na	1177	1269
% of villages with roads	107!	110!	100	100	100	100
Bank Offices	31	62	12	5	122	165
Post office	22	13	15	11	107#	137
Co-operative Society		182	195	285	902	925
Existence of KGK / KVK	nil	nil	nil	1	1	2
Ag. Produce Market\$	5	4	4	3	28	14
MIS/PSS procurement centre@	1	1	1	1	6	3

Source: District Statistical Diary of Kurukshetra and Dy. Director Agriculture, Ambala

In 2011 total number of post offices were 108. One branch has been since closed.

\$ There are 7 Main Market Yards, 13 Sub-Market yards and 8 Purchase centres in Kurukshetra and 5, 7 and 2 in Ambala

@ Earmarked for sunflower purchase/ procurement where other commodities are also traded

At block level some of the crucial information was not provided to the data collecting agency. Later on when we sent our own staff for the gaps, in Ambala the letter of authority was not issued in proper order and the officials not agreeing to the arguments by the staff did not provide information. Therefore some of the tables for Ambala and its selected blocks could not be constructed in the draft report. But to meet the requirements of the coordination, data were collected and report finalised.

Table 2.11: Net area irrigated by source (000'ha)

Source	Shahabad	Thanesar	Barara	Saha	Kurukshetra	Ambala
Tube well	17.7	55.9	Nil	8.17	123	90
Canals	0	23	27.64	71.82	28	4
Tanks	nil	nil	Nil	nil	nil	nil
Others	nil	nil	Nil	nil	nil	nil

Source: District Statistical Diary of Kurukshetra and Dy. Director Agriculture, Ambala

Though the figures in absolute terms i.e., acreage under irrigation were not available, it has been reported that about 14.4% of the net area sown was irrigated by tube wells and 85.6% by canals in Barara whereas in Saha 13.5% was irrigated by tube wells and 86% by canals. In Kurukshetra district

in Thanesar about 28.9% and in Shahabad about 23.7% area was irrigated by tube wells and the rest by canals.

Table 2.12: Area (ha) under crops in study blocks for selected years (Kurukshetra)

	2009-10		2010-11		2011-12	
	Shahabad	Thanesar	Shahabad	Thanesar	Shahabad	Thanesar
Wheat	33065	24568	32848	24615	28114	27325
Gram	11	3	11	2	14	6
Barley	2	0	0	0	2	0
Lentil	62	69	93	48	47	51
Pea	228	5	212	10	225	3
Rapeseed	190	174	236	225	240	455
Potato	1165	3521	1312	3661	781	3992
Vegetable	196	128	216	138	239	150
Fodder	2089	1654	2082	1801	1742	1950
Other	128	110	196	168	166	282
paddy	26084	33490	26984	34807	28241	35109
Maize	35	25	21	3	20	11
Bajra	10	5	22	6	5	1
Sugarcane	1754	2631	1658	1929	2246	2669
Cotton	0	0	0	0	4	0
Pulses	37	5	28	4	30	3
Oilseeds*	23	16	na	na	na	na
Fodder	1810	1966	1803	1958	1756	1682
Vegetable	142	162	115	214	125	113
Other	13	128	84	116	204	240

*including sunflower;

Source : District Statistical Diary of Kurukshetra, 2009-10

Table 2.13: Area (00ha) under crops in study blocks for selected years (Ambala)

	2009-10		2010-11		2011-12	
	Barara	saha	Barara	Saha	Barara	Saha
Wheat	152	132	158	138	156	137
Paddy	189	81	192	83	193	83
Maize	0.9	0.85	1	1	2	1
Sugarcane	37	12	37	12	37	12
Pulses	0.15	0.9	0.2	0.1	0.43	0.12
Oil seed	0.11	0.2	0.14	0.37	0.17	0.2
Others	16	21	22	18	22	32

Source : Dy. Director, Agriculture, Ambala

As mentioned earlier, area under sunflower is miniscule. It is not being shown separately and is covered under oil seeds. Therefore in absence of information about it no comments or analysis

can be made. Other crops include some minor fodder crops, fruits and vegetables not covered above.

Village wise details of study area for current year

Table 2.14: Demographic Features of Study Villages

Particulars	Damli	Padlu	Kaulapur	Bir mathana	Saha	Nahoni	Barara	Ugala
Geographical area(00ha)	260	467	243	165	845	1052	1985	1735
Population (00's)	8.30	13.98	23.82	17.52	745.4	56.0	250.15	64.95
Rural Population	8.30	13.98	23.82	17.52	745.4	56.0	250.15	64.95
Urban population	x	x	X	X	x	x	x	x
Male (00's)	4.36	7.38	12.99	9.26	401.5	30.0	130.05	34.04
Female (00's)	3.94	6.60	10.83	8.26	344.9	26.0	120.10	30.91
Male literacy (%)	78.5	85	77	88	89	75	86	64
Female literacy (%)	65.0	69	64	72	74	72	81	58

Data compiled from village schedules

Table 2.14 is self explanatory. We have removed a row about inhabited villages which was redundant as is row about urban population. However village Saha is mostly urbanized and a clear demarcation between urban and rural village is not identifiable therefore it can be put either way, completely urban or semi-urban or rural.

In all the villages taken together, about 45% land holdings are marginal that is less than 1 hectare, 24% small, 11% semi-medium , 10% medium and about 10% are large that is more than 10 hectares. However, if we compare the land holdings with those in the respective blocks the distribution slightly varies but becomes more compatible with the holdings in the respective districts.

Table 2.15: Socio- Economic Status of households

No. of Household according to size of holding						% of agri. labour household	%age of non agri. working household
	Marginal (0.1 ha)	Small (1.1-2 ha)	Semi-med. (2.1-4 ha)	Medium (4.1-10ha)	Large (> 10 ha)		
No	3422	1810	805	771	747	34.26	16.45
%	45.29	23.96	10.66	10.21	9.89		

Data compiled from village schedules

Table 2.16: Land use Classification of villages (in 00ha)

PARTICULARS	Damli	Padlu	Kaulapur	Bir mathana	Saha	Nahoni	Barara	Ugala
Geographical area	260	467	243	165	845	1052	2000	1735
non agriculture uses.	68	125	55	28	85	105	305	257
Net area sown.	192	342	178	137	760	947	1695	1478
Area sown more than once.	145	248	138	118	615	842	1450	1232
Gross Cropped Area.	285	480	270	220	1190	1540	2340	2365

Source: Village schedules

All the villages are irrigated therefore land is fertile and capable of delivering more than one crop. The percentage of area sown more than once varies between 72% in Padlu to about 89% in village Nahoni. Overall about 83.6% area of all the villages was under more than one crop in a year. Similarly due to irrigation facility gross cropped area is more than net area sown. It varies between 140% in Padlu to more than 162% in Nahoni. Overall it is about 151% in all the villages taken together.

Table 2.17: Net Area irrigated by different sources in villages (in ha)

Canal	Tanks	Well	Tube wells		Others (specify)
			Electric	Diesel operated	
3466	X	X	1485	778	X

Source: Village schedules

As far as irrigation and sources of irrigation are concerned, it is mostly canal irrigation and/ or tube well irrigation in the area. No tank or well irrigation is noticed in the sample villages. More than 60% of the area is irrigated by canals, about 26% by electrically operated tube wells and the remaining about 14% is irrigated by diesel operated tube wells. Along with canals tube wells are important source of irrigation in the area. Earlier there were wells also but they have been replaced by tube wells now and in many cases submersible pumps.

Table 2.18: Details of infrastructure and institution in/near village cluster

Facility	Village Cluster 1		Village cluster 2	
	Available in Village or not	If not, then Distance (Km)	Available in Village or not	If not, then Distance (Km)
1. Primary School.	Yes		yes	x
2. Public School	Yes		yes	
3. Primary Health Center	Yes		yes	
4. Private Medical Practitioner	Yes			
5. Veterinary dispensary	Yes		yes	
6. Govt. Training Centers (ITI , polytechnic etc)	X	14	x	17
7. Private Training Center (with trade of training)	Yes		yes	
8. Presence of Khadi and Village Industries Corporation Office	Yes		yes	
9. Active NGO or SHGs (No.)	2		2	
10. Nearest Motor able road	Yes		yes	
11. Post Office.	Yes		yes	
12. Commercial Banks	yes		yes	
13. Co-operative Society	yes		yes	
14. Existence of factories	yes		yes	
15. Farm Produce Storage Facility	yes		yes	
16. Fair Price Shop/Ration Dept. (No.)	yes		yes	
17. Ag. Produce Market (APMC)	yes		yes	
18. MIS/PSS Procurement Centre	x		x	
19. Existence of Village market/hat	yes		yes	

Source: Village schedules; Village cluster 1 includes villages Damli, Padlu, Kaulapur and Bimathana; Cluster 2 includes 4 villages of Ambala

Table 2.18 gives infrastructure details in the villages. Haryana has made a good progress in schooling, electrification, roads and regulated markets in the state. Almost all the villages have government and /or private schools, all the villages are electrified and all are linked with roads. The post offices, banks, small scale industrial units, units under khadi and village industries, are noticed. Even fair price shops were observed working in these villages, which was not the case in some other villages when we conducted a study on functioning of MGNREGA in the state. In sum from the infrastructure point of view, the villages are reasonably developed.

Details of sunflower in Haryana

The following sub-heading given by the coordinator of the All India study as emergence of the crop in the area is most relevant in the sense that details of area under sunflower, productivity and production manifest the acute dismal picture of the crop. First as stated earlier, sunflower is largely grown in two districts of Haryana – Ambala and Kurukshetra and on a miniscule area. The area is almost negligible in Ambala as we were told that agriculture department has stopped separate (enumeration) Girdawari³ of the crop. Hence, there is no separate data available of sunflower. It is included in Rabi oilseeds. In market arrivals, the entire production is received and sold, because it cannot be used directly at home. In other words, there is almost no difference between marketable and marketed surplus of the crop. It cannot be ensured that the entire arrivals of sunflower in the mandies of the district are from the local mandi area. In fact sun flower from Punjab is also marketed in Ambala and Shahabad markets, because sunflower oil mills are located in these blocks.

Due to non-availability of data average figures for the period 1980-82 as suggested by the coordinator could not be worked out. In fact, after implementation of recommendations of the Technology Mission on Oilseeds and Pulses (TMOP), sunflower in the state was started during late 80s. However, data for last 30 years are enough to find out the status of sunflower in Kurukshetra as well as in the state. For example, average area under sunflower has gone down drastically after 1st decade and to some extent in the second decade. Further during the last 3 years it has almost gone down exponentially from 8 thousand hectares to 3 thousand hectares. Yield has not increased much, varying between 1200 kg/ ha and 2000 kg/ha. But on average there is continuous decline from 1908 kg/ha to 1830 kg/ha. If area has declined and yield not improved, naturally production has to come down, and that is what has happened, coming down from 11 thousand (1990-92) MT to 9 thousand MT (2010-12) and during the last years from 20 thousand to 6 thousand Metric Tonnes (table 2.19).

Table 2.19: Emergence and importance of sunflower in Kurukshetra district over the years (area '000 ha), (prod. '000MT)

District Kurukshetra	1990-92 (Avg.)	2000-02 (Avg)	2010-12 (Avg)	2008- 09	2009- 10	2010- 11	2011- 12
Area	6	1.25	5.2	11	8	4.6	3
Production	11.45	1.5	9.33	20	14	8	6
Yield ks/ha	1908	1200	1830	1818	1750	1739	2000

Source: District Statistical Diary of Kurukshetra

For district Ambala the only information available with regard to sunflower was area and that too for the last 3 years .i.e., 2010-11(130), 2011-12 (315) and 2012-13 (300) thousand hectares. There were no figures with regard to production or yield.

In table 2.20 time series data from 1989-90 till date that is even for the current year viz. 2012-13 are given. Average area under sunflower during the last 3 decades has remained less than 8 thousand hectares. Yield less than 1732 kg/ha and production 13.5 thousand Metric Tonnes

³ Girdawari is a local term used to enumerate the plot wise area, production, yield, irrigation etc. by the village revenue official (patwari). It is his duty to visit every filed and see by himself which crop is grown by which farmer in each and every farm filed.

(table 2.20). In other words, the annual average growth has remained almost stagnant, not traceable up to 2 decimal digits in the case of production and yield whereas in the case of area it is 0 even up to 3rd decimal digit. Another aspect is huge instability in area and thereby in production because yield has remained almost constant. The value of CV in both the cases is almost 80%. In other words not only there is no increase in area and production but there is huge variation also (table 2.20).

From the Agricultural Produce Market Committees (APMCs) of the selected blocks data of arrivals of sunflower were noted down and presented in table 2.21. The sunflower arrivals are almost constant in Barara and declined in the other two blocks therefore the average arrivals for the last three years are less than what they were in the base year, i.e., in 2010-11.

**Table 2.20: Area, Yield and Production of Sunflower - District Kurukshetra
(area '000hectare), Yield kg/ha, prod. (000 MT)**

Year	Area	Yield	Prod.
1989-90	1	1600	1.6
1990-91	1.5	1700	2.6
1991-92	10.5	1934	20.3
1992-93	8	2000	16
1993-94	4.9	2204	10.8
1994-95	11.6	1741	20.2
1995-96	19	1675	32
1996-97	26	1720	45
1997-98	19	1480	28
1998-99	13	1420	19
1999-2K	4	1320	5
2000-01	1	1350	1
2001-02	1.5	1330	2
2002-03	2	1800	4
2003-04	7	1610	11
2004-05	6.5	1800	12
2005-06	8.5	1640	14
2006-07	4.2	1515	6.4
2007-08	9	2035	18
2008-09	11	1890	20
2009-10	8	1760	14
2010-11	4.6	1869	8
2011-12	3.0	1991	6
2012-13	4.0	2182	8
Average	7.87	1731.92	13.54
Cgr	0.0003	0.0038	0.0024
CV	80.99	14.65	78.97

**Table 2.21: Emergence and importance of sunflower
(Block wise arrivals in qtls)**

Blocks	2010-11	2011-12	2012-13	average	cgr
Thanesar	4282	2938	1869	3029.67	-0.3393
Shahabad	115934	82815	92030	96926.33	-0.1090
Barara	3652	3460	3644	3585.33	-0.0011
Saha@	na	na	Na	-	-

@ There is no APMC in Saha. Most of sunflower arrives in Shahabad and Ambala city APMCs.

Source: Agricultural Produce Market Committees

In sum, sunflower in Haryana is mostly grown in two districts, Kurukshetra and Ambala, much of the processing facilities are located in Ambala and Shahabad cities of the two districts. Though sunflower is received from Punjab in Shahabad for processing but overall there is no rosy picture of sunflower in the selected villages, blocks, districts and in the state. Area under sunflower is on decline, yield though much higher than national average but still stagnant for the last many years, therefore production and arrivals are also declining. Finer details of production and marketing will be discussed in the following chapter.

Chapter III

Production and Marketing of Sunflower

As stated earlier, MIS basically is operationalized when market price of the commodity goes below the level of minimum support price and farmers are forced to sell below that level. The Governments (Centre as well as state) activate the nodal agency to procure the commodity at the MSP till the market price comes up to the level of MSP. Wheat, paddy, rapeseed and sunflower are covered under price support scheme. The basic difference between the two, i.e., PSS and MIS is that MIS remains in operation only for the period the market price levels with the MSP whereas the PSS remains in operation irrespective of the difference between the market price and the MSP. The purpose of both appears to be the same. But PSS also helps to maintain the food security, because food grains are procured for the public distribution system. However, there are tricks with procurement agencies if they do not want to procure under the PSS. Directly the agency does not refuse but many other pleas are invented such as the moisture content being above the permissible limit or the shortage of packing material like jute bags and so on, which was happening in the state for a couple of years with regard to procurement of wheat during the times when FCI go downs were overflowing.

The two important crops covered in the state for a few years under the PSS/ were rape seed mustard and sunflower. After bringing the edible oils in the Open General License List, imports of edible oils, soybean and palm oil specifically, shot up from near about a lakh tonne in 1993-94 to around 80 lakh tonnes through the years, crossing **one crore tonnes of imports in the crop year 2011-12. Now the country is fulfilling more than 50% of its demand by importing edible oils**⁴. The huge imports caused a lot of pressure on the demand of domestically produced oils like rape seed oil as well as on the oil ghanies, expellers and solvent extracting sector. Moreover, the imported oils (both palm and soybean) were odourless and colourless which could be easily mixed with rapeseed oil. As the imported oils were much cheaper, the rogue traders in absence of strict implementation of food safety and standards spoiled the demand for domestically produced rapeseed mustard oil. Hence, a huge instability prevailed in the rapeseed mustard oil sector. A number of studies pointed out the short comings, in the tax structure specifically⁵. The OGL and tariff structure facilitated enhanced quantity of imported crude edible oils, attracting investors for creating 15 million tonnes capacity for refining in the country which was probably the key interest of the suppliers of refining technology at that time. But now the tax structure needs reconsideration because to help their refining sector, both Indonesia and Malaysia, the main suppliers of palm oil to India, have provided incentives to their exporters. Earlier the difference in imported crude and refined oils was ranging between 80 to 100 US dollars, 90\$ per Metric Tonne on average, which now is hardly 10 dollars a Metric Tonne, leading to imported refined oils being cheaper than domestically refined edible oils. Thus threatening the very existence of the domestic refining edible oil industry which invested about Rs. 10000 crore and employs about

⁴The Economic Times February 14, 2013.

⁵ See for example: Bhupal, D.S, Likely impact of liberal imports on edible oil sector in Haryana, AERC, Delhi, 2001

Bhupal, D.S. :Likely impact of liberal imports on edible oil sector in India – A consolidated Report of AERC studies AERC, Delhi, 2003;

Acharya, S.S.: Rajasthan Farmers loose Rs. 1000 million in rapeseed, Report submitted to the Govt. of Rajasthan, 2000

5 lakh people.⁶ The depressed demand of domestically produced oils will also create pressure on the production of oil seeds in the country, as it did during the late nineties.

The increasing import bill of edible oils which crossed \$10 billion in 2012-13 from \$9.7 billion a year earlier is another strain on the current account deficit (CAD) along with import of gold and fossil fuels. The pricing policy⁷ in favour of paddy and wheat, rice specifically, can also cause serious damage to soil health in the country in general and Punjab and Haryana in particular, where falling soil fertility and ground water table are crying for substantial and early change in cropping pattern too. Need not to say that coarse cereals and edible oil seed crops, sunflower included, will be preferred crops for change in cropping pattern.

Oilseed production dropped almost 8.25 per cent to 29.79 million tonnes in 2011-12 (November-October) because of low kharif harvest. In 2012-13 too oilseed production is expected to be only marginally better than last year because of poor rains in the main growing regions of Maharashtra and Gujarat. It is estimated to be around 31 million tonnes.

India every year needs an additional 6-7 lakh tonnes of edible oils, for which oilseed production has to increase by at least five-six million tonnes, which seems difficult, if not impossible, considering that India's average domestic oilseeds production during 2001-2011 was less than 24.5 million tones, and has been stagnating at around 28-30 million tonnes for some years⁸.

To increase domestic supply of edible oil seeds, which the government is under pressure to think with the given current account deficit and urgent need of change in cropping pattern in major cereal producing states, the price policy pronounced through MSP and implemented through PSS and MIS has to be reconsidered specifically keeping in mind the cost of cultivation and margins of the farmers rather than other factors which compelled the APC earlier and the CACP now to announce seemingly irrelevant MSP of some crops. Enough evidence is available in literature to show that considering the susceptibility of oils seed crops to pests and weather, price factors impact area response of oilseed crops significantly.

Table 3.1 adapted from B. Jha, 2012⁹ shows the commodities under MIS and PSS in different states.

Because our mandate is to analyze PSS for sunflower in Haryana we are mentioning in brief about a competing crop rapeseed mustard. Table below sourced from the Directorate of Rapeseed Mustard Research, Bharatpur, Rajasthan shows trends in area, production and yield of the crop in the country for last some years.

⁶ The Economic Times dated July 19, 2013

⁷ There is a strong lobby which still believes that country should import those commodities which cannot be produced competitively in the country, rather it should focus on producing foreign exchange earning commodities like Basmati rice.

⁸ Agricultural Statistics at a Glance

⁹ Brajesh Jha, 2012 Study proposal Evaluation of Price Support and Market Intervention Scheme

Table 3.1 commodities under MIS / PSS in states

<i>State</i>	<i>Commodities under MIS</i>	<i>Commodities under PSS</i>
Andhra Pradesh	Oil palm, Chilly	Milling copra, Cotton, Sunflower, tur
Haryana	-	Sunflower, Mustard
Himachal Pradesh	Apple 'C' grade	
Karnataka	Oil palm, Arecanut	Ball copra, Sunflower, Safflower, Tur
Kerala	Black Pepper	Milling copra, Ball copra
Madya Pradesh		Urad, Mustard
Maharashtra		Tur, Sunflower, Safflower
Mizoram	Chillies, Ginger, passion fruit, Chow- chow (Iskut)	
Rajasthan	Onion, Garlic	Gram, Mustard
Uttar Pradesh	Potato	Groundnut, Mustard
Uttarakhand	Apple-'C' grade	
West Bengal	Potato	Sesamum

Table 3.2: Area, Production and Yield of mustard in India

	2002-03	2003-04	2004-05	2005-06	2006-07	2007-08	2009-10	2010-11	avg	cgr	cv
Area (Mn Ha)	4.54	5.43	7.32	7.28	6.79	5.82	6.30	5.77	6.16	0.020	15.58
Production (MnT)	3.88	6.29	7.59	8.13	7.44	5.83	7.20	5.59	6.49	0.028	21.31
Yield Kg/ha	854	1159	1038	1117	1095	1001	1142	1142	1068.50	0.022	9.59

Directorate of Rapeseed mustard research

Table 3.2 shows that the increase in area, yield and production of rapeseed during the last 7-8 years has been not very strong. There has been only 2% annual increase in area and yield and about 3% in production with double digit variation in all three. Certainly 5-6 million tonnes additional annual need of oilseeds cannot be met with such a meagre growth in one of the important oilseeds. Alongwith production methods to improve yield and thereby production, efforts to assure the farmers of proper returns will be needed to be made. Because we know this like other oilseed crops is most suspetible to pests and weather conditions. A little adverse change can damage the entire crop and thus putting the farmers to a greater risk. To ensure stable returns price policy needs to include cost of cultivation and reasonable extra returns to maintain the farmers' interest in the crop. Gainful MSP and assured procurement through PSS can be helpful.

Table 3.3: Details of procurement of mustard seed by the NAFED through the years under PSS

Mustard seed	Support priceRs/ qtl	Qty procured MT	Value Rs lakh	Major states
2000-01	1100	247933	28114	Raj,MP,Guj,UP,Har
2001-02	1200	329524	39543	Raj,MP,Guj,UP,Har, Del
2002-03	1300	469000	63330	Raj,MP,Guj,UP,Har, Del, Pb, Chd
2003-04	1600	10	2	Raj
2004-05	1700	403031	71290	Raj,MP,Guj,UP,Har, Chh, Pb.
2005-06	1700	1998969	364708	Raj,MP,Guj,UP,Har,Chh, Pb.
2006-07	1715	1913437	341344	Raj,MP,Guj,UP,Har, Del
2007-08	1800	1923	340	Raj,MP,Guj,UP,Har, Chh, Pb

Source:NAFED web cite

Comparison of both tables 3.2 and 3.3 for relevant years shows that procurement of the commodity has been varying between almost nil in 2003-04, about 12% a year earlier in 2002-03 to around 25-26% during the years 2005-06 and 2006-07. Again it was almost nil in the year 2007-08.

The inconsistency and instability prevail not only in area and production but also in procurement of the produce as well at national level vis-à-vis almost secular increasing trend of edible oil consumption in the country. Rajasthan, Haryana, MP and UP are major rapeseed mustard producing states in the country. Table below shows the pattern.

Table 3.4: State wise production of rapeseed/ mustard (Mn. Tonnes)

	2009-10	2008-09
STATE	Rabi /Total	Rabi /Total
Rajasthan	2.95	3.50
Haryana	0.85	0.90
Madhya Pradesh	0.85	0.74
Uttar Pradesh	0.68	0.99
West Bengal	0.44	0.32
Gujarat	0.34	0.33
Assam	0.13	0.12
Bihar	0.09	0.08
Punjab	0.04	0.03
Others	0.24	0.19
All India	6.61	7.20

Directorate of Rapeseed mustard research

Table 3.5 presents production, arrivals and procurement of rapeseed mustard in Haryana. The procurement was undertaken by the Haryana State Cooperative Supply and Marketing Federation Ltd. (HAFED) on behalf of the National Agricultural and Marketing Federation (NAFED).

Table 3.5: Production, procurement, arrivals and MSP of Rapeseed in Haryana

Rabi year	Prod. Lakh MT	Arrivals Lakh MT	Procurement MT	MSp Rs/ Qtl	Arrivals % of prod.	Procure as % of arrivals	Procure as % of prod.
1997-98	10.08	2.34	12370	890	23.21	5.29	1.23
1998-99	3.68	1.41	341	940	38.32	0.24	0.09
1999-2000	6.15	0.08	50	1000	1.30	0.63	0.01
2000-01	5.95	1.38	25568	1100	23.19	18.53	4.30
2001-02	5.6	1.36	36031	1200	24.29	26.49	6.43
2002-03	8	2.54	75367	1300	31.75	29.67	9.42
2003-04	6.94	1.57	0	1330	22.62	0.00	0.00
2004-05	9.57	0.38	0	1600	3.97	0.00	0.00
2005-06	8.26	3.78	306275	1700	45.76	81.03	37.08
2006-07	7.92	5.15	459126	1715	65.03	89.15	57.97
2007-08	8.02	0.62	0	1715	7.73		
2008-09	5.34	0.42	0	1800	7.87		
2009-10	8.98	0.57	0	1830	6.35		
2010-11	9.63	0.35	0	1830	3.63		
2011-12	10.5	0.65	0	1850	6.19		
20012-13@	11.4	0.12	0	2500	1.05		
CGR	0.0360	-0.0787		0.0615			
Average	7.88	1.42	57195.50	1518.75			
cv	27.09	100.05	230.21	28.56			

@Up to 6th June 2012

Directorate of Agriculture and Directorate of Economics and Statistics, Haryana

Table 3.5 shows that Haryana produces between 12 to 20% of mustard in the country. The highest 20% was achieved in 2002-03, when the total production in the country was lowest. Up to 2009-10 it has ranged between 10% and 12% of the production in the country. However, in the year 2010-11, it has reached about 17% of total production in the country. As far as procurement is concerned, it varied between almost nil (0.24%) in 1998-99 and about 89% in the year 2006-07 of arrivals of mustard in the markets of the state, and 2006-07 was the last year of mustard procurement after which it has been suddenly stopped completely. The procurement as percentage of production in the state was between nil and 58% during the periods mentioned above.

As the production of mustard since stoppage of procurement does not show any major decline or instability there seems no relationship between procurement and lagged production as well as procurement and led production. In other words other factors than PSS do have role in the production and arrivals of mustard in the state. But that does not mean that assured returns will not boost the area, production and arrivals in the market.

Case of Sunflower:

Sunflower oil is an important edible oil world over. It is preferred by the consumers due to health reasons and by the farmers due to its short duration of about 100 days and cost benefit

considerations. It's a high yielding crop, has high adaptability potential to diverse agro-climatic and soil conditions, requires less irrigation thus suited to rain-fed conditions and is most suitable in water shortage conditions. Most importantly it is grown in summer when other crops do not compete with it. In India it gains importance also due to acute shortage of edible oils. In North Indian states it gains importance due to pressing need of change in cropping pattern. In Punjab and Haryana it gives a very good combination with potato, other short duration nutritionally rich important crop.

Its importance was realized in the country when the Technology Mission on Oil Seeds and Pulses (TMOP) was established to boost domestic oil seed production. In fact the TMOP made important recommendations in the form of more area coverage under the oil seed crops, introduction of high yielding varieties of the traditional oil seed crops like rapeseed mustard and importantly introducing new oil seed varieties like sunflower, palm oil, soybean etc. The government under pressure of shortage of foreign exchange and need of boosting domestic production also intervened by increasing import duties on refined oils but reduced duties on import of new machinery for better oil extraction as well as facilitated foreign investment in the processing sector. By mid nineties the area under sunflower increased to 2.5 million hectares and production to about 2 million Metric Tonnes.

Table 3.6: Area (Mn. ha), Production (Mn. T) and Yield (kg/ha) of sunflower in India

Year	Area	Production	Yield
1993-94	2.67	1.35	505
1994-95	2.00	1.22	610
1995-96	2.12	1.26	593
2000-01	1.07	0.65	602
2001-02	1.18	0.68	577
2002-03	1.64	0.87	531
2003-04	2.01	0.93	464
2004-05	2.17	1.19	549
2005-06	2.34	1.44	615
2006-07	2.16	1.23	567
2007-08	1.91	1.46	765
2008-09	1.81	1.16	639
2009-10	1.48	0.90	607
2010-11	0.31	0.16	506
CGR (2001-	-0.045	-0.036	0.008
Avg	1.64	0.97	583.82
Cv	36.56	39.56	13.54

Statistics at a glance various issues

Table 3.6 gives details of area, production and yield level of sunflower in the selected years. Immediately after liberalization of oil imports and subsequent impact thereof is visible. Average area under sunflower has come down to 1.5 million hectares from about 2.5 million hectares in 1993-94. Similarly production has come down from 1.35 million metric tonnes to less than 1 million metric tonnes. Average yield is still under 600 kg/hectare. The area and production have

variation of about 40%, which gives an indication that some serious efforts will be needed in the sector to stabilize area and production and to bring yield level to the level in Haryana if not more. We know that yield in Haryana is more than two times of national average.

Sunflower in Haryana is a minor crop. In fact, the state plays a negligible role in the contribution of sunflower. Table below shows state wise production of sunflower in the country. Haryana's contribution in average production of sunflower in India is around 3.5%, while it covers only 1.2 % average area under sunflower in the country. Therefore share in production stands a good chance of enhancement.

Table 3.7: State wise production of sunflower (mn. tones)

State	2009-10		2008-09	
	Total	% share	Total	% share
Karnataka	0.30	35.29	0.50	43.10
A. P.	0.27	31.76	0.33	28.45
Maharashtra	0.11	12.94	0.16	13.79
Bihar	0.03	3.53	0.03	2.59
Haryana	0.03	3.53	0.03	2.59
Tamil Nadu	0.02	2.35	0.03	2.59
U. P.	0.02	2.35	0.02	1.72
Others	0.07	8.24	0.07	6.03
All India	0.85	100.00	1.16	100.00

Source: As above

Table 3.8: Area, Production and Yield of sunflower in Haryana

Year	Area '000 ha	Prod. '000 MT	Yield kg/ha
96-97	61.60	108.3	1758.10
97-98	34.7	50.3	1449.6
98-99	70	115	1642.9
199-00	7	10	1428.6
2000-01	10	15	1500
2001-02	5.7	8.8	1543.9
2002-03	5.6	8.6	1535.7
2003-04	20.7	30.7	1483.1
2004-05	7	11.6	1657.1
2005-06	15	25	1666.7
2006-07	15	25	1666.7
2007-08	24	38	1583.3
2008-09	20	33	1650
2009-10	15	25	1666.7
2010-11	10	18	1800.00
2011-12	10	18	1800.00
Average	20.71	33.77	1614.53
cgr	-0.054	-0.046	0.008
cv	0.93	0.96	0.07

Source: Directorate of agriculture

Area under sunflower and its production in Haryana show negative growth rates and yield has stagnated. Not only area and production are declining but there is significant variation also. Coefficient of variation is almost similar in both the cases and is significantly higher too, 93% and 96% respectively. In the case of yield if there is insignificant variation there is no improvement also. Though as compared to the yield rate in the country it is significantly higher, more than double, manifesting good opportunities for favourable cropping pattern in the state. But as there is no surety of market price and like other seasonally compatible edible oil crop mustard, sunflower also being susceptible to weather and pests, it has not become the preferable crop of the farmers. Therefore, marketing and price factor need to be looked into closely to know the real causes of declining trend in area and production.

Price and Marketing of sunflower:

In the marketing of agricultural produce there may be lot of saying that it is a state subject, the fact remains that it is only the Centre which through a number of interventions, procurement, storage (CWC), export/ import policy of the produce as well as of inputs and related infrastructure, direct monetary benefits in the form of subsidies, physical restrictions on movement of agricultural produce etc. determines the level and standard of marketing of agricultural produce in the country. Banning of cotton export, removal of Guar seed from futures, banning of onion exports or imports thereof are few examples of crude intervention by the centre. States' role is also important in both physical facilities like marketing, transportation and storage infrastructure as well as monetary incentives/ disincentives in the form of bonus on MSP, concessions on power, diesel and waiver of interest on loans.

As stated earlier, the country brought the edible oils on the OGL from 1st April 1994 when foreign dependence on edible oils was reduced to almost nil. During the year 1993-94 India imported only about 1 lakh tonne of edible oils, historically the lowest ever imports, which during 2011-12 has increased to 1 crore tonnes. Close examination shows that during the last decade (2000-01 to 2010-11) area under sunflower in the country and its production have been going down at compound annual rate of 0.045% and 0.036% respectively and there is a negligible increase in yield rate. Certainly growth rates of area and production are not better than negligible. Price disincentive (MSP) of all competing crops sunflower included, instability in returns of potato a most suitable compensatory crop in North India and liberal imports at lower tariffs (thanks WTO) etc. are important factors for the neglect of the crop.

On consideration of MSP and procurement two three issues emerge. MSP is supposed to be based primarily upon cost of cultivation and other factors which are never made known, particularly in the determination of MSP, contribution of factors like international situation (demand supply), available stock in the country, expected demand supply of the commodity vis-à-vis other competing commodities etc. Secondly there is no considered view point (particularly of the highest legislative body of the country) about the coverage of COC at least in the determination of MSP. Thirdly it is observed that MSP works as pivot price for the market. The market price during the peak season revolves around MSP.

Lastly determination of cost of cultivation (starting from primary data collection to calculations) needs a thorough review. We have checked COC of sunflower as well as of other oilseeds like groundnut for Punjab, the adjoining state and most compatible with the situation in Haryana for the years 1996 through 1998 (data for which was easily accessible) which surprisingly show decline in cost of cultivation of sunflower of around Rs. 2000/ha, from Rs. 14 thousand + per hectare in 1996 to 12 thousand + per hectare in 1998 and increase in COC of other crops including groundnut. For a year or two after 1996, data for all other sunflower producing states in the country show same trend. It is beyond understanding how could cost of cultivation of only one crop decrease? When we know that in cost 'C' seed and other crop specific inputs play a minor role. Also, for some years MS Prices of a number of commodities were not changed. Does that mean that there was no increase in cost of cultivation? We are aware that price level year on year basis in India has never been negative. Inflation which had been nil or for one or two years negative even is altogether a different concept.

In Table 3.9 we find MSP increasing at a negligible rate of 0.08% which is not compatible with price level of inputs determining cost of cultivation.

Procurement of a commodity is next step of MSP. Like determination of MSP, procurement has never been consistent and compatible with production or market arrivals. Many times it was not introduced even when market price was lower than the MSP. Procurement of sunflower was 7%, the highest ever of production during 2000-01. After that it has never reached even 1% of production. Trend of procurement vis-à-vis production is negative. The following table shows procurement of sunflower seed by the NAFED in the country.

Table 3.9: MSP and procurement of sunflower in India

Sunflower seed	MSP Rs/ qtl	Qty MT procured	% of prod.	Value Rs lakh	Major states
2000-01	1170	46430	7.143	5657	Kar, Ap, MP,Guj,UP
2001-02	1185	26	0.004	3	Chh
2002-03	1195	29	0.003	4	Chh
2004-05	1340	2393	0.000	315	Bihar, Kar
2005-06	1500	3218	0.201	469	Ap, Kar, Chh, Pb.,Bihar
2006-07	1500	3835	0.223	601	Chh, Wb, Bihar, Ap.
2008-09	2215	10335	0.000	2308	Kar, Mah, Ap
2009-10	2215	1690	0.263	761	Mah,Har,Kar, Ap
2010-11	2350	861	0.891	193	Haryana
2012-13	3700	339	0.019	125	Karnatka
cgr	0.079	0.145	-0.007		

Source: GOI as above

Sunflower marketing in Haryana:

Haryana is one of the few states in the country which have well developed regulated markets. Tables 3.10 and 3.11 below show state wise details of regulated markets in the country, area served by each regulated market, number of regulated markets needed, and

population using the facilities created in the regulated markets. In fact among the states, Punjab, Haryana, Rajasthan, Gujarat and Maharashtra are known for well regulated market system. In UP and Bihar probably regulation was never seriously implemented. We had some experience of few markets in UP from Varanasi, Meerut, Agra, Gaziabad etc. where regulation is only for the name sake and in Bihar it was never implemented and finally repealed. Area wise if we leave Union Territories or city states (not exactly in the sense of ancient Greek city states) like Chandigarh, Delhi etc. we find it is only in Punjab and Haryana where regulated markets serve smaller area, about 150 km² per market. So far as number of regulated commodities is concerned, virtually no agricultural product has been left out of the purview of regulation in the state. At least three states Punjab, Haryana and Rajasthan are well placed as far as provision of marketing and infrastructure facilities are concerned.

We have number of studies conducted in the state¹⁰ and therefore can write with confidence that it is not that with such a rosy picture of number of regulated markets and facilities therein, produce is not marketed in villages outside the notified area. In fact, keeping heavy village sale in mind and its logical benefits to the farmers as well as to the economy we have emphasized long back in 1989 the need to establish village purchase centres within a radius of 15 kms¹¹, which later on were established, but not exactly within that radius, somewhere even less than that and in few cases with a little wider radius.

Now most of the sale takes place in either local purchase centres or regular market yards. There is not a single centre exclusively established for the purpose of PSS in the state. Whatever is to be purchased/ procured by the nodal agencies it has to be from the regulated market system (Main Market Yard, Sub-market Yard or Purchase Centre) under the supervision of the concerned Agricultural Produce Market Committee (APMC).

Sale of sunflower takes place like any other commodity in the regulated markets. In Haryana almost entire sunflower is grown in two districts, Kurukshetra and Ambala, therefore marketing of sunflower also takes place in the regulated markets of these two districts. As we would see not all the mandies of these districts receive sunflower. Pehova market for example (table 3.16). Farmers and traders from Punjab also sell sunflower in Ambala and Shahabad regulated markets due to large scale processing of sunflower in Shahabad and Ambala.

¹⁰ Bhupal, D.S. Marketing of cotton in Haryana, AERC, Delhi, 1987, Marketing of vegetables in Delhi, AERC, Delhi 1989, Marketing of Agricultural Commodities and Input Supplies in Haryana, AERC, Delhi 1994, Economics of Mechanized and non-mechanized modes of transport in Haryana, AERC, Delhi, Regulated Markets in and around Delhi, AERC Delhi, 2004

¹¹ Bhupal, D.S : marketing of Cotton in Haryana, 1987

Table 3.10: Number of wholesale regulated markets in India (as on 31.3.2011)

Sr. No.	STATE/U.TS	NUMBER OF MARKETS			REGULATED MARKETS		
		Whole - Sale	Rural Primary	Total	Principal	Submarket Yards	Total
1	Andhra Pradesh	329	576	905	329	576	905
2	Arunachal Pradesh	6	63	69	16	113	129
3	Assam	405	735	1140	20	206	226
4	Bihar *	325	1469	1794	* APMR	Act	Repealed
5	Jharkhand	205	603	808	28	173	201
6	Goa	4	24	28	1	7	8
7	Gujarat	207	129	336	196	218	414
8	Haryana	284	189	473	106	178	284
9	Himachal Pradesh	42	35	77	10	38	48
10	Jammu & Kashmir	26	8	34	APMR	Act not yet	implemented
11	Karnataka	504	730	1234	152	352	504
12	Kerala	348	1014	1362	APMR	Act not	enacted
13	Madhya Pradesh	241	1321	1562	241	276	517
14	Chhattisgarh	2	1132	1134	73	112	185
15	Maharashtra	880	3500	4380	299	581	880
16	Manipur	20	98	118	APMR	Act not	enacted
17	Meghalaya	35	84	119	2	-	2
18	Mizoram	10	105	115	APMR	Act not	implemented
19	Nagaland	19	174	193	18	Nil	18
20	Orissa	398	1150	1548	45	269	314
21	Punjab	488	115	603	139	349	488
22	Rajasthan	431	312	743	129	302	431
23	Sikkim	7	12	19	1	-	1
24	Tamil Nadu	300	677	977	277	15	292
25	Tripura	84	554	638	21	-	21
26	Uttar Pradesh	584	3464	4048	249	356	605
27	Uttarakhand	36	30	66	25	33	58
28	West Bengal	279	2925	3204	43	641	684
29	A & N Island	0	0	0	APMR	Act not	enacted
30	Chandigarh	1	0	1	1	-	1
31	D & N Haveli	0	8	8	APMR	Act not	enacted
32	Daman & Diu	0	2	2	Reported	Nil	
33	Delhi	30	0	30	8	13	21
34	Lakshadweep	0	0	0	APMR	Act not	enacted
35	Puducherry	9	0	9	4	5	9
	Total	6539	21238	27777	2433	4813	7246

Note: -- * Bihar Agril. Produce Marketing (Regulation) Act Repealed from 1st September, 2006.

Table 3.11: Details of regulated markets in India (31.3.2011)

Sr No	Name of the State/UT	Area in Sq. Kms. *	Total Population *	Total Regulated Markets	Area covered by each Market in Sq. Kms. (Col. 3 / 5)	Requirement of Markets ** (Col. 3 / πr^2)	Population Served by each Market (Col. 4 / 5)
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1	Andhra Pradesh	275045	76210007	905	303.92	3501	84210
2	Arunachal Pradesh	83743	1097968	129	649.17	1066	8511
3	Assam	78438	26655528	226	347.07	998	117945
4	Bihar	94163	82998509	Act Repealed	0.00	1198	0
5	Jharkhand	79714	26945829	201	396.59	1015	134059
6	Goa	3702	1347668	8	462.75	47	168459
7	Gujarat	196024	50671017	414	473.49	2495	122394
8	Haryana	44212	21144564	284	155.68	563	74453
9	Himachal Pradesh	55673	6077900	48	1159.85	709	126623
10	Jammu & Kashmir	222236	10143700	0	0.00	2829	0
11	Karnataka	191791	52850562	504	380.54	2441	104862
12	Kerala	38863	31841374	0	0.00	495	0
13	Madhya Pradesh	308346	60385118	517	596.41	3924	116799
14	Chhattisgarh	135191	20833803	185	730.76	1721	112615
15	Maharashtra	307713	96878627	880	349.67	3916	110089
16	Manipur	22327	2388634	0	0.00	284	0
17	Meghalaya	22429	2318822	2	11214.50	285	1159411
18	Mizorum	21081	891058	0	0.00	268	0
19	Nagaland	16579	1990036	18	921.06	211	110558
20	Orissa	155707	36804660	314	495.88	1982	117212
21	Punjab	50362	24358999	488	103.20	641	49916
22	Rajasthan	342239	56507188	431	794.06	4356	131107
23	Sikkim	7096	56473122	1	7096.00	90	56473122
24	Tamil Nadu	130058	62405679	292	445.40	1655	213718
25	Tripura	10486	3199203	21	499.33	133	152343
26	Uttar Pradesh	240928	166197921	605	398.23	3066	274707
27	Uttarakhand	55845	8489349	58	962.84	711	146368
28	West Bengal	88752	80221171	684	129.75	1130	117282
29	A&N Islands	8249	356265	0	0.00	105	0
30	Chandigarh	114	900914	1	114.00	1	900914
31	D & N Haveli	491	220490	0	0.00	6	0
32	Daman and Diu	112	158204	0	0.00	1	0
33	Delhi	1483	13850507	21	70.62	19	659548
34	Lakshdweep	32	60650	0	0.00	0	0
35	Puducherry	492	974345	9	54.67	6	108261
	TOTALS	3289716	1084849391	7246	29305.44	41868	61895486

***SOURCE** : - Statistical Abstract India 2007 Published by Central Statistical Organization, Ministry of Statistics & Programme implementation, Govt. of India.

****One Market in the Radius of 5 kms as per National Commission on Agriculture.**

NOTE : -- Bihar Agril. Produce Marketing (Regulation) Act Repealed from 1st September,2006.

Details of all regulated markets and purchase Centres in both the districts are given below in table 3.12.

**Table 3.12: Regulated market yards and centres in Ambala and Kurukshetra
Distt. Ambala**

Principal Yards	Sub Yards	Purchase Centres
1. Ambala city	1. Subzi Mandi 2. Fodder Market 3. New Fodder Market	
2. Ambala Cantt	4. Subzi Mandi 5. Fodder Market 6. FCI Depot	
3. Barara		1. Ugala
4. Naneola		
5. Mullana	7. Kesri	2. Talheri Gujran

Distt. Kurukshetra

Principal Yards	Sub Yards	Purchase Centres
1. Thanesar	1. Kirmach 2. FCI Depot	1. Amin 2. Barana
2. Pipli	3. Jawahar Ganj Mandi	
3. Ismailabad	4. Jhansa 5. Thol	
4. Shahabad	6. Mkt. Shahabad 7. New Grain Mkt. Shahabad 8. Veg. Market 9. Ajrana Kalan	3. Nalvi 4. Charni Jatan
5. Pehova	10. Gumthala Garhu 11. Malikpur 12. Veg. Market	5. Bodhni 6. Karasahib 7. Neemwala 8. Bhorisaidan
6. Ladwa	13. FCI Depot	
7. Babain		

Source Haryana State Agricultural Marketing Board

Like many other districts in Haryana, both Ambala and Kurukshetra are well developed in infrastructure and well connected with the catchment villages. In fact in number of persons and area served they are better placed in comparison to some other districts like Sirsa Mahendergarh and Bhiwani.

Details of arrivals in district Kurukshetra and selected APMCs viz. Thanesar and Shahabad are given in Tables 3.13 to 3.15, 3.17, 3.19 and 3.20. Whereas details of arrivals in Ambala are give in tables 3.16, 3.18 and 3.21.

Table 3.13 Arrivals in Thanesar

COMMODITY	2009	2010	2011	2012	2013	CGR
Wheat	916250	955716	956339	908036	1283904	0.064
Barley	0	0	0	0	0	0
Oil seeds	89	51	139	126	478	0.532
Sun flower	9506	9169	4815	2938	1869	-0.355
Gram	0	0	0	0	0	0
Pluses	3048	2626	3225	2812	2094	-0.066
Paddy	1807109	2183943	1655039	2111500	2403736	0.055
Maize	388	310	111	376	12429	1.039
Baira	241	448	260	260	258	-0.040
Cotton	0	0	0	0	0	0
Jawar	0	0	0	0	0	0
Gur shakker	2166	2028	1766	1607	1587	-0.082
Apple	2286	2661	6868	6814	8756	0.437
Banana	19791	18044	20268	20283	19689	0.011
Onion	24848	24505	23037	30630	26890	0.039
Potato	47459	47479	50922	59562	39577	-0.014
Veg&fruit	241025	270135	293860	31709	23174	-0.495
Ground nut	0	8	0	0	0	0
Fodder	70095	62525	55484	53367	45304	-0.098
Others	41	48	12702	195316	185539	11.36
G.TOTAL	3144342	3579696	3084835	3425336	4055284	0.048

Source: APMC Thanesar

Table 3.13 shows that overall market arrivals in Thanesar have increased by 05% compounded annually during the last 5 years. But there is huge variation in arrivals of individual commodities. Many have gone down substantially while others increased. For example, arrivals of oilseeds have increased by about 0.5% annually whereas there is significant decline in arrivals of sunflower. The huge increase is noticed in others than those reported in the table.

Table 3.14: Arrivals in Shahabad

COMMODITY	2009	2010	2011	2012	2013	cgr
Wheat	574787	579441	655699	505765	781402	0.049
Barley	22	0	0	0	10	0
Oil seeds	13463	12858	10526	7290	35708	0.148
Sun flower	114749	118811	95974	82815	92030	-0.077
Gram	186	188	188	2347.43	833	0.737
Pluses	1220	1183	1195	556.39	532	-0.214
Paddy	1220502	1398146	1246000	1301119	1531110	0.039
Maize	4101	3126	8539	4068	4068	0.025
Bajra	322	184	155	90	2	-0.663
Cotton	0	0	0	0	0	00
Jawar	0	0	0	135	10	0
Gur shakker	1337	1175	842	803	744	-0.144
Apple	2222	2172	3944	2999	3828	0.151
Banana	9972	12000	13437	10165	10003	-0.016
Onion	16468	8451	10816	13251	13198	0.001
Potato	85990	63504	74386	122624	82922	0.060
Veg&fruit	88459	97706	100439	0	0	0
Ground nut	645	640	637	596	413	-0.092
Fodder	44158	44699	45272	37776	28330	-0.100
Other misc.	1406	1944	1338	1997.18	1980	0.07
G.TOTAL	2180009	2346228	2269387	2094397	2587123	0.023

Source: APMC Shahabad

The arrivals in Shahabad another important market in district Kurukshetra have similarly increased overall by 0.02% annually but with a huge variation commodity wise. Arrivals of oil seeds have gone up by about 0.15%, but decline in arrivals of sunflower by about 0.1% annually in this main market for sunflower does not auger well for the processing sector also, because, declining arrivals of sunflower in the district and other markets on the declining pattern of production of sunflower in the district reflect the status of sunflower in the state. But Shahabad is known for receiving sunflower from even Punjab, decrease in arrivals might be reflecting on the decreasing production of sunflower in other parts of the region also. There are reports that in Punjab where some years back about 70,000 hectares were under sunflower, now has come down to only 15,000 hectares.¹² As mentioned earlier, in district Ambala another important sunflower producing district area under sunflower and thereby production has almost banished that the department of agriculture has stopped even to enumerate the crop under a separate head.

Table 3.15: Arrivals in district Kurukshetra

COMMODITY	2009	2010	2011	2012	2013	cgr
Wheat	4647442	5117255	5343752	4565293	6389751	0.054
Barley	22	0	0	26	10	0
Oil seeds	16142	16847	15127	13802	46189	0.210
Sun flower	216917	206281	138815	115029	129599	-0.149
Gram	240	244	294	2620.43	1111	0.723
Pluses	6746	6276	7042	5754.39	4926	-0.069
Paddy	8489502	10406016	7738514	9019184	10347035	0.026
Maize	5217	4552	12934	29029	96097	1.155
Bajra	849	931	3780	3626	2393	0.409
Cotton	6	16	20	0	0	0
Jawar	230	240	214	326	10	-0.449
Gur shakker	6732	6452	3003	5853	4907	-0.070
Apple	12230	9923	16599	15524	18280	0.133
Banana	46942	51697	52403	46806	46562	-0.011
Onion	140451	113011	99496	118714	86593	-0.088
Potato	389935	365337	436489	470280	213981	-0.090
Veg&fruit	451734	502193	523244	447347	427845	-0.022
Ground nut	2693	2515	2262	2117	1482	-0.128
Fodder	158799	146644	134944	122309	97425	-0.109
Other misc.	0	0	12871	197	100	0
G.TOTAL	14594276	16960977	14543214	14995918	17926116	0.029

Source: HSAMB

Arrivals in Kurukshetra on the whole also show similar trend, an overall increase in arrivals of many commodities, oils seeds included, but there is decrease in some others including sunflower. In fact there is decrease in arrivals of sunflower in other markets of the district as well (table 3.17).

¹² The Indian Express dated February13, 2013

As far as arrivals in district Ambala are concerned, we find similar trend as was in Kurukshetra. Most of the commodities show similar signs. Important to us is trend in oil seeds which is positive, but like Kurukshetra there is decrease in arrivals of sunflower. Not only the signs are common but if we compare three years arrivals in Kurukshetra with that in Ambala total arrivals even show the almost same coefficient (table 3.16). In Kurukshetra it works out 0.12 whereas in Ambala it is 0.13.

Table 3.16 Arrivals in district Ambala

Commodity	2010-11	2011-12	2012-13	cgr
wheat	2048937	1827903	2767773	0.162
barley	720	837	940	0.143
oil seeds	7274	6988	8212	0.063
Gram	1478	1508	5025	0.844
pulses	6462	6278	4049	-0.208
paddy	4064386	4780819	5223255	0.134
maize	59254	88995	237422	1.002
jawar/bajara	33867	52822	15745	-0.318
gur	2904	3868	3306	0.067
Onion	131761	149171	152187	0.075
potato	248620	264690	213087	-0.074
fur.&veg.	166236	80573	77948	-0.315
Banana	52190	44396	33915	-0.194
Apple	29227	23636	23429	-0.105
chara	277965	251284	260897	-0.031
timber	44586	26700	63549	0.194
sun flower	52540	40114	41856	-0.107
Eggs (inTray)	320806	515124	479598	0.223
total	7549213	8165706	9612193	0.128

Source: Distt. Marketing Enforcement Officer H.S.A.M. Board, Ambala

Table 3.17: Sunflower arrivals in all markets of Kurukshetra (qtls)

	2009	2010	2011	2012	2013	cgr
Thanesar	9506	9169	4815	2938	1869	-0.356
Pehova	0	0	0	0	0	0
Ladwa	39066	30114	7878	5920	5764	-0.420
Shahabad	114749	118811	95974	82815	92030	-0.077
Ismailabad	17008	21746	14666	8557	13060	-0.136
Pipli	14980	12853	7289	6336	6498	-0.212
Babain	21608	13588	8193	8463	10378	-0.176
Distt.	216917	206281	138815	115029	129599	-0.149

Source: HSAMB

Table 3.18 : Sunflower arrivals in all markets of Ambala (qtls)

	2009	2010	2011	2012	cgr
Ambala Cantt	5568	6914	5312	6153	0.004
Ambala city	27941	35271	30243	28642	-0.008
Barara	7156	8858	3645	5460	-0.156
Naneola	neg	neg	neg	neg	neg
Mulana	491	1097	558	1000	0.157
Distt.	41665	52540	40114	41856	-0.025

Source: HSAMB ; Neg : negligible

Table 3.19 % Share of distt. Kurukshetra in sunflower in the state

Year	Area	Prod	Yield
96-97	42.21	41.55	97.83
97-98	54.76	55.67	102.10
98-99	18.57	16.52	86.43
199-00	57.14	50.00	92.40
2000-01	10.00	6.67	90.00
2001-02	26.32	22.73	86.15
2002-03	35.71	46.51	117.21
2003-04	33.82	35.83	108.56
2004-05	92.86	103.45	108.62
2005-06	56.67	56.00	98.40
2006-07	28.00	25.60	90.90
2007-08	37.50	47.37	128.53
2008-09	55.00	60.61	114.55
2009-10	53.33	56.00	105.60
2010-11	46.00	44.44	103.83
2011-12	30.00	33.33	110.61
avg.	42.37	43.89	102.61
CV	0.46	0.51	0.12
CGR	0.024	0.037	0.012

Source District Statistical Diary (various unpublished reports)

It is obvious that despite receipt of sunflower from Punjab in Ambala, share of Kurukshetra remains between 42-43%, with about 50% variation in the ratio. Also its share has been increasing though marginally through the years.

Secondly, in Haryana sunflower is a summer crop, i.e., sown in February and harvested in May, therefore maximum arrivals take place in 2-3 summer months of May and June

mostly and to some extent in July. Month wise arrivals in the Kurukshetra markets (table 3.20) manifest that in 2011-12 85% and in 2012-13 more than 90% of sunflower was marketed in June alone in all the markets, in May 8-10 % and rest 2 to 4% sunflower was marketed in July.

Table 3.20 Month wise Arrivals of sunflower in Kurukshetra markets

Year/Month	THANESAR	PEHOWA	LADWA	SHAHABAD	ISMAILABAD	PIPLI	BABAIN	TOTAL
2011-12	2938	0	5920	82815	8557	6336	8463	115029
April	0	0	0	0	0	0	0	0
May	520	0	313	7266	1260	864	1704	11927
June	2418	0	5463	71242	6820	5139	6713	97795
July	0	0	144	4307	477	333	46	5307
August	0	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0
January	0	0	0	0	0	0	0	0
February	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0
2012-13	1869	0	5764	92030	13060	6498	10378	129599
April	0	0	0	0	0	0	0	0
May	160	0	125	6966	648	407	1456	9762
June	1709	0	5629	83575	12185	5928	8064	117090
July	0	0	3	1489	227	163	858	2740
August	0	0	0	0	0	0	0	0
September	0	0	0	0	0	0	0	0
October	0	0	0	0	0	0	0	0
November	0	0	0	0	0	0	0	0
December	0	0	0	0	0	0	0	0
January	0	0	7	0	0	0	0	7
February	0	0	0	0	0	0	0	0
March	0	0	0	0	0	0	0	0

Table 3.21 Month wise Arrivals of sunflower in Ambala markets

Year/Month	Ambala Cantt	Ambala City	Barara	Naneola	Mulana	TOTAL
2011-12						
April	0	0	0	0	0	0
May	na	na	380	na	na	na
June	211	na	3029	na	na	na
July	na	na	51	na	na	na
August	0	0	0	0	0	0
September	0	0	0	0	0	0
October	0	0	0	0	0	0
November	0	0	0	0	0	0
December	0	0	0	0	0	0
January	0	0	0	0	0	0
February	0	0	0	0	0	0
March	0	0	0	0	0	0
2012-13						
April	0	0	0	0	0	0
May	na	155	420	na	na	na
June	593	1490	3130	na	na	na
July	na	na	94	na	na	na
August	0	0	0	0	0	0
September	0	0	0	0	0	0
October	0	0	0	0	0	0
November	0	0	0	0	0	0
December	0	0	0	0	0	0
January	0	0	7	0	0	7
February	0	0	0	0	0	0
March	0	0	0	0	0	0

Similar to sunflower arrivals in district Kurukshetra, arrivals in Ambala also take place in the summer months of May July. It further confirms that farmers do not hold the produce at all.(Table 3.21).

As far as procurement under the PSS by the HAFED / NAFED is concerned, it has never been substantial. In fact the intervention can be counted on finger tips. In Haryana total procurement of sunflower on behalf of the NAFED was undertaken by the HAFED and it was 164.8 MT in 2009-10 valued Rs. 36.5 lakh and 81.1 MT in 2010-11 worth Rs. 19.06 lakh. The total purchases made under PSS in the state (0.66% and 0.45% respectively of production) thus are not significant to make any dent on prices, production or cropping pattern, leave apart their impact on farmers' income.

Secondly, in the year 2009-10 when the MSP was Rupees 2215 per quintal, the HAFED purchased sunflower at the rate of Rs. 2114.80 per quintal, that is below the MSP.

In fact, the purchases made under the PSS were not only insufficient but the process adopted was also not as per the objective of the scheme. The purpose of PSS through its operational process

was to buy from the farmers directly so that the distress sale could be avoided or the farmers should be saved from depressed market prices. But in the case of sunflower sale in Haryana it was not like that. We were told by officials of both the corporations that government issues notification to buy specific commodity and the NAFED requests HAFED to buy on its behalf.

The representatives of the corporation go to the market, buy the commodity without bothering whether it was from the farmers or it was from the traders who might have already bought from the market. We have seen in the case of paddy and wheat procurement, two major commodities under the PSS that the representatives of the FCI or any other nodal agency go to the regulated markets buy the produce, weigh it, fill into the bags and then transport to their go downs/ ware houses.

Similarly sunflower after buying is stored in the go downs by the HAFED on behalf of the NAFED and it was up to the NAFED when to dispose it. Generally it has to wait for the instructions from the government for disposal. The difference in prices paid and received is made good by the government.

But it creates problems as the corporation has to make payment immediately but the money from the government comes after months sometime after years. As far as HAFED's cost benefit is concerned, it takes a fixed commission from the NAFED which is included in its total expenditures.

So the process and operation does not appear to meet the objectives. The whole process starting from the issuance of notification, procurement, quantity to be purchased, storage, disposal, and release of payment etc., therefore, needs a thorough review and modification to achieve the targets of PSS.

The following description gives further details of specification of the commodity.

NAFED specification for Procurement:

NAFED is the nodal agency of the Government of India for procuring sunflower in different states under the Price support scheme (PSS). The concerned State Co-operative Marketing Federations are the procuring agents for NAFED. Only one grade i.e. Fair Average Quality (FAQ) is prescribed every season for procurement of oilseeds including sunflower. All the purchases under the PSS by NAFED are made in accordance with this specification. Grade specifications of sunflower seed (Price support operations during 2004-2005 marketing season) were as follows:

Special characteristics Maximum limits of tolerance

(Percent by weight per qtl.) for FAQ,

1. Impurities (foreign matter) 2%,
2. Split or cracked seeds 3%,
3. Damaged & weevil led 4%,
4. Immature and shriveled 5%, and
5. Moisture contents 9%.

Foreign matter: includes the leaves, stems, stones, straw, chaff, lumps of earth, non-edible seeds or any other impurity. Damaged and weevil led seeds: shall be the seeds which are internally damaged or dis-coloured, broken and/ or wholly or partly bored/eaten by the weevil, materially affecting the quality. Immature and shriveled seeds: shall be the grains which are not properly developed and / or shrunken. Slightly damaged seeds: shall be the

seed which are externally or partly damaged or discoloured without affecting the quality materially.

Table No 3.22 gives Market fee, commission, taxes and miscellaneous charges of Sunflower marketing in major producing states in the country.

Table 3.22 market charges on sunflower in other states

State	Market fee	Commission	Sales tax	License fee	other
AP	1%	2%	4%	Rs. 600 For turnover of 1 crore+, Rs 400 for T.O. 0.5 to 1 crore, Rs. 200 for less	--
Karnatka	1%	2%	nil	Rs. 200	
Maharashtra	1%	2.5%	--	Rs. 200	
TN	--	--	--	Rs. 100 wholesaler Rs. 75 others	1% service charges
UP	2.5%	1.5%	4%	Rs. 250 wholesaler/ arhtia,mill/factory/ dalal, Rs.200 for store, transporter, Rs. 150 small mill, Rs100 retailer, Rs. 25 weigh man	0.5% Dalali of value of the crop

Source: Sub-offices of Directorate of Marketing and Inspection.

In Haryana, market fee is charged at 2 rates: 1% ad valorem for 21 commodities specifically listed for the purpose by the Haryana State Agricultural Marketing Board and 2% ad valorem on rest of the commodities notified. Sunflower is among the rest i.e., attracting 2% Market Fee ad valorem. In addition to wheat and paddy which attract different rates the following commodities along with sunflower attract the below mentioned rates of market charges and incidental charges. In fact Haryana has divided all notified commodities into 5 categories named 'A' commodities mentioned below are included in 'A' category, in category 'B' cotton, wool, groundnut and dry chilies are included, in category 'C' are included non-perishable vegetables like potato, onion, beetroot, arvi and garlic, in 'D' category perishable vegetable and fruits and in category 'E' commodities like fodder and grasses are mentioned. All categories attract different incidental charges and marketing charges.

Sunflower is included in category 'A' along with the following commodities with the rates mentioned below.

Bajra, Mash, Moong, Moth, Massar, Sarson, Toria, Tara Mira, Til, Methi, Sunehri, Oats, Gowar, Maize, Gram (Kabli & Black), Barley, Jowar, Dry Peas, Arhar, Gur, Shakkar, Khandsari, Ground-nut and Sun Flower Seed

In addition to market fee @ 2% rest of the charges on sunflower and above A category

Table 3.23 Market charges on sunflower in Haryana:

Incidental Charges (Payable by Seller)

	Rates in rupees per unit
1. Unloading Cleaning & Dressing	1.00
Fillings Manually	1.15
By Machine	1.50
(for rendering actual services. Nothing will be charged if produce is already cleaned.)	

commodities are as below:

Market charges payable by the buyer:

Filling & Placing the unit on the platform/balance.	0.87
Weighing	0.62
Unloading from the balance	0.47
Stitching Manually	0.35
By Machine	0.77
Auction Charges	0.08 per hundred rupees
Commission	2.50 per hundred rupees
Brokerage	0.16 per hundred rupees

Source: The Haryana State Agricultural Marketing Board (HSAMB)

The Haryana State Cooperative Supply and Marketing Federation Limited (HAFED):

As per the requirement of the study working of the state level agency (in the case of Haryana HAFED) involved in the PSS operations was to be evaluated and its efficiency was to be worked out. We collected information and obtained the views of its officials about the role of HAFED in the PSS operations of sunflower. Looking at the miniscule role in PSS regarding sunflower as compared to its overall working, turnover, business and activities, range of commodities and products, variety in operations and processing etc. it appeared that we will be evaluating the functioning of the whole human body- brain, organs, skin, bones etc just by studying a fingertip and that would have been unjustified. Therefore we dropped this objective. However, to fulfill requirement of the comments received from the coordinator, we are making a brief comment in the following paragraphs.

The HAFED was established in November, 1966, It was not meant to play any role in PSS for sunflower at that time. Moreover, sunflower was not heard of at that time. Now it is the largest state level cooperative body in India. The number of offices will substantiate this. It has its

corporate or head office at Panchkula with many regional and sales offices and properties in India¹³.

Since its establishment, it is playing a leading role in serving the farmers of the State as well as customers in India and overseas by providing a number of consumer products.

Its businesses and operations¹⁴:

It has the largest supply chain network up to the village level in Haryana state for distribution of Agri - Inputs like Fertilizers, Certified Seeds, Pesticides etc.

It is the largest Food Grains Procurement agency of the State.

It is a premier Warehousing agency of the State for scientific storage of Food Grains.

It has the largest chain of Agro - Processing units in the State.

It is a major supplier of Consumer Products and Cattle/Animal Feeds in the Domestic and Overseas Markets.

It has facilities for Contract and Organic Farming services to the farmers of the State

In addition to its operations, offices and properties in India its consumer products are exported from time to time in the countries like USA, AUSTRALIA etc.

Overall its financial operations are summarized below

Table 3.24 : Financial Performance of HAFED (Rs. In Crore)

Financial Year	Turnover	Net Profit
2007-2008	2628.00	58.68
2008-2009	3092.00	33.78
2009-2010	4253.55	43.45
2010-2011	5489.00	40.80
2011-2012	4690.74	41.04

Sunflower operations of the HAFED:

As stated above in Haryana total procurement of sunflower on behalf of the NAFED was undertaken by the HAFED and through the years so far it was 1648 quintals in 2009-10 valued Rs. 36.5 lakh and 811 quintals in 2010-11 worth Rs. 19.06 lakh. After considering the overall operations of the corporation vis-à-vis its role in procurement of sunflower can one work out the efficiency? And that is why we dropped this objective of this.

Process of Intervention/ procurement:

All the procurements under the PSS are to be made by the designated agency of the state government, which in the case of Haryana is HAFED, at MSP and as per the guide lines issued

¹³ See annexure 3.II for list of its offices.

¹⁴ For details see annexures 3.III

by the Government of India through the NAFED at time to time. As would be clear from Annexure 3.I, on announcement of MSP a letter from the NAFED is issued to the HAFED with an advisory to keep watch on prices with the beginning of the marketing season of the crop, in this case sunflower. If the market price goes down the MSP the government agencies are informed and decision is taken and conveyed through channels to go for procurement. The specific quality standards are also dispatched. The HAFED then is supposed to go the designated purchase centres and keep buying the produce at the MSP. The produce is stored in the go downs of the CWC/ HAFED etc. The HAFED has to wait for the directions to dispose of the produce. The loss is borne by the govt. through the NAFED, which includes some 2 and half percent of the margin and difference in purchase and sale price. Out of this 1% is reimbursed to the HAFED. All the financial transactions are undertaken through banks/ cheques.

The HAFED has purchased sunflower during two years from the two districts Kurukshetra and Ambala where sunflower in the state is produced and marketed. The procurement takes place mostly during the months of May-July. So far as costs of procurement are concerned, because all the transactions take place under the supervision of the APMC or under their jurisdiction, be it main market yard or sub-market yard or purchase centre, all the charges as clearly defined by the APMC (table 3.23) are paid by the stakeholders. The seller pays, for example, for unloading/ cleaning etc and the buyer pays for weightment, market fee, reloading, transportation from market or from purchase centre to its go downs. The details of the expanses are given separately. The sunflower operations in Haryana were so miniscule for the HAFED that nobody was able to give details of the disposal of sunflower. Generally the reimbursement from the government was hugely delayed. For example, the expenses incurred by the HAFED were yet to be reimbursed when we visited their office in the winter of 2012. As far losses in transportation were concerned they were almost negligible in the case of sunflower. Because most of the produce was purchased from APMC markets/ purchase centres which are well linked with roads and secondly, the HAFED has its storage facilities in Kurukshetra as well as in Ambala. The only problem if it can be considered as reported to us was that the HAFED was not well versed in the operations of sunflower because that was not a regular feature. And due to that they cannot create any infrastructure for sunflower. The major and only problem was late reimbursement of expenses.

Table 3.25 : Procurement of sunflower by HAFED (Lakh Rupees)

Financial Year	(quintals)	Value	margin	% of total profit
2009-2010	1648	36.5	0.37	0.0084
2010-2011	811	19.06	0.19	0.0047

If we consider table 3.25 vis-à-vis table 3.8 the procurement of sunflower during the two years was very limited, just 0.66% and 0.45% of total production of sunflower in the state, during the two years respectively.

Secondly, the returns from sunflower operations are again almost negligible as compared to its margin from other operations, which work out as about .008% and .005% respectively for the two years.

Effect on price: Working out impact on prices with just 2 observations and with almost negligible portion of total production will be a futile exercise. The only impact the miniscule procurement under PSS might have made could be a psychological. The other buyers would have

increased the purchase price to the level of MSP, had the HAFED itself paid the MSP, which in the year 2009-10 was not the case. MSP was Rupees 2215 per quintal but the HAFED Rs. 2114.80 per quintal. Obviously there must be some ground for the HAFED to paid lower than MSP and that could only be quality of the produce.

Household Level information:

In the following paragraphs we present household level information of respondents about their socio-economic conditions, status of agriculture and sunflower related issues of production and marketing. In table 3.26 size of land is in hectares per household and information related with animals, tractors, homes etc are total number in each size group of holding. Leasing of land both in and out takes place in each size group and total leasing may not match since leasing process is strictly not restricted to sample respondents alone. Land might have been leased in from and leased out to non-respondents households also. It is important to note that each household with land has about two milk animals irrespective of the size of holding. If small farmers have a little less than two, large size farmers have about 2 and half milk animals on average. It shows that rural economy is not totally about crops. Another important issue is related with tractors. In small size farms, 5 households have one tractor, in medium size about 2 households own one tractor and in large size group it is little less than one in each household.

Table 3.26: assets details of the respondents

Assets	Small	Medium	Large
Average Size of land (ha)	1.30	3.67	10.35
-Leased in “	4.0	1.22	3.50
-Leased out “	0	0.06	4.5
-Total “	5.3	4.83	9.35
Cropped Area “	5.3	5.08	9.35
- irrigated “	5.3	5.08	9.35
Total milk Animals	8	93	121
Number of Pump sets	0	0	0
Tractor (HHs)	1	23	39
Home Thatched	1	5	0
Concrete Roof	2	29	40
Other	2	9	8
Total hh	5	43	48

But none of the size group is without any sort of debt. In all about 40% households took loan, exactly 40 households falling in small size and half of the large size were in debt. Though total households belonging to medium size of holdings who took loan were the least among three groups of sunflower cultivators, but average amount of loan taken by that size group households was the highest. Mostly loan was shown as production loan. Secondly it was mostly from commercial banks. Loan taken from the commission agents (agricultural produce brokers) or from money lenders, relatives etc. was not revealed. Lastly, the average loan amount ranges between 2 to 4 lakhs. If it was crop loan, then maximum limit of Rs. 3 lakh loan through Kisan credit cards seems in proper order.

Table 3.27: Borrowings by different Categories of sample farmers

Details of debt	Small	Medium	Large	Total
Amount of loan taken (Rs.)	450000	4600000	8410000	13460000
No. of HHs taken loan	2	12	24	38
Source: Commercial Banks	2	7	16	25
Purpose of loan (for Prod.)	1	3	16	20
Rate of interest (per annum)	Not available			
avg amt of loan	225000	383333.3	350416.7	354210.5
% hh borrowed	40	27.9	50	39.58

Table 3.28: Cropping pattern gross cropped area per hh

Crop	2010-11			2011-12		
	Small	Medium	Large	Small	Medium	Large
Barseem	0.2	0	0.20	0	0	0.61
Churry	1.80	1	2.99	2	1.3	2.3
Chili	0	0.40	1.00	0	1.21	0.2
Fodder	0	1.42	0.42	2.3	1.20	1.3
Gram	0	0.00	0.20	0	0.00	0.20
Jowar	0	0.00	1.42	1	0.00	0.10
Lentil	0	0.00	0.20	0	0.00	0.20
Maize	0	0.20	0.30	0	0.70	0.90
Moong	0	0.20	0.40	0	0.40	0.30
Mustard	0	0.40	1.00	0	0.20	0.84
Onion	0	0.00	0.23	0	0.00	0.12
Paddy	2.2	1.60	4.30	1.7	1.30	4.30
Potato	0	0.48	3.00	0	0.60	1.10
Pulses	0	0.00	2.02	0	0.00	0.20
Sugarcane	0	1.71	1.40	0	1.20	1.00
Sunflower	1.7	1.10	2.40	1.11	1.20	2.10
Urd	0	0.61	0.40	0.00	0.00	0.60
Tomato	0	0.00	0.40	0.00	1.42	0.40
Wheat	4.7	4.00	4.20	2.00	3.00	5.50
Total	10.6	13.13	26.50	10.11	13.73	22.27
Sf as %	16.04	8.38	9.06	10.98	8.74	9.43

Sf= sunflower

In Table 2.28 grossed cropped area by each size group during the two years 2010-11 and 2011-12 show that percentage terms of GCA small size households have devoted the highest share 16% and 11% of area to sunflower during the two years. The share of sunflower in medium and large size farms remains 8-9% in both the years. It shows the relative importance of the crop to

different size groups. Paid out costs of production (table 3.29) and marketing (table 3.32) show that a substantial part of costs goes in production process, whereas marketing costs are almost negligible. Table 3.30 shows that almost entire produce is marketed, a negligible part of the produce was retained by the large size households, may be for the purpose of seed for the next year, or may be for extraction of oil for household consumption. Price received by the households in 2010-11 was less than the MSP and a little over the MSP in the year 2011-12. Interesting is to note that there was no PSS operation in the year 2011-12 and despite the procurement by the HAFED under PSS in 2010-11 farmers received prices less than MSP. Probably they could not have got that price, had there been no PSS procurement during the year.

Table 3.29 Production cost (Rs/ ha) Sunflower

Detail of cost items	Kurukshetra	Ambala	Wt avg
Land preparation Cost	633.84	915.42	746.47
Cost of Material (Seed, fertilizers, chemicals)	753.94	1376.52	1002.97
Cost of irrigation	272.69	535.00	377.61
Cost of labour	258.21	388.58	310.36
Cost of hired equipments	33.71	178.14	91.48
Other cost (if any)	40.61	63.21	49.65

Wt avg= weighted average

Table 3.30: Sunflower production and its disposal pattern for 2 years (qtls)

Crops	Production		Retained		Marketed		Price (Rs./qtl)	
	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12	2010-11	2011-12
Small	75	50	0	0	75	50	2300	2850
Medium	408	463	0	0	408	463	2340	2800
Large	965	882	18	15	947	867	2345	2800
All Sizes	1448	1395	18	15	1430	1380	2341	2802

Table 3.31: Different Marketing Channels for sample farmers

	Marketing channel	% sold	Price (Rs./qtl)
Sunflower	Producer-commission agent-buyer	100	2802

Table 3.32: Marketing cost of sunflower at farmers levels (Rs./qtl)

S. No.	Cost incurred	Kurukshetra	Ambala	(MIS/PSS)
i.	Picking, filling in boxes/bags	0	0	na
ii.	Depreciation of container	0	0	na
iii.	Transportation costs (multiple points)	141.76	46.62	na
iv.	Labour charges for loading/unloading cleaning	6.09	2.74	na
v.	Octroi/marketing tax	0	0	na
vi.	Commission in market	0	0	na
vii.	Other expenses if any	0	0	Na

As far marketing channels and market charges are concerned, for the producers there is only one channel in the market, seller – commission agent – buyer, and it works as follows: produce is brought at the commission agent/ trader’s shop, exhibited for inspection, cleaned/ sifted if need be, put to auction, the highest bidder is entitled to buy, produce is weighed and filled in bags and taken off the market. The highest bidder can be local mill owner which generally is in Shahabad and Ambala markets, the commission agent himself or on behalf of the buyer, or the nodal agency (HAFED). In the village sale the produce is inspected by the itinerant trader at the house of the farmer, price is mutually agreed, produce is weighed by the trader and loaded in his own transport after collecting such buyings from different farmers it is taken to the market where it is sold through the commission agent or direct to the mill owner. At the purchase centre, the produce is sold like village sale because number of buyers is limited. Only transport charges in the market sale from field to market are borne by the seller. From market to go down or mill transportation is the buyer’s responsibility. In village sale farmers save on transport costs too. Labour charges for unloading the produce in the market, exhibition and dressing, cleaning sifting etc. of the produce are payable by the seller.

The variation in charges (table 3.32) is visible due to the operations and distance.

From the above discussion and data it is obvious that PSS operations in the case of sunflower marketing in Haryana are very limited. However, as it directly affects the farmers’ income, cropping pattern and to some extent quality of their living, they had their views and opinions which are summarized as follows:

Table 3.33: Farmers perceptions about MIS/PSS operation

Rejection of produce by buyers	% of sample farmer reporting particular problem
Output rejected (in qtls) By Government agency By Private traders	Nil Nil
Rejection stage of produce At the level of field In the market	Not applicable (na) Cleaning/ sifting is required, but no rejection
Possible reasons for exclusion of farmers from MIS/PSS Farmers not aware of MIS/PSS Farmers not interested in selling through MIS/PSS Others	Yes, to some extent No option available Nil
Perception about the results/outputs of MIS/PSS MIS/PSS helped in increasing area under targeted crop MIS/PSS covered cost of production of targeted crop Increase in farm income after implementation of MIS/PSS	No idea No idea To some extent

Opinions about constraints in operation of MIS/PSS: As far as problems of different stakeholders in operation of MIS and PSS are concerned, constraints faced by nodal agency in MIS/PSS operation are: The nodal agency, in this case HAFED, buys for a fixed commission on

behalf of the NAFED, which in return intervenes on the instructions of the Central government. Therefore there is no scope to operate on the professional lines. Similarly they cannot sell at their own. They have to wait for the government's directions. Secondly, payment is not received immediately, putting the agency in financial hardships. Thirdly, in the case of sunflower, PSS operations have been rare, so the agencies do not have any expertise to handle the crop while buying, storing or even disposal. They cannot make appointments on permanent basis for these occasional operations, nor can they create any permanent infrastructure, arrange training for their staff etc. Due to its negligible level, both the officials of the HAFED and the NAFED at Chandigarh, therefore, appeared not very enthusiastic about PSS in sunflower.

Table 3.34: Problems perceived by sample farmers in marketing of sunflower (n= 96)

Constraints	% of farmers reporting the problems
Existing market price of produce is not sufficient	98
Market intervention price announced is not adequate	100
Packaging material is costly	35
Packages/ container not returned to the growers (as per agreement)	na
Price volatility of targeted crop in whole sale market	46
Cheating by middlemen:	
a. in price	10
b. Weighing	2
c. Other problems in selling produce	38
Non- availability of Transport	2
High commission charges from middlemen	0
MIS/PSS operation are irregular	100
Regulated market is too far	5
Non-availability of cold storage/ warehousing facility	4
Lack of processing units	2
Delay in payments	96
Extent of organized market of targeted produce:	
a. distance of regulated market	No answer
b. existence of village market /daily hat in nearby village	do
Reason for not sell to PSS/MIS	Not in operation
a. Long Distance: Low Moderate High (< 5 km), (5-10 km), (>10 km)	
b. Delay in Price received	NA
c. Discrimination on the basis of standard of produce/quality	NA

Opinion of District Agriculture officer about MIS/PSS nodal agency:

No opinion was expressed as the crop covers a miniscule area, and also PSS is not a regular feature.

Opinion of APMC officials about MIS/PSS: No opinion was expressed as they handle PSS in sunflower as sale of sunflower to any private trader.

Opinion of Village Pradhan in implementation of MIS/PSS

Village pardhans were interested in PSS with the hope that it would increase the price of sunflower thereby their returns.

Based upon the available information about the level of PSS in the case of sunflower in Haryana one can raise question about the relevance of the scheme. In fact by looking at the coverage of area under sunflower, yield, and production of sunflower in the state one cannot find any impact of the two-three years' limited intervention. The farmers and agricultural and marketing officials also did not argue very strongly in favour of the efficacy of the scheme.

But looking at the need of the edible oilseeds, needed change in cropping pattern etc. measures to improve yield, area and production will be essential and need to be emphasized.

Sum up:

To sum up the analysis we take up the main objectives of the study one by one.

The first objective was to analyze the extent of coverage of PSS with respect to **farmers of sunflower in the chosen districts (Kurukshetra and Ambala)** and the Haryana State. With the information available one can say that sunflower in Haryana is very limited, restricted to two districts, Kurukshetra and Ambala. Secondly, not many farmers grow sunflower. In fact, not a single marginal farmer was found cultivating sunflower. Also, sunflower is grown on a very small area. It is so negligible that in Ambala the crop has been stopped to be enumerated separately. It is covered under rabi oils seeds and no mention is found in official publications. It is also noticed that area under sunflower is continuously declining with huge variation and yield stagnating for last many years whereas the area under the crop is declining. Production therefore has been falling. Role of PSS in the case of sunflower in Haryana has remained very restricted so far that only in two years of its entire history in the state procurement of sunflower under the PSS has been made and that too to a very limited extent, not even 1 % of market arrivals were procured. Out of the two years in the 2009-10 the procurement was made even below the MSP.

The second objective was to ascertain the socio-economic **factors that influence coverage** of villages and farmers in PSS. It has been noticed that none of the marginal farmers was involved in sunflower cultivation. Clearly the size of land holding does affect the sunflower cultivation in the state and to that extent coverage under PSS. Moreover, because the operations under PSS have been very limited, therefore, no systematic efforts have been made by the nodal agency to put in separate arrangement for sunflower procurement, and that has been rightly so. They have been going to the market and making purchases. Also, most of agricultural produce under PSS, wheat, paddy or bajra is procured from the regulated markets. No separate arrangements are made for procurement of these commodities also. However, for sunflower some purchase centres have been earmarked in both the districts which are not specifically established for the purpose. In sum, sunflower farmers of every size, community, with varying economic status sell in the market from whom the nodal agency buys. Therefore one can say that with very limited number of farmers and in a limited area almost each and every farmer has a fair chance to be covered under the PSS. Moreover, the PSS operations in the case of sunflower were supposed to be during the period when the market prices were going below the MSP, which happened only on a few occasions and therefore conceptually there was no need of intervention.

The third objective was to understand **problems of different stakeholders** in operation of PSS. The main stakeholders with regard to PSS in the case of sunflowers are farmers, nodal agency- The HAFED, APMCs, processors and traders in sunflowers in addition to the government's

different departments such as food and civil supplies which are supposed to maintain demand supply balance of edible oils, department of agriculture which along with others are supposed to keep a close watch on the soil and water health of the area, so on and so forth. But we are concerned here only with directly affected stake holders, viz. farmers, nodal agency and marketing organization. We find that farmers as stakeholders have concern with MSP and its implementation, but they were neither well aware of the functioning of the HAFED and nor its role in implementation of the PSS, basically because it was implemented only for two years so far. The village pardhans as farmers representatives did express their interest in higher MSP and its effective implementation. The nodal agency was quite reluctant with regard to PSS operation for sunflower and that was also because so far they were asked only twice to go for sunflower procurement. Even very senior officers of the HAFED were not sure initially whether they were buying sunflower at all. However, those involved in implementation did express their anguish about belated reimbursement of the money spent on PSS operations with regard to sunflower. APMCs were not affected directly as they get their statutory market fee. However if prices were higher their revenue would increase proportionately. Also they do not have to make any extra arrangements with regard to PSS operations for sunflower.

As we have mentioned earlier the impact of PSS in the case of sunflower on its market price was almost insignificant, because only twice the PSS was operationalized and that also to a very limited extent. The only effect of sunflower procurement was in bringing up the market price to the level of MSP and also to create a psychological impression in the market. In that the basic objective of the scheme seems to be met.

In sum, level of PSS in sunflower is very limited on both the counts, total years it was operative in Haryana and to the extent procurement as a proportion of arrivals was made. Therefore, in the case of sunflower in Haryana, PSS per se appears to be superfluous. Its limited level cannot make any impact on farmers' income and returns leave apart its impact on area and production. The maximum it could do was to motivate the other buyers to offer higher prices, (to the level of MSP, because under PSS the procurement is made at the MSP) and thus serve the basic objective of the scheme. But surely had there been no intervention (how so ever limited) and consequent uplift in the market mood thereafter, the farmers' returns could have fallen further.

Secondly, the fiancé ministry and the RBI are looking for any support where they could save on foreign exchange to stabilize the falling Rupee, be it restrictions on gold imports and the like. On the other hand we are bound to spend up to 10 billion dollars on edible oil imports and the demand for edible oils is continuously on the increase, needing every year 6-7 lakh tonnes additional availability of edible oils, and if it is to be met from local resources 5-6 million tonnes of additional edible oil seeds have to be produced which can take place only if the remuneration of farmers through the higher MSP is increased that is additional oilseeds are procured under the PSS at a reasonably higher MSP.

Thirdly, spoiled soil health in the state due to wheat paddy crop rotation, specifically in Kurukshetra and Ambala, the districts where sunflower is struggling for survival, depleting ground water table and pressing need of the surface water for non-agricultural uses in the NCR region, Delhi surrounded from 3 sides by Haryana particularly, need urgent and strong action for change in crop rotation in favour of coarse cereals and edible oils, sunflower in particular.

Fourthly, other complementary crops potato and groundnut are equally meaningful from the point of view of their need to the economy and suitability in the area where sunflower is grown. Hence, promotion of sunflower needs urgent attention.

And lastly, price factors play very significant role in promotion of weather and pests prone crops like edible oilseeds, including sunflower. Hence, a comprehensive plan, including assured returns through MSP/PSS, seems need of the hour.

In other words, some arrangements to promote sunflower in Haryana should be made on priority basis because in addition to above factors we have seen yield rate in the state is much higher than the national average. That is to say more revenue to farmers and also less use of precious land and water resources. For that a clear cut sunflower promoting policy frame work on both counts viz. non-price and price factors to increase production as well as farmers' income will be needed. A detailed comment on the policy proposal will be made in the next chapter.

Annexure 3.I

Process for intervention under the PSS

HO/PSP/KHARIF-2012/2012-13/
The Chief Executive,
State Cooperative Marketing Federations/
Oilseeds Growers' Cooperative Federations

17.08.2012

Subject: Fixation of Minimum Support Prices for Kharif crops of fair average quality of pulses- Arhar(Tur) & Moong of 2012-13 season.

Sir,

1. Please refer to our letter No. HO/PSP/KHARIF-2012/2012-13 dated 06.07.2012 conveying the Minimum Support Prices (MSPs) for Kharif crops of FAQ of Oilseeds, Pulses and Cotton of 2012-13 season fixed by the Government of India, Ministry of Agriculture, Department of Agriculture & Cooperation and the Directorate of Economics and Statistics.

2. While conveying MSPs, it was also stated that till a final decision on revision of MSP of Arhar(Tur) & Moong for Kharif 2012-13 is taken by the Government, the MSPs of previous Kharif crop of 2011-12 would be applicable for Arhar(Tur) & Moong. Now, the Government of India, Ministry of Agriculture, Department of Agriculture & Cooperation vide their letter No.L-15021/1/2012 dated 14.08.2012 and the Directorate of Economics and Statistics vide their letter No. F.No.6-4/2012-FES-ES(Vol.II) dated 08.08.2012 have conveyed that the Government of India has fixed the Minimum Support Prices (MSPs) for Kharif crops of FAQ of Arhar(Tur) & Moong of 2012-13 season as under:

(Rs. per quintal for FAQ)

Commodity	Variety	MSP for 2012-13 Season	MSP for 2011-12 Season	Increase in MSP over last Seasons' MSP
Moong	-	4400	3500	900
Tur (Arhar)	-	3850	3200	650

3. Thus, the Minimum Support Prices (MSPs) for Kharif crops of FAQ of Oilseeds, Pulses and Cotton of 2012-13 season have been fixed by the Government of India, Ministry of Agriculture, Department of Agriculture & Cooperation as under:-

(Rs. per quintal for FAQ)

Commodity	Variety	MSP for 2012-13 Season	MSP for 2011-12 Season	Increase in MSP over last Seasons' MSP
Soyabean	Yellow	2240	1690	550
Soyabean	Black	2200	1650	550
Groundnut-in-shell	-	3700	2700	1000
Sunflower seed	-	3700	2800	900
Sesame	-	4200	3400	800
Niger seed	-	3500	2900	600
Moong	-	4400	3500	900
Urad	-	4300	3300	1000
Tur (Arhar)	-	3850	3200	650
Cotton	[Staple length (mm) of 24.5-25.5 and Micronaire value of 4.3-5.1]	3600	2800	800
Cotton	[Staple length (mm) of 29.5-30.5 and Micronaire value of 3.5-4.3]	3900	3300	600

4. NAFED would continue to be the nodal agency for procurement of identified Oilseeds and Pulses under Price Support Scheme. Losses, if any, on account of these operations would be fully reimbursed by Government of India. FAQ stock shall be purchased directly from the growers under the Price Support Scheme in accordance with the prescribed quality/Grade specifications, already enclosed with our letter dated 06.07.2012. NAFED would continue to undertake procurement of Cotton, in addition to Cotton Corporation of India (CCI).

5. You are requested to take further necessary action as per directions conveyed vide our letter No.HO/PSP/KHARIF-2012/2012-13 dated 06.07.2012.

6. Meanwhile, you are requested to kindly inform us estimated area under cultivation, crop prospects, expected production level, market intelligence etc. in respect of these crops. You are also requested to keep a close watch on the market rates. Once the arrivals start in the mandies, please keep us informed about quantum of arrivals, price trend etc. regularly in order to facilitate feedback of the same to the Government of India.

Sd
Executive Director(PSP)

Annexure 3.II

The Haryana State Cooperative Supply and Marketing Federation Ltd (HAFED)

Annexure3. II: Offices and Properties of the HAFED

Head Office Panchkula, Chandigarh
District office:
1.AMBALA, 2.JIND, 3.BHIWAN,. 4.KARNAL, 5.FARIDABAD, 6.KAITHAL, 7.FATEHABAD, 8.KURUKSHETRA, 9.GURGAON, 10.NARNAUL, 11. HISAR, 12.PANIPAT, 13REWARI, 14.SIRSA, 15.ROHTAK,16.YAMUNA NAGAR and 17.SONEPAT
Regional marketing office:
1. Lawrance Road, Adjoining Wazirpur Depot, Ring Road, Delhi; 2. Plot No.39, Sector-18, Near okul Dairy, Vashi, Navi Mumbai- 400705
XEN office:
Near New Anaj Mandi, HISAR
Other Commercial properties:
1.Plot No. 165-166 at Industrial Area, Ph-1,Chandigarh, 2. Four Residential Flats At Vashi, Mumbai 3. Two Shops at Middle Bazar Shimla. 4. One Shop at Ashok Marg, ML Road, Jaipur 5. Four Shops at Maniktala Civic Centre Kolkata, and 6. One Flat at Prince Anwar Shah Road, Kolkata

Annexure 3.III Level of operations

3.III.1 Agril inputs:

3.III.1.1 Fertilizers: HAFED makes direct agreements for urea with suppliers like IFFCO, Kribhco, NFL and other major suppliers of Urea. As regards purchases of DAP, HAFED invites Global tenders for arranging approx 2.5 lac M.T DAP annually and these purchases are finalized by High Powered Purchase Committee of the State Government. These tenders are floated mainly in the month of April and August every year. Zinc Sulphate is arranged from the different suppliers approved by Director Agriculture Haryana

Distribution of Fertilizer & others through Cooperatives of last 5 years :		
(Qty. in Lac MTs)		
Year	Urea	Dap
2007-2008	3.12	3.41
2008-2009	1.86	3.96
2009-2010	2.60	3.60
2010-2011	4.10	3.16
2011-2012	4.69	3.15

3.III.1.2 pesticides:

The supplies pesticides through its cooperative network up to the village level. It has licenses for the following formulations.

Details of Licenses For the Purpose of Manufacturing Various Formulations				
Sr.No.		Registration Number granted by C.I.B. Faridabad	Action on Insects	Crops in Which Used
1	Heera Endosulphan 35 EC	VI-1669(1) Endosulphan (EC)-428	Jassids; Aphids; woll Worm; Green Hopper; which flies; Thrips	Cotton; Rice; Vegetable & Mango; Sugar Cane etc.
2	Malathlon 50 EC	CIR-170/81/Malathion(EC)-925	Rice Hispa; Aphids; Jasside; Miles; Head Borer; Stem borer	Rice; Vegetables (Mattar; Bhindi; Bengun; Patta Gaubhi; Mooli; Salgam etc.
3	Dimethoate 30 EC	CIR-169/81/Dimethoate(EC)-170	Dim	
4	MEMC 3% WP	CIR-603/81/MEMC(SD)-24	Fungicide	
5	Isoproturon 50% WP	CIR-	Suprus Dephormis;	Wheet Crop.

		10187/89/Isoproturon(WP)-56	Econocioba Colonum & Kugali; Eyclipta Alva; Tusin Indica etc.	
6	Butachlore 50% EC	CIR-22107/95/Butachlore(EC)-921 (for Kerosene) CIR-10080/89/Butachlore(EC)-533(for Aeromax)	-do-	Rice Crop
7	Monocrotophos 36SL	CIR - 11122/90/Monocrotophos (SL)-688	Green Leaf Hopper; Yellow Slem borer Pyrilla; American wall worm; Aphids Pink wall worm ; Milli Buq	Rice; Cotton; Sugarcane
8	Malathion 25WP	CIR -11370/90 Malathion(WP)-1292	Mosquitoes	N.M.E.P (Health Deptt.) Malaria
9	Anilophos 30 EC	CIR-22725/95/Anilophos (EC)-344(For aeromax) CIR-12605/91/ Anilophos(EC)-76(For Xylene)	-	Rice crop – Weedicdes
10	Isoproturon 75% WP	CIR-12788/91/Isoproturon(WP)-468	-	Wheat Crop – Weedicdes
11	Fenvalerate 20 EC	CIR-14403/92/Fenvalerate (EC)-542	Woll worm ; Aphids; Jassids; Thrips; Shoot & Friuts Borer	Cottn; vegetable (Bhindi; Cabbage; Bringle and Termite)
12	Cypermethrin 25EC	CIR -14414/92/Cypermethrin (EC)-604	Woll Worn ; Aphids; Jassids; Thrips Shoot & Fruits Borer; Grub	-do-
13	2,4 –D Ethyl Ester 38 EC	CIR -14960/92/2,4D Ethyl Ester (EC)-604	-	-
14	Dichiorovs 76EC	CIR -19302/94/Dichiorivos (ES)-521	Brown Plant Hopper; Cut Worm ; Army Worm; Leaf Eating , conterpillar	Rice; Soyabean ; Sarson ; Kakdi etc.
15	Lindane 20EC	CIR -19303/94/LIndane (EC)-473	Anti Termite	All Crops; Building and construction work
16	Chloropyriphos 20 EC	CIR – 19954/94/ Chloropyriphos(EC)-562	Anty Termite	All Crops; Building and construction work
17	Alphamethrin 10 EC	CIR -19595/94/ Alphamethrin (EC)-108	Woll Worms	Cotton
18	Quinaiphos 25EC	CIR -20445/95/ Quinaiphos (EC)/814	Brown Plant Hopper ; Blue Bittal ; Stem Borer; Aphids; Mites ; Jassids; Fruit Borer; Leaf Hopper	Rice ;Wheat;Cotton; Vegetable(Bhindi)
19	Methylparathion 50EC	CIR -22135/95/ Methylparathion (EC)-1219	-	-
20	Lindane 1.3%DP	CIR -28242/98/Lindane(DP)-958	Anti Termite	Rice; Sugar; Cane
21	Endosulphan 4% DP	CIR 29197/98/ Endosulphan (DP) 1777	Jassids; Aphids; Woll Worm; Green Hopper; which files; Thrips	Cotton ; Rice; vegetable &Mango; Sugar Cane etc.
22	Deltamethrin 2.5% WP	CIR 29197/98/ Deltamethrin (WP)-224	Weebels/Mosquitoes	For storage of Wheat grains;

				Malaria (NMEP)
23	Temphos 50EC	CIR -30002/98/Temphos (EC)-81	-	-
24	Mancozeb 75% WP	CIR -32725/2000/Mancozeb (WP)-707	Brown & Black Rust Blite	Wheat ; Rice ; potato; Karela; Ground-nut
25	Fenoxaprop –P-ethyl 10% EC	CIR -40203/2002/Fenoxaprop –P- ethy(EC)(222)-11	Late /Early Blite Chinopodium (Bathu); Malilotus Alva (Sajja) Madicogo Dendikulata (Mayna) & Latharus Afaca (Jangli Mattar)	Wheat Weedicides
26	Piroxefop –Prepanyi (Chodiafop-propargyl) 15% WP	CIR -40204/2002/Piroxefop –Prepanyi(WP)(222)-13	-do-	Wheat Weedicides
27	Sulfosulfuron 75% WG	CIR -45340/2003/ Sulfosulfuron	-do-	Wheat Weedicides
28	Phorate 10% CG	CIR -22316/95 /Phorate (CG) - 542	-do-	Wheat Weedicide

3.III.1.3 Seeds:

As per the existing practice, HAFED facilitates the Cooperative Marketing Societies for arrangement of Certified Seeds of various crops. The requirement received from the Coop. Mkg. Societies is forwarded to the Agriculture Deptt., Haryana for necessary allocation of certified seeds from HSDC, IFFCO, Kribhco.

Hafed has now entered into the seed production channel for providing good quality certified wheat seed to the farmers of the State and is also in the process of installation of its own best technology Seed Processing Plant at Gannaur (district Sonapat) for seed grading. Hafed has undertaken Seed Production Program of Wheat varieties from Rabi 2010-11 sowing season and best quality certified seed will be produced through Seed Production Program.

3.III.2 Animal Feed:

3.III. 2.1 Cattle feed:

S.No.	Products	Packing
1	Cattle Feed Pallet	40 Kg. & 50 Kg.
2	Superior Cattle Mash	40 Kg.
3.	Superior Pusa Mash	40 Kg.

3.III.2.2 POULTRY

1	Layer Mash	50 Kg.
2	Broiler Starter	50 Kg.
3	Broiler Finisher	50 Kg.
4	Sheep feed	50 Kg.

3.III. 2.3 others

Sr.No	NAME OF PRODUCT	PACKING (KG)
1.	Cattle Feed Pellet Ordinary.	50 Kg.
2.	Cattle Feed Pellet Rajasthan.	50 Kg.
3.	Cattle Feed Pellet Vita Brand.	50 Kg.
4.	Cattle Mash Special	40 Kg.
5.	Pusha Mash Special	50 Kg.
6	Pig Feed	50 Kg.
7	Poultry Feed	50 Kg.
8.	Creep Ration	50 Kg.

3.III. 3. Food Grains Procurement:

HAFED is principal Procurement agency of Food grains for Central Pool in the state. Haryana produces more than 10 millions tones of Food Grains with surplus both in Wheat & Paddy. HAFED is involved in Procurement of Wheat, Paddy, Mustard Seeds, Barley & Bajra on Minimum Support Price.

At present there is a net work of 367 mandis/ purchase centres in the State. However, as per need new mandi/ purchase centres can be opened in case basic amenities are provided by the Haryana State Agricultural Marketing Board and fulfilling the norms prescribed by the Food & Supplies Department.

Procurement share allotted to HAFED and actual procurement made by HAFED during the last 5 years is given as under:

3.III. 3.1 wheat:

Qty.(In MT)				
Year	Total Procurement In State	HAFED's % age share allotted	Qty. Procured by HAFED	% age share actually Procured
2008 - 09	52.38	35	19.30	37.0
2009 - 10	69.11	35	24.74	35.7
2010 - 11	63.31	30	20.90	33.0
2011-12	68.42	30	24.33	35.10
2012-13	86.66	30	31.50	36.0

In addition to miniscule procurement of sunflower, mentioned earlier, the HAFED procured following food grains during the years.

3.III. 3.2 Mustard Seed

Year	Qty.(In MT)
2005-06	306275
2006-07	462450
2007-08	0
2008-09	0

3.III. 3.3 Paddy

Year	Basmati (In Lac MTs)	Non-Basmati (In Lac MTs)	Total (In Lac MTs)
2008-09	0.14	7.68	7.81
2009-10	0.12	10.35	10.47
2010-11	0.02	9.19	9.21
2011-12	-	10.22	10.22
2012-13	-	12.50	12.50

3.III. 3.4 Bajra

Year	Qty(In MT)
2006-2007	Nil
2007-2008	67372
2008-2009	108500
2009-2010	45992
2010-2011	4268

3.III.4 Warehousing :

Warehousing is the Major Activity of HAFED. Besides Catering to its Own Storage requirements, it provides warehousing services on Commercial basis to external Customers. This has a direct impact on HAFED's other activities like Food Grain Procurement, Input Storage etc. It has storage capacity as per table given below:

HAFED WEREHOUSES/STORAGE LIST WITH CAPACITY AS ON 31-05-2013				
District	Name of Centre	Covered Capacity (MT.)	Open Capacity (MT.)	Total
AMBALA				
1	Ambala	8170	0	8170
2	Shahzadpur	3660	1500	5160
	SUB TOTAL	11830	1500	13330
BHIWANI				
1	Bhiwani	600	0	600
2	Behal	5000	4680	9680
3	Bhiwani Khera	12840	16000	28840
4	Charkhi Dadri	20000	8000	28000
	SUB TOTAL	38440	28680	67120
FARIDABAD/PALWAL				
1	Ballabgarh	2500	0	2500
2	Palwal	9500	0	9500
3	Hodal	9835	4480	14315
4	Hathin	3000	5881	8881
5	Khuslipur	21200	7000	28200
	SUB TOTAL	46035	17361	63396
FATEHABAD				
1	Bhattu	7000	32500	39500
2	Tohana road Bhuna	3500	0	3500
3	Uklana Road Bhuan	5000	60081	65081
4	Fatehabad	5667	0	5667
5	Matana	10000	24700	34700
6	Jakhal	15120	4870	19990
7	Senhal Road Ratia	22500	43200	65700

8	FTB. Rd. Ratia	20500	28240	48740
9	Ratia	6500	0	6500
10	Tohana	20000	34733	54733
11	Nagpur	5000	9000	14000
	SUB TOTAL	120787	237324	358111
GURGAON/MEWAT				
1	Gurgaon	0	0	0
2	Heli. Mandi	15200	0	15200
3	Tauru	2000	0	2000
4	F.P.Zirkha	2670	0	2670
5	Nuh	5566	0	5566
	SUB TOTAL	25436	0	25436
HISAR				
1	Hisar	3500	22100	25600
2	Adampur	17500	40600	58100
3	Uklana	12000	26500	38500
4	Barwala	6680	10200	16880
5	Narnaund	5000	16200	21200
6	Hansi	9500	10000	19500
7	HGC Hansi	1000	6500	7500
8	Bass	5000	6000	11000
9	Kheri Jalab	5000	10200	15200
	SUB TOTAL	65180	148300	213480
JIND				
1	Jind	15000	16800	31800
2	Uchana	10000	30000	40000
3	Narwana	6000	6000	12000
4	Narwana Old	3950	1350	5300
5	Pillukhera	0	10000	10000
6	Pillukhera RM	7200	28000	35200
7	Jind Road, Safidon	10000	5660	15660
8	Gas Rd. Agency Safidon	10000	3000	13000

	SUB TOTAL	62150	100810	162960
KAITHAL				
1	Jind Rd. Kaithal	18500	10465	28965
2	Peoda Rd. Kaithal	30000	3000	33000
3	Old campus Kaithal	7500	0	7500
4	Badsui Rd. Cheeka	10000	25000	35000
5	RM,Cheeka	13700	8700	22400
6	RM Kalayat	9000	13500	22500
7	RM Dhand	3500	8500	12000
8	Pundri	5000	6000	11000
	SUB TOTAL	97200	75165	172365
KARNAL				
1	Karnal	21300	16900	38200
2	Indri	5000	24556	29556
3	Taraori	21500	13000	34500
4	Gharaunda	3000	5150	8150
5	Nissing	4500	30488	34988
6	Assandh	8500	0	8500
7	Nilokheri	20000	21500	41500
8	Naval	52670	15090	67760
9	Sugar Mil Asandh	30000	113200	143200
	SUB TOTAL	166470	239884	406354
KURUKSHETRA				
1	Kurukshetra/Pipli	14500	24394	38894
2	Arunai Rd.Pehowa	12500	12000	24500
3	KKDE Rd. Pehowa	7000	10500	17500
4	D.O Complex Pehowa	6000	2000	8000
5	Shahbad	14000	7000	21000
6	Kirmich	7500	22500	30000
7	Ajrana Kalan	5000	12250	17250
8	Ladwa	5000	0	5000
9	RM Pehowa	2500	1200	3700
10	RM Ladwa	2500	21000	23500

11	Bhaini	20000	15000	35000
	SUB TOTAL	96500	127844	224344
NARNAUL				
1	Narnaul	6670	0	6670
2	M/garh	11670	0	11670
3	Ateli	10000	0	10000
4	Kanina	13340	0	13340
5	HOM Narnaul	3000	0	3000
	SUB TOTAL	44680	0	44680
PANIPAT				
1	Panipat	5000	0	5000
2	Samalkha	7000	7000	14000
3	Chhichrana	7500	29300	36800
4	Madlauda	7000	2800	9800
5	Israna	5000	0	5000
	SUB TOTAL	31500	39100	70600
REWARI				
1	Rewari HOM	8170	1500	9670
2	Rewari	2000	3000	5000
	SUB TOTAL	10170	4500	14670
ROHTAK/JHAJJAR				
1	Rohtak Sukhpura Chowk	1500	0	1500
2	Madina	15000	0	15000
3	Kacha Beri Road Rohtak	2000	3600	5600
4	CFP Rohtak	9600	0	9600
5	Sampla	500	0	500
6	Tallav	29500	0	29500
	SUB TOTAL	58100	3600	61700
SIRSA				
1	Kelina Rd. Sirsa	2000	18500	20500
2	Dabwali Rd. Sirsa	2520	0	2520

3	Sirsa old	6000	0	6000
4	Haboli(Rania)	10000	53646	63646
5	Rania	3220	0	3220
6	Ding	17000	60300	77300
7	Dabwali	6020	0	6020
8	Mithisurera(Ellenabad)	10000	36350	46350
9	Ellenabad	2520	0	2520
10	Kalanwali	20000	9400	29400
11	Kalanwali(Old)	3000	0	3000
12	Saktakhera	14330	51524	65854
13	Panniwala mota	7350	130977	138327
14	Ramngaria	25000	8000	33000
15	Baragura	5000	10880	15880
16	Chautala	7500	15000	22500
17	Kharia	5000	19700	24700
	SUB TOTAL	146460	414277	560737
SONEPAT				
1	Sonepat	3000	0	3000
2	Pungthala	7500	12000	19500
3	Dipalpur	7500	10000	17500
4	Ganaur	12000	0	12000
5	Ganaur(New)	5000	25000	30000
6	Gohana	8680	0	8680
7	Murthal	5000	17000	22000
	SUB TOTAL	48680	64000	112680
YAMUNANAGAR				
1	Jagadhari	9900	0	9900
2	M/Bad	10000	7943	17943
3	Radaur	6000	17250	23250
4	Turmeric plant Radaur	5000	17750	22750
5	Sadhaura	5000	4000	9000
	SUB TOTAL	35900	46943	82843
	GRAND TOTAL	1105518	1549288	2654806

3.III.5 Consumer Products:77

The HAFED processes, manufactures and sellers following consumer products: Rice, oils, sugar and turmeric

3.II.5.1.Rice: the following varieties of rice are purchased, processed, packed in different packing and sold by the HAFED: 1. Superior Basmati Dubar Rice, 2. Superior Basmati Tibar Rice, 3. Special Pusa Basmati Rice, 4. Supreme Long Grain(Sharbati Raw) Rice, 5. Superior Basmati Mongra Rice, 6. Premium Gold Basmati Rice, 7.Premium Gold Tibar Rice, 8.Premium Gold Dubar Rice, 9.Premium Gold Mongra Rice, 10.1121 Sella Basmati Rice, 11.1121 Sella Basmati Dubar, 12. 1121 Sella Mongra, 13. Sharbati Steam Rice, 14.Supreme Long Grain(Dubar) Rice, 15.Supreme Long Grain Mongra Rice, 16.Brown Basmati, 17.Superior Parmal Rice and 18. 1121 Sella Basmati Tibar.

3.III.5.2.Oils:

3.III.5.2.1. Refined soybean oil:

It is purchased and repacked as per following packings and sold in the retails market by the HAFED.

1 lt. pouch, 5 ltr Jar, 15 ltr Tin, 15 kg Tin

3.III.5.2.2 Kachchi Ghani Mustard Oil:

It is sold in the following packings: 500ml, 1 Lt. Bottle, 1 lt. Pouch, 5 lt. Tin, 5 lt. Poly Jar, 15 lt. Tin, 15 kg. Tin, 15 kg Jar

3.III.5.2.3 Refined Cotton Seed Oil:

It is sold in the following packings: 1 lt. Pouch, 5 lt. Jar, 15 lt. Tin, 15 kg tin

3.III.6 Processing Mills:

3.III.6.1. Rice Mills:

HAFED is having 13 Rice Mills located at Ratia, Jakhal, Pillukhera, Kalayat, Dhand, Ladwa, Pehowa, Radaur, Taraori, Samalkha, Ding, Kalanwali and Rania in the State of Haryana. Some of the HAFED Rice Mills were installed/ taken over by HAFED from the Cooperative Marketing Societies during the year 1972 -73/ 1974 -75. The capacities of these Rice Mills vary from 1.6 MT/ hr. to 4 MT/ hr

3.III.6.2. Oil Mills:

HAFED is having 2 Oil Mills located at Rewari & Narnaul in the State of Haryana.

3.III. 6.2.1 Oil Mill – Rewari

This Oil Mill was established in 1986, for producing Mustard Oil. Initially the capacity of this Oil Mill was 15 MT per day for crushing of Mustard seed which was doubled in 2001. The main product of the mill is `Kachchi Ghani `Agmark' Mustard Oil.

3.III.6.2.2. Oil Mill – Narnaul (Mahendergarh)

HAFED has set up a Modern Kachchi Ghani Mustard Oil Mill at Narnaul (Mahendergarh), Haryana of 30 MT per day capacity in the year 2003.

3.III.6.3 Cattle feed plants

HAFED is having 2 Cattle Feed Plants located at Rohtak and Saktakhera (Sirsa).

3.III. 6.3.1 Cattle Feed Plant Rohtak

HAFED Cattle Feed plant, Rohtak was set up in the year 1976 with the 100 MT per day capacity which was later on replaced with new ultra modern technology plant of 150 MT per day capacity (expandable up to 300 TPD) to increase the product range for manufacturing Cattle Feed, Poultry Feed, Piggery Feed & Mineral Mixtures to meet all types of requirements of Dairy Farmers.

3.III. 6.3.2 Animal Feed Plant Saktakhera (Sirsa)

An Animal Feed Plant at Saktakhera (Sirsa), of 50 MT per day capacity was set up by the HAFED in the year 2001.

3.III. 6.4 Sugar Mill Assandh(Karnal)

HAFED setup a Sugar Mill at Village Fafrana Assandh in District Karnal with the Capacity of 2500 TCD along with 2 MW incidental Co-Generation plant in the year 2008.

3.III.6.5 Hafed Pesticide Plant, Tararori (Karnal)

The plant was set up 1974 with the following capacity

Powder 17 MT per day; Liquid 2000 lt per day; Powder 3400 MT (annual); Liquid 4.00 lac lt(annual).

3.III. 6.6 Turmeric Plant, Radaur (Yamunanagar):

HAFED has setup a Turmeric Plant at Radaur in District Yamunanagar (Haryana) in year 2009 with the capacity of 14 MT per day.

3.III. 6.7 HAFED Flour Mill, Taraori:

HAFED having annual turnover of about Rs. 5,000 crores has set up a Flour Mill of 3 TPH capacity at Taraori in District Karnal. It intends to purchase & install a 'Form Fill Seal Machine' with all the accessories for automatic packing of Wheat Flour (Atta Powder) in 5 & 10 Kg. packings.

3.III .7. Marketing and Exports:

HAFED is one of the few top brands known for its quality products among the consumers. HAFED's products are available at HAFED's Retail Outlets/ Consignee Agents in Chandigarh, Delhi, Haryana, Punjab, Kolkata, Himachal Pradesh, J & K and Bangalore. HAFED's products are also being sold through retail outlets of Kendriya Bhandar, National Consumer Cooperative Federation, NAFED, State Civil Supplies Cooperatives in Delhi & Himachal Pradesh etc.

HAFED exported its Basmati Rice to the countries like Australia, U.K. and U.A.E. in the

year 2007 after a gap of 20 years. Since then, HAFED has exported its Rice to different countries like Australia, UK, Saudi Arabia, Dubai & US.

Recently, in order to ensure marketing of HAFED products in the U.S.A. a distributor has been appointed in USA. Till now, HAFED has successfully exported 100 MTs of Basmati Rice and 3 MTs of Mustard Seed Oil has also been exported in the US market through the distributor.

Annexure 3.IV
Performance (Rs. In Crore)

Financial Year	Turnover	Net Profit
2007-2008	2628.00	58.68
2008-2009	3092.00	33.78
2009-2010	4253.55	43.45
2010-2011	5489.00	40.80
2011-2012	4690.74	41.04

Chapter IV

Summary and Broad Conclusions

Introduction:

In the neo-liberal framework of economic development, 'free market' on the one hand if has led the economic growth rate breaking all barriers and taking higher trajectory, on the other hand it has increased the disparity in personal income and wealth as well as caused huge sectoral imbalance and started taking its toll in the form of unprecedented farmers' suicides, rising agricultural input costs and also demand and supply mismatch of domestically produced agricultural commodities due mainly to either half hearted economic reforms in the field of agriculture which did not bring in much needed investment from the private sector or because the public sector investment in agriculture for which the entire farming community was habituated could not maintain its earlier tempo. Edible oilseeds sector is a classic example of imbalance in supply and demand. In 1993-94 due to impact of Technology Mission on Oilseeds and Pulses (TMOP), established in 1986, the country became almost self-sufficient in edible oils when a negligible quantity of edible oils was imported. But once the edible oil sector was put on Open General License, the imports have gone up to 60% and more of the country's needs.

The environmental degradation in major food producing regions (Haryana included) along with disparate rural income has been other concern. The reflection is manifested in the form of diminishing soil fertility and diminishing number of farmers in the agriculture sector in the country.

Market plays an important role in the determination of not only farmers' income but also change in land use, overall production along with change in cropping pattern etc. But in an economy like India where about 2/3rd people are dependent upon agriculture and where huge disparity in income and wealth exists, government intervention becomes indispensable. Government intervention in agricultural produce market takes place through Price Support Scheme (PSS) and Market Intervention Scheme (MIS) along with other measures.

In Haryana, PSS is applicable to sunflower and some fruits. The present study of PSS for sunflower in Haryana is taken up as a part of All India coordinated study of evaluation of PSS and MIS.

Haryana has seen tremendous growth in agricultural production, intensive land use due to modern inputs and substantial use of farm machinery and surface and ground water irrigation. As far marketing of farm produce is concerned, Haryana has sufficient number of regulated markets (106 main market yards, 178 sub market yards and village purchase centres in addition to them). Though the state has at least one market for 64 villages and average area per market yard is about 152 square kilometers, it faces heavy rush of peak season arrivals which many times lead to reluctance to buy on the part of private trade due to obvious reasons and hence a significant role of public sector procurement agencies. Many times they also have been facing shortages of packing material, storage facilities etc. In addition to wheat, paddy, bajra etc. sunflower has been the targeted crop to be covered under PSS in the state.

The present study is planned to evaluate direct role of the state in the marketing of farm produce with reference to maintenance of price stability, particularly during the peak of arrivals of farm commodities, because due to obvious reasons a huge percentage of farmers cannot withhold the produce until the prices move up. Therefore the market intervention scheme and price support system play crucial role.

II Objectives:

In the light of the above, the specific objectives were set as follows:

- To analyze the extent of coverage of PSS with respect to farmers of sunflower in the sample districts and State.
- To ascertain the socio-economic factors that influence coverage of villages and farmers in PSS.
- To understand problems of different stakeholders in operation of PSS.
- To study the effect of PSS on the market price of sunflower, and,
- To suggest policy measures to improve operations of PSS.

Because PSS operations for sunflower were very restricted as compared to other businesses and level of operations of the nodal agency, the HAFED, we dropped the objective of evaluation of efficiency of the nodal agency. However, a detailed description of its businesses etc. is provided to meet the requirement of the coordination.

III Data and Methodology:

After allotment of the project an effort was made to look into the areas where Sunflower was grown in Haryana. Unfortunately the area covered under the crop in the state is too little to find place in the Statistical Abstract of Haryana or in any other published document of the state government. Hence, from the offices of the Directorate of Economics and Statistics, Directorate of Agriculture, the HAFED details of the area, production, marketing of the crop were obtained. It was noticed from the information that only in two districts, Ambala and Kurukshetra sunflower is grown and mostly marketed. Most of the oil extraction mills are located in Shahabad (Kurukshetra) and Ambala. Therefore the two districts as suggested by the coordinator and by the state government officials were selected and from the two districts four blocks/ tehsils : Shahabad and Thanesar from district Kurukshetra and Barara and Saha from district Ambala were selected because only in these tehsils major part of Sunflower was grown. At the next stage of selection 4 villages from each district viz. Padlu and Damli from Shahabad tehsil and Bir Mathana and Kaulapur from Thanesar of Kurukshetra district were selected and villages Barara, Jamalmajra, Nahoni and Ugala were selected from district Ambala.

Secondary data from the district headquarters regarding cropping pattern, marketing practices, demographic details etc were obtained. Detailed questionnaires for households survey, village schedule and district schedule supplied by the coordinator were canvassed for collection of all the relevant information from the farmers of all categories viz. marginal, small, medium and large. For village schedule information was gathered from village elders and local body heads viz. pardhan or sarpanch or village patwari and for district schedule from the department of agriculture. Data for market arrivals and prices data were collected from the Agricultural Produce Market Committees (APMCs). Data from Ambala (whatever was available) could be obtained at a later stage.

Sampling Framework:

The finer details of sample are given in table 4.1(extracted from chapter I)

Table 1: Sample Size

Item	Haryana	Total
Selected Distt.	Ambala, Kurukshetra	2
Tehsil/ block	Barara, Saha; Shahabad, Thanesar	4
Crop	Sunflower	
Beneficiary farmers@		
Non – beneficiaries @	96	96
District schedules	2	2
Village schedules	8	8

@ None can be described as beneficiary or non-beneficiary

Categorizing the respondent farmers into beneficiary and non-beneficiary is confusing, because in Haryana there were no such farmers who directly sold to HAFED. Secondly, no marginal farmer growing sunflower could be contacted, as most of them do not opt for this crop. Total 120 farmers were contacted but due to discrepancies in schedules we have to reject rest of the schedules and base our study on 96 respondents which in absence of clear cut demarcation could be considered as beneficiary as well non-beneficiary farmers.

As the PSS in the state is implemented in a very limited way, the sampling design as proposed by the coordinator could not be strictly applied. Rather we have taken the entire Universe as our sample, for example both the sunflower growing districts, four major sunflower producing tehsils and all the major sunflower selling APMCs have been included. The questionnaires as supplied by the coordinator have been canvassed without any modification.

Chapter scheme: The chapter scheme as suggested by the coordinator has been followed except in those areas where there was no information available.

Basic information including crop details in the state, districts , blocks and selected villages, information about the crop, marketing system and socio-economic back ground of the respondents have been discussed in chapter II.

We present in the following paragraphs a brief information about marketing practices in the state including sunflower and analysis of PSS operations as discussed in chapter III.

The two important crops covered in the state for a few years under the PSS/ MIS were rapeseed mustard and sunflower. Because after bringing the edible oils in the Open General License List, imports of edible oils, soybean and palm oil specifically, shot up from near about a lakh tonne in 1993-94 to around 80 lakh tonnes through the years, crossing one crore tonnes of imports in the crop year 2011-12. The huge imports caused a lot of pressure on the demand of domestically produced oilseeds, oils like rapeseed as well as on the oil ghanies, expellers and solvent extracting sector. The tax structure needs reconsideration because to help their refining sector, both Indonesia and Malaysia, the main suppliers of palm oil to India, have provided substantial incentives to their exporters. Earlier the difference in imported crude and refined oils was ranging between 80 to100 US\$, which now is hardly10 dollars a Metric Tonne, leading to imported refined oils being cheaper than domestically refined edible oils.

The increasing import bill of edible oils which crossed \$10 billion in 2012-13 is another strain on the current account deficit (CAD) along with import of gold and fossil fuels. The pricing policy in favour of paddy and wheat, rice specifically, can also cause serious damage to soil health in the country in general and Punjab and Haryana in particular, where falling soil fertility and ground water table are crying for substantial and early change in cropping pattern too. Coarse cereals and edible oil seed crops, sunflower included, will be preferred crops for change in cropping pattern.

India every year needs an additional 6-7 lakh tonnes of edible oils, for which oilseed production has to increase by at least five-six million tonnes annually.

To increase domestic supply of edible oilseeds, which the government is under pressure to think with the given current account deficit and urgent need of change in cropping pattern in major cereal producing states, the price policy pronounced through MSP and implemented through PSS and MIS has to be considered specifically keeping in mind the cost of cultivation and margins of the farmers, may be on the lines as proposed by National Commission on Farmers.

Alongwith production practices to improve yield and thereby production, efforts have to be made to assure the farmers of proper returns. Because oilseed crops are most susceptible to pests and weather conditions. A little adverse climatic change can damage the entire crop and thus putting the farmers to a greater risk. To ensure stable returns price policy needs to fully cover cost of cultivation and reasonable extra returns to maintain the farmers' interest in the crop. Thus gainful MSP and assured procurement through PSS can be helpful.

Case of Sunflower:

Sunflower has high adaptability potential to diverse agro-climatic and soil conditions, requires less irrigation thus it is most suitable in water shortage conditions. Most importantly in Haryana it is grown in summer when other crops do not compete with it. Also, the state needs change in cropping pattern. In India it gains importance due to acute shortage of edible oils. In Punjab and Haryana it can give a very good combination with potato and groundnut, other short duration nutritionally rich important commercial crops.

The TMOP made important recommendations including introduction of new oil seed varieties like sunflower, palm oil, soybean etc. The government intervened through various measures. Consequently by mid nineties the area under sunflower increased to 2.5 million hectares and production to about 2 million Metric Tonnes.

But the impact of liberal imports became visible sooner. Average area under sunflower has come down to 1.5 million hectares from about 2.5 million hectares in 1993-94. Similarly production has come down from 1.35 million metric tonnes to less than 1 million metric tonnes. Average yield is still under 600 kg/hectare. The area and production have variation of about 40%, which gives an indication that some serious efforts will be needed in the sector to stabilize area and production and to bring yield level to the level in Haryana if not more or to the world standards. The yield in Haryana is more than two times of national average.

Sunflower in Haryana is a minor crop. In fact the state plays a negligible role in the contribution of sunflower. Haryana's contribution to average production of sunflower in India is around 3.5%, while it covers only 1.2 % average area under sunflower in the country.

Area under sunflower and its production in Haryana show negative growth rates and yield has stagnated. Not only area and production are declining but there is significant variation also. In the case of yield if there is insignificant variation there is no improvement also.

But as there is no surety of market price and like other edible oil crop mustard, sunflower is also is susceptible to weather and pests, it has not become the preferable crop of the farmers. Therefore, marketing and price factor need to be looked into closely to know the real causes of declining trend in area and production.

Price and Marketing of sunflower:

Though agriculture is a state subject, the fact remains that the Centre through a number of interventions, procurement, storage (CWC), export/ import policy of the produce as well as of inputs and related infrastructure, direct monetary benefits in the form of subsidies, physical restrictions, release of grants with conditions (NHM grants to states with condition of change in APMC Act for example) etc. affect the level and standard of marketing of agricultural produce in the country. Banning of cotton export, removal of Guar seed from futures, banning of onion exports are few examples. States' role is also important in both physical facilities like marketing infrastructure, transportation, storage facilities as well as monetary incentives/ disincentives in the form of bonus on MSP, concessions on power, diesel and waiver of interest on loans.

Close examination of data shows that during the last decade (2000-01 to 2010-11) area under sunflower in the country and its production have been going down at compound annual rate of 0.045% and 0.036% respectively and there is a negligible increase in yield rate. Certainly growth rates of area and production are not better than negligible too. Prices of competing crops, instability in returns of potato a most suitable compensatory crop in North India and **liberal imports at lower tariffs etc.** are important factors causing this trend.

With regard to MSP and procurement two three issues emerge. MSP of edible oils should be based primarily on cost of cultivation keeping other factors like soil health and need of change in cropping pattern, water availability and requirement, foreign exchange outgo on imports vis-à-vis returns to the farmers and most importantly weather and climatic risks. A statutory provision be made so that policy ad-hocism does not become a rule. Thirdly it is observed that MSP works as pivot price for the market. The market price during the peak season revolves around MSP. Hence, incentives to farmers to promote a crop rotation be kept under consideration. Lastly determination of cost of cultivation (starting from primary data collection to calculations) needs a thorough review as there are instances when MSP was routinely increased by 10 Rupees for years or 50 Rupees later or there was no change at all though cost of cultivation increased. On the contrary when the general price level increased, cost of cultivation of sunflower for the years 1996 through 1998 shows decline of around Rs. 2000/ha.

Between 2001 and 2011 MSP of sunflower increased at a negligible rate of 0.08% which is almost not compatible with price level of inputs determining cost of cultivation.

Like determination of MSP, procurement has never been consistent and compatible with production or market arrivals. Many times it was not introduced even when market price was lower than the MSP. Procurement of sunflower was 7%, the highest ever of production during 2000-01. After that it has never reached even 1% of production. Trend of procurement vis-à-vis production is negative.

Sunflower marketing in Haryana:

Haryana is one of the few states in the country which have well developed regulated markets. We find it is only in Punjab and Haryana where regulated markets serve smaller area, about 150 km² per market. Almost all agricultural commodities are under regulation. The state is well placed as far as provision of marketing and infrastructure facilities are concerned.

Most of the sale in the state takes place in either local purchase centres or regular market yards. There is not a single centre exclusively established for the purpose of PSS in the state. Whatever is to be purchased/ procured by the nodal agencies it has to be from the regulated market system (Main Market Yard, Sub-Market yard and/ or Purchase Centre) under the supervision of the concerned Agricultural Produce Market Committee (APMC).

Sale of sunflower takes place like any other commodity in the regulated markets. In Haryana almost entire sunflower is grown in two districts, Kurukshetra and Ambala, therefore marketing of sunflower also concentrated in the markets of these two districts. Farmers and traders from Punjab also sell sunflower in Ambala and Shahabad regulated markets due to large scale processing of sunflower in Shahabad and Ambala.

Like many other districts in Haryana, both Ambala and Kurukshetra are well developed in infrastructure and well connected with the catchment villages through roads.

Details of market wise arrivals show that overall market arrivals in Thanesar have increased by 05% compounded annually during the last 5 years but with a huge variation in arrivals of individual commodities. Many have gone down substantially while others increased. For example, arrivals of oilseeds have increased by about 0.5% annually whereas there is significant decline in arrivals of sunflower.

The arrivals in Shahabad another important market in district Kurukshetra have similarly increased overall by 0.02% annually but with a huge variation commodity wise. Arrivals of oilseeds have gone up by about 0.15%, but there is decline in arrivals of sunflower by about 0.1% annually in this main market. The decline in arrivals of sunflower in the district is associated with the declining pattern of production of sunflower. But Shahabad is known for receiving sunflower even from Punjab, decrease in arrivals in this market might be reflecting on the decreasing production of sunflower in other parts of the region also, for example in Punjab area under sunflower has come down from 70,000 hectares to 15,000 hectares. In district Ambala another important sunflower producing district the department of agriculture has stopped even to enumerate the crop under a separate head.

In Haryana sunflower is a summer crop, i.e., sown in February and harvested in May, therefore maximum arrivals take place in 2-3 summer months of May and July mostly. Month wise arrivals in the Kurukshetra markets manifest that in 2011-12 85% and in 2012-13 more than 90% of sunflower was marketed in June alone in all the markets, in May 8-10 % and rest 2 to 4% sunflower was marketed in July.

As far as procurement under the PSS by the HAFED / NAFED is concerned, it has never been substantial, neither in number of years it was under taken and nor as proportion of production or arrivals. In Haryana total procurement of sunflower on behalf of the NAFED was undertaken by the HAFED for two years, 1648 quintals in 2009-10 valued Rs. 36.5 lakh and 811 quintals in

2010-11 worth Rs. 19.06 lakh. The total purchases made under PSS in the state cannot make any dent on area, price, farmers' income etc.

In fact, the purchases made under the PSS were not only insufficient but the process adopted was also not as per the objective of the scheme. Even during 2009-10 price paid were below MSP. The purpose of PSS through its operational process was to buy from the farmers directly so that the distress sale could be avoided or the farmers should be saved from depressed market prices. In the case of sunflower in Haryana the government issues notification and the NAFED requests HAFED to buy on its behalf. The representatives of the corporation go to the market buy the commodity without bothering whether it was from the farmers or it was from the traders who might have already bought from the market. But that probability is not there, because maximum buyers in the area are local mills which require for processing.

The produce then is stored in the godowns by the HAFED on behalf of the NAFED and it was up to the NAFED when to dispose the produce off. Generally it has to wait for the instructions from the government for disposal. The loss due to difference in prices paid and received is made good by the government up to 15% of the MSP. But it creates problems on the payment front as the corporation has to make payment immediately but the money from the government comes after months sometime after years. As far as HAFED's cost benefit is concerned, it takes a fixed commission from the NAFED, which is included in latter's total expenditures.

So the process and operation does not appear to meet the objectives. The whole process starting from the issuance of notification, procurement, quantity to be purchased, storage, disposal, and release of payment etc., therefore, needs a thorough review and modification to achieve the targets self sufficiency in edible oils. MSP and PSS are important tools to achieve that.

In Haryana, market charges are negligible for the seller. Only transport cost from field to market and then labour charges for unloading, cleaning/ sifting etc. Rest all other charges are borne by the buyer.

As far as operational efficiency of the HAFED with regard to sunflower procurement is concerned, considering the miniscule procurement of sunflower in two years it not advisable to attempt that, particularly when it is known that the HAFED is a huge organization involved in procurement, processing, storage, marketing and such other many more activities.

Household Level information:

Data collected from respondents show that Leasing of land both in and out takes place in each size group. Each household with land has about two milch animals irrespective of the size of holding. If small farmers have a little less than two, large size farmers have about 2 and half milch animals on average. In small size farms, 5 households have one tractor, in medium size about 2 households own one tractor and in large size group it is little less than one in each household.

But none of the size group is without any sort of debt. In all about 40% households took loan, exactly 40% households falling in small size and half of the large size households were in debt. Mostly loan was taken for production purpose. Secondly, it was mostly from commercial banks. Loan taken from the commission agents (agricultural produce brokers) or from money lenders, relatives etc. was not revealed. Lastly, the average loan amount ranges between 2 to 4 lakhs.

Data for two years 2010-11 and 2011-12 show that small size households have devoted the highest share 16% and 11% of GCA to sunflower during the two years. The share of sunflower in medium and large size farms remains 8-9% in both the years. It shows the relative importance

of the crop to different size groups. No marginal farmer was sowing sunflower. Data show that a substantial part of paid out costs goes in production process whereas marketing costs are almost negligible. Almost entire produce is marketed. Price received by the households in 2009-10 was less than the MSP and a little over the MSP in the year 2011-12, though there was no PSS operation in the year 2011-12 and despite the procurement by the HAFED under PSS in 2009-10 farmers received less prices than MSP. Probably they could not have got that price, had there been no PSS procurement during the year.

As far marketing channels and market charges are concerned, for the producers there is only one channel in the market: seller – commission agent – buyer.

From the above discussion and data it is obvious that PSS operations in the case of sunflower marketing in Haryana are very limited. However, as the PSS directly affects the farmers' income, to some extent quality of their living, and cropping pattern, they supported it. Considering the miniscule level of PSS, district agricultural officials, APMC officials and nodal agency did not have much to say.

Based upon the information available about the level of PSS in the case of sunflower in Haryana one can raise question about the relevance of the scheme. In fact by looking at the coverage of area under sunflower, yield, and production of sunflower in the state one cannot find any impact of the two years' intervention.

But looking at the need of the edible oilseeds, needed change in cropping pattern etc. measures to improve yield, area and production will be essential and for that price factors in the form of MSP and PSS will play a major role.

Hence the above discussion will lead to suggest following policy options:

Suggested Action:

- (1) Current level of PSS in sunflower is very limited on both the counts, total years it was operative in Haryana and to the extent procurement as a proportion of arrivals was made. Therefore, in the case of sunflower in Haryana, PSS per se appears to be superfluous. Its limited level cannot make any impact on farmers' income and returns, leave apart its impact on area and production. The maximum it could do was to motivate the other buyers to offer higher prices. But had there been no intervention (how so ever limited) and consequent uplift in the market mood thereafter, the farmers' returns could have fallen further. Therefore PSS is important in the case of sunflower.
- (2) Considering the importance and need of edible oils in the country, it is necessary that area under oilseeds in general and under sunflower in Haryana in particular increases, because yield of sunflower in Haryana is about twice of the All India average. For that price factors are important, therefore MSP of sunflower needs to be considered keeping not only the cost of cultivation in mind but more than that. It should cover the risk factors related with production and market instability and also offer attractive returns, keeping in mind all costs of imports. To maintain that higher level of MSP, PSS operations need to be made almost regular and more quantity need to be purchased.
- (3) Reasonably higher MSP will be useful if it provides incentive for the particular crop. In the case of sunflower at least it should be made a tool to promote the crop.
- (4) The nodal agency, the HAFED, can introduce its own processing of sunflower seeds either by taking over the existing mill/s or establishing new one of its own. That will help to go for regular procurement and that will also assure the farmers of stable returns from

sunflower cultivation. Moreover, new mill/s with upgraded technology will have higher milling efficiency.

- (5) So far sunflower crop has remained concentrated in few blocks of district Kurukshetra and Ambala, it needs to be promoted in other districts of the state also. For that extension services need to be activated vigorously.
- (6) Though sunflower is known for its suitability to climatic conditions, it is almost as susceptible to pests as other edible oils, therefore, attractive crop insurance can be helpful in promotion of sunflower.
- (7) Every sunflower grower needs loan for production, therefore liberal and adequate credit supply needs to be maintained at reasonable rates of interest.
- (8) As far as infrastructure is concerned, marketing, transport, roads etc are well established in the state. Only crushing of oil seeds needs modern mills and equipment which needs to be encouraged and for that along with private mills which are old, established almost two and half decades back, the HAFED can take initiatives.
- (9) Promotion of oilseeds in general and sunflower in particular is also important from the point of view of spoiled soil health in the state due to wheat paddy rotation, specifically in Kurukshetra and Ambala, the districts where sunflower is struggling for survival.
- (10) Finally, other complementary crops potato and groundnut are equally meaningful from the point of view of nutrition, farmers' income, their need to the economy and suitability. Therefore, marketing of these crops, with assured returns through price factors need encouragement which ultimately be helpful in promoting sunflower also.

Review of Report on ‘Evaluation of Price Support Scheme in Haryana’

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III. DATE OF RECEIPT OF REPORT: July 31, 2013

IV. DATE OF DESPATCH OF COMMENTS: August 24, 2013

V. GENERAL COMMENTS: The current version of report to some extent adheres to the proposed chapter details, tables etc. sent by coordinator at different points of time. The current report completely ignores one of the most important objectives of the study: operational efficiency of agencies in implementation of PSS. The comments specific to Methodology, Results are presented below.

VI. COMMENTS ON METHODOLOGY AND DATA:

The methodology suggested is not properly followed due to limited number of sunflower growing districts in Haryana and also sunflower growers in the district. This is also due to lack of separate list of beneficiary and non-beneficiary. Interestingly, area under sunflower is also not available for the above districts (in the Statistical Year book of Haryana) as acreage under sunflower is below certain limit.

In relation to the selection of farmers from each of the cluster coordinator suggested for 10/15 farmers from each cluster (3/2 clusters) to make the sample size 30. But it appears author has selected the universe; therefore no scope of discussion on the selection of farmers.

VII. COMMENTS ON RESULTS / RECOMMENDATIONS:

1. Certain information in the report is bizarre. Farmers have not sold directly to HAFED/NAFED, whereas PSS operation requires direct dealing with farmers. Procurement under PSS has been in the APMC market not in the purchase centres but Table 3.12 shows purchase centres in district/block/mandi. The above trends need to be explained properly.

2. The importance of sunflower in the selected blocks / districts of Haryana is mentioned in Table 2.21. These information need to be supplemented with the complementary data on market arrival, infrastructure facilities (road, processing, etc.). This will help in understanding the coverage of PSS in Haryana.

3. On page no. 24 some details of mustard and rapeseed is provided, however the information is not of use unless it is complemented with procurement and infrastructure related information for rape-mustard under PSS. Researcher may like to explain the reason behind the stoppage of procurement of rape-mustard in Haryana after 2006-07.
4. Title of many tables continues to use ‘targeted crops’, ‘selected district’ and ‘study blocks’. Author may suitably change with the chosen crops like “sunflower”; and similarly ‘selected district’ may be replaced with Kurukshetra/ Ambala, and so for blocks in the district.
5. Kindly check the percentage increase in number of tractors, tube wells and other implements in Table 2.6. Also no of large farmers in Kurukshetra and Ambala has increased in Table 2.5. Similar trends in other tables may be rechecked; such trend if correct needs to be explained adequately.
6. Some tables (Table 2.7 and 2.8) require notes towards the end of the table, possibly as foot note.
7. Please check heading / title of certain tables like Table 2.11.
8. Certain figures in tables require Unit, examples of such tables and figures are Table 2.14, Table 2.8 (geographical area) and Table 3.1.
9. In Table 2.12 (page 19) while providing information for area under important crops in Block, the acreage under paddy is not mentioned.
10. The area, yield and production of sunflower in Kurukshetra, is presented in Table 2.20. Why the same/similar information is not there in the earlier table? In case sources of both the tables are different, please mention the same. Sources may be mentioned in each of the table of the report.
11. In Table 3.13-3.16 market arrivals are not available separately for rape- mustard; while the commodity is important for PSS in Haryana. Why market arrival information is not available for mandies in Ambala?
12. In Table 3.17 the share of Kurukshetra in the area and production of sunflower in the state will be useful.
13. In Table 3.21 asset details of respondent, the existing details /figures for marginal farmer is not acceptable. Kindly drop the column of marginal farmer since it is not in sample.

14. Several typographical errors may also be attended before finalization of report.

VIII. OVERALL VIEW ON ACCEPTABILITY OF REPORT:

The current report is silent about an important objective of the study that is efficiency of Agency (HAFED, NAFED) in undertaking the PSS operation. In the current version of report treatment to other objectives of study like coverage, effect on price, problems in implementation of the scheme is not adequate. Certain information suggested above may complement / supplement the existing information in the report. Subsequently the report will be able to address the issues related to PSS in Haryana in a better way. In the light of the above comments a re-look of report is desired.

Action taken and response

Point wise our response to the comments emailed by the coordinator on 27.8.2013 is as follows:

Points (I to IV) name, affiliation etc

(V): Considering the overall colossal operations of the HAFED vis-à-vis its negligible role in procurement of sunflower, as already mentioned (page 38 draft report) we dropped this objective of the study, because that would have been like evaluating the entire body by studying only a fingertip. However, required information and data about HAFED and its operations have been added (Annexure 3).

(VI): It needs no action.

VII: Comments on results and Recommendations:

1. The purchase Centres are not specifically established for PSS or MIS as appears to be understood by the reviewer/ coordinator. In fact, they function as part of the APMC market yards (may be one can consider as ancillary sub market yards) to ease pressure of heavy arrivals in APMC's main and submarket yards and also to provide farmers with disposal facility at the nearest place. That is why they are functional only during the sale of agricultural commodities in the season. Moreover, they are established in the entire state whereas sunflower is grown on a miniscule area in two districts, Using the term trend keeping in mind the procurement of sunflower only in two years (2009-10 and 2010-11) may not be justified.
2. In fact in Table 2.21 block wise market arrivals of sunflower are given, which the coordinator wants to be incorporated. As mentioned in the report every inhabited village in Haryana is electrified and linked with roads. The comment is unwarranted.
3. Complete information about production, procurement, arrivals and MSP of Rapeseed Mustard in Haryana is provided in table no. 3.5 (page 26) and discussed (page 24-26 draft report). If it is redundant from the point of view of coordination it can be ignored. The comment is unwarranted.
4. Subtitles in the tables do mention the names of the districts and the crop. Still wherever it is necessary, changes are incorporated.
5. All percentages, like about 83% and 536% increase in number of tractors, during the respective decades, are absolutely correct. Comment is unwarranted.
6. Only in table 2.7 footnote was needed which has been incorporated
7. No action is needed. Comment unwarranted.
8. Incorporated but Table 3.1 does not require.
9. Incorporated.
10. In fact the area and production mentioned in the earlier table pertain to Kurukshetra. Comment is unwarranted.
11. Mustard is neither grown and nor sold in the mandies of Ambala. Major mustard growing districts are Hissar, Rewari, Mahendergarh, Sirsa and Bhiwani where 85 to 90 % mustard is grown. In Ambala less than 0.2% area is covered under mustard and that too is to use mustard leaves as green vegetable "sarson ka saag" by the hotels and dhabas on the

National Highway. Or whatever little production takes place that might have been used for extracting oil for home consumption. Comment is unwarranted.

12. No action is needed.

13. Deleted.

14. I am learning typing. Needed corrections are carried out.

VII Overall comment

In view of the miniscule level of involvement of the agency in PSS operations of sunflower vis-à-vis its total businesses and volume and in view of almost negligible number of observations of PSS, only for two years during the last 2-3 decades of sunflower production and almost negligible procurement 0.66% and 0.45% of marketable surplus/ production during the respective years, and in absence of adequate secondary data about area, production etc. of sunflower above comments may not be justified. However, we as usual has revisited the entire report and revised wherever necessitated.