INTRODUCTION

The Punjab state has total geographical area of 5.03 million hectares out of which 4.20 million hectare is under cultivation(about 83%). The cropping intensity of Punjab is 189%. Agriculture is a way of life. More than 65% of its population depends directly on agriculture. It has shaped the thought, outlook, culture and economic life of our people and will continue to control all strategies for planning socio-economic development of the state in future also.

Since the advent of green revolution, the state has made rapid strides in agricultural sector. The productivity of wheat has increased from 42 qtl. to 50.97 qtl./hectare from in year 2011-12. The state has achieved the prestigious Krishi Karman Award for year 2010-11 by record production of 278.67 lac tons of food grain crops. Inspite of minimal rains during Kharif 2011, the state has produced 157.34 lakh tons of paddy out of which 120 lakh tons of paddy was bought in markets of the state. The area under Basmati remained at 5.58 lac hectare. Similarly the state has beaten all previous records by producing 179.82 lakh tons of wheat during Rabi 2011-12. The state has played a prominent role in achieving self sufficiency of food grains by contributing 50-60% wheat and 35-40% rice to the central pool. The land use pattern of the state is given in table – 1. The area and production under various crops is given in table –2.

Strenuous efforts were made to sustain cotton production. The state has been able to produce 16.21 lac bales in an area of 5.15 lac hectares during 2011.

The state has produced 169.76 lakh tons record production of paddy during Kharif 2012 out of which 134 lakh tons of paddy was procured by the state.

All this, has become possible by implementing various state & centrally sponsored schemes by different sections of the department.

TABLE – I
Land Use Pattern of Punjab

Area "000" Hectare.

S. No.	Classification	1990 -91	2000 -01	2007 -08	2008 -09	2009 -10	2010 -11	2011 -12(p)
1.	Reporting area for Land use	5033	5033	5033	5033	5033	5033	5033
2.	Forest	222	280	287	296	295	294	293
3.	Land not available for cultivation	426	438	507	517	528	532	533
a)	Land put to non-agri. use	343	410	483	494	503	508	508
b)	Barren & Uncultivable Land	83	28	24	23	25	24	25
4.	Other Uncultured Land	57	22	10	10	11	12	11
5.	Fallow Land	110	43	42	39	41	37	38
6.	Net area Sown	4218	4250	4187	4171	4158	4158	4158
7.	Area sown More than once	3283	3691	3695	3741	3717	3724	3722
8.	Total Cropped area	7501	7941	7869	7912	7875	7882	7880
9.	Net Irrigated area	3909	4038	4077	4064	4073	4070	4071
10.	Gross Irrigated area	7055	7664	7688	7724	7714	7724	7723
11.	Cropping Intensity %	178	187	189	190	189	189	189

P=Provisional

TABLE – II

AREA PRODUCTION AND AVERAGE YIELD OF DIFFERENT CROPS

A = Area '000' Ha.
P=Prod. '000' Tonnes/Bales
Y = Yield Kg/Ha.

Kharif Crops		2010-11	2011-12	Rabi Crops		2010-11	2011-12
Rice	A	2831	2818	**Wheat**	A	3510	3528
	P	10837	10542		P	16472	17982
	Y	3828	3741		Y	4693	5097
Maize	A	133	126	**Barely**	A	12	12
	P	491	502		P	44	47
	Y	3693	3981		Y	3652	3892
Total Kharif Pulses	A	15	13	**Gram**	A	2.1	1.8
	P	12	9		P	2.7	2.2
Total Kharif Oil Seeds	A	8	7	**Other Rabi Pulses**	A	4.3	3.8
	P	6	5		P	4.8	4.2
Cotton	A	483	15	**Total Rabi Oil Seeds**	A	31	29
	P	1822	1621		P	41	37
	Y	641	535				
Sugarcane	A	70	80	**Sunflower**	A	14.6	14.4
	P	4904	5653		P	24.3	25.8
	Y	70059	70664				
				Total Food Grains	A	6489	6506
					P	27867	29091

ADMINISTRATIVE SET UP OF AGRICULTURE DEPARTMENT PUNJAB

Director

ADMN. WING	STATISTICAL WING	GEOLOGY WING	ENGINEERING WING
Joint Director Agri. 1. Cane Commissioner 2. Extension & Training 3. High yielding Variety Programs. 4. Cash Crops 5. Inputs 6. Plant protection 7. Innovation and Pulses	**Joint Director Agri.** 1. Statistics 2. Agri. Census	**Joint Director Agri.** Hydro-Geology	**Joint Director Agri.** 1. Engineering
Deputy Director 1. Deputy Director (H.Q.) 2. Deputy Director (L.C.P.P.) 3. Deputy Director (Cotton) 4. Deputy Director (Oilseeds) 5. Deputy Director (Pulses) 6. Deputy Director (Seed) 7. Seed Testing Officer 8. Sr. Analyst 9. Analyst	Statistician	Hydro-Geologist	Agri. Engineer (Implements) Agri. Engineer (Tube wells)
Chief Agricultural Officer/ District Training Officer Project Officer Subject Matter Specialist	Statistical Officer/ Asstt. Statistician/ Field Officer/ Technical Asstt.	Asstt. Hydro-geologist	Agri. Engineer/ Asstt. Agri. Engineer
Block Agri. Officer Soil Testing Officer	Statistical Asstt. Field Asstt.	Section Officer	Asstt. Agri. Engineer-I/ Agri. Inspector (Implement) Mechanic
Agri. Dev. Officer/ Agri. Sub Inspector			

DISSEMINATION OF AGRICULTURAL TECHNOLOGY

With the introduction of new technology at a rapid speed, practical training and education to the farmers engaged in agriculture and allied occupations had become necessity of the day. Agricultural Information Wing plays a major role in transmitting the latest farm technology to the farmers through farmers training camps and literature. Various activities under taken are as under:-

a) Farmer's Training

To impart training to the farmers, there are 12 Farmers Training Centers in the State including PAU. Ludhiana & Khalsa College, Amritsar. About three lac farmers are imparted training every year during Rabi and Kharif seasons and also by holding specialized training course in agriculture & other allied subjects. 5740 training camps/programmes were organized to disseminate latest farm technology amongst farmers during 2011-12 under various schemes like Training, National Food security Mission, Extension Reforms, SRTT and ISOPOM etc . . The detail of camps is given as under:

Name of Training Camps	Achievements
District level training camps during Rabi and Kharif	47
Block level training camps	319
Vilalge level training camps	4508
TOTAL	**4874**

b) Bulletins & Books

During 2011-12,approximately 150,000 copies regarding crop practices were distributed among farmers of Punjab state.

c) Publicity through Press

On the basis of Research and Policy Decisions, News and Advertisements both in English and Punjabi version are regularly issued to the farmers for their guidance and information.

d) Agriculture Fair & Exhibitions

Agriculture Information Unit arranged Agricultural Exhibitions at the District/State level during farmers Training Camps/Melas/Agrotech with the help of the field staff. Training was imparted to the farmers for the adoption of latest scientific technology. Practical demonstrations were also arranged at these exhibitions sites for the benefit of the farmers.

e) Publicity through Doordarshan (T.V. Talks) under Mass Media Support for Agriculture Extension.

Under this scheme, Agriculture based T.V. program including talks on various subjects relating to agriculture and Horticulture for the benefit of the farmers were given by the experts of the Department in "Krishi Darshan" program from time to time and 261 such programs were telecasted on Door

Darshan Jalandhar during 2010-11 and 436 main topics were covered. Out of this 248 under programme " Mera Pind Mere Khet" and 188 under prog"Savi Dharti".108 Live Phone in Programmes. and 12 Special Live in phone programmes (Once a Month) were telecasted. Four crop seminars were also arranged and broadcasted through Door Darshan Jalandhar during same period.

f) Kisan Call Centre

The Govt of India has launched a Kissan Call Center on 21.1.2004 to solve the emerging needs of the farmers in the country. The purpose of the KCC is mainly to respond the issues raised by the farmers in the local languages prevailing in the areas instantly on a continuous basis. A toll free phone number-1551 & 1800-180-1551 has been allotted to answer the queries of the farmers. The Kisan Call Center, Punjab have been set at Chandigarh. During 2010-11 adequate publicity has been given for both toll free numbers during farmers training camps, Seminars, T.V. talks, etc. Posters have also been distributed for its wide publicity.

TRANSFER OF TECHNOLOGY

To boost crop production, various crop oriented programs were implemented in the state like production of certified seeds, Cotton Development Program, Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM), Sugarcane Development Program, Support to State Extension Program for Extension Reforms, Plant Protection, Rashtriya Krishi Vikas Yojna (RKVY) and National Food Security Mission. The detail of the progress of these programs are as given below:-

A) Production of certified seeds

The wheat and paddy are the major crops in the state. To feed the increasing population of the country, it is very essential to increase the production of these crops. The objective can be achieved by increasing the area as well as per unit productivity. At present increase in area is not possible. So increase in production is only possible by increasing the per unit production of these crops in the state.

The timely supply of inputs plays a major role in achieving higher production. The most important inputs are good quality seeds, fertilizers, pesticides etc. Keeping in view the overall objective of increasing the production and productivity in the State, under various schemes certified seed of crops is distributed through various agencies in the state. Total 1709539 quintals of paddy, maize , cotton , kharif pulses, wheat , rabi oilseeds, gram and barley seed is distributed in 2011-12.

The achievements of Area & Production of rice, maize and wheat during the year 2010-11 and 2011-12 are given as under:-

A = Area '000' Ha.
P = Production '000' MT
A/Y = Average Yield: Kg/Ha.

	2010-11			2011-12		
Crop	**A**	**A/Y**	**P**	**A**	**A/Y**	**P**
Rice	2831	3828	10837	2818	3741	10542
Maize	133	3693	491	126	3981	502
Wheat	3510	4693	16472	3528	5097	17982

B) Cotton Development Program.

Cotton is a major cash crop in the south western districts of the state. To enhance cotton production the following scheme was in operation in the cotton belt of the state during period of year 2011-12 :-

- Integrated Pest Management(IPM) Cotton Technology through Social Mobilization by Sir Ratan Tata Trust (SRTT) scheme is in operation in 10 districts of cotton belt from year 2005-06. Scheme is run by state and Sir Rattan Tata Trust in collaboration on (50:50) sharing basis. During 2011-12 under this scheme 300 villages of cotton belt were adopted by State and SRTT (150each) against 300 villages (150 by states and 150 by SRTT).

during 2010-11. Rs. 81,13,200/- were sanctioned as Trust share and out of these Rs. 78,84,806/- were utilized . Financial sanction of Rs. 24,85,000/- was accorded as matching grant and out of this Rs. 24,50,224/- utilized to implement the scheme .

- **To improve the Productivity and Production of Cotton** a scheme was implemented with the help of Department of Rural Development, Punjab during year 2011-12. Under this scheme Fund allocation of Rs. 195.8 lac was provided to P.A.U., Department of Agriculture, Punjab, and MARKFED jointly. 400 villages were selected in districts Bathinda, Ferozepur, Mukatsar, Faridkot, Mansa, Barnala and Sangrur. been kept for this purpose. The detail of progress during 2011-12, is given below:-

Sr. No.	Districts	Name of the Block	Name of Villages		Name of Deptt.
1	Bathinda	Sangat	14	114	Agriculture Deptt.
		Bhucho	12		Agriculture Deptt.
		Rampur	14		Agriculture Deptt.
		Talwandi Sabo	20		Markfed
		Mour	20		Markfed
		Bathinda	34		P.A.U
2	Mansa	Mansa	20	40	Agriculture Deptt.
		Budhlada	20		Agriculture Deptt.
3	Ferozepur	Khunya Sarvar	34	69	Agriculture Deptt.
		Abohar	35		Agriculture Deptt.
4	Sri. Mukatsar Sahib	Lambi	30	100	Markfed
		Mukatsar	70		P.A.U
5	Sangrur	Sunam	10	20	Agriculture Deptt.
		Lehra Gaga	10		Agriculture Deptt.
6	Barnala	Barnala	10	10	Agriculture Deptt.
7	Faridkot	Faridkot	47	47	P.A.U
		Toal:-	**400**	**400**	

Under above scheme Technical information regarding Cotton Crop was disseminated to farmers during 2011-12.

C) Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM)

Oil seeds & Pulses are rich source of proteins and both are a part of our daily human consumption. Our country has to import oilseeds & Pulses to meet its requirements. To boost production, the Govt. of India has earlier implemented an Oil seeds Production Programme (OPP) and National Pulses Development Project (NPDP) under the Technology Mission of Oil Seeds & Pulses (TMOP) on 75:25 sharing basis till 2009-10 in the state. With a view to further lessen the burden of imports, the Govt. of India has launched another ambitious programme of Integrated Scheme of Oilseeds, Pulses, Oil Palm and Maize (ISOPOM) on 75:25 sharing basis during 2010-11 in the state.

a) Oil Seeds

During 2011-12, for ISOPOM administrative approval was not received from G.o.I. To popularize different seed varieties during the year 2011-12, 25200 seed minikits are distributed free of cost. The detail alongwith area and production of oilseeds is given below:-

Name of Component	Unit	Physical Target 2010-11	Physical Achivement 2010-11	Physical Target 2011-12	Physical Achivement 2011-12
Distribution of Seed Minikits met by GOI (100%)	Nos.	34000	33999	25200	25200
Block Demonstration Plots(5 Hect. Each)	Hec.	500	285	1000	Achievements not done due to non approval of funds by GOI
IPM Demonstration plot (10 Hec. Each)	Hec.	20	10	270	-
Farmer Traning Camps	No.	50	40	100	0
Officers Traning	No.	5	5	10	0
Plant Protection Equipment	No.	3333	3333	4000	-
Plant Protection Chemical	Hec.	11533	11533	8000	-

(b) Maize

Maize is the third main Kharif crop of Punjab. 1.26 lakh hectares of area was covered under this Crop during Kharif, 2011-12 in the state. It is mainly sown in Hoshiarpur, Ropar, S.B.S. Nagar, Amritsar, Gurdaspur, Jalandhar, Kapurthala, Patiala, Ludhiana, Mohali, Moga, Bathinda & Fatehgarh Sahib. Maize can play important role in crop diversification policy of the state. It is used in poultry and animal feed and for the manufacture of starch, glucose, corn

flakes. It is also used as a human food (Makki di roti) in winter season as a special delicious recipe in combination with Sarson ka-sag. Baby corn is eaten as Salad and used for cooking vegetables and preparing pickles, pakoras, soups, etc. Maize is also one of the main fodder crop of the state. Detail of Achievement is given below:-

Sr. No.	Component	Physical Progress in (Nos.)	
		Year 2010-11	Year 2011-12
1.	Farmers Training Camps	40	-
2.	I.P.M. Schools	31	-
3	Block Demonstration Plots	45	-
4.	Plant Protection Chemical/Weedicide	17691 Kg. Atrazine	-
5	Publicity	257 Books	-
6.	Maize Minikits Distribution		
	(a) Kharif Season	10000	19984
	(b) Rabi Season	10000	5000

The implementation of ISOPOM scheme in Punjab has played a pivotal role in increasing the area under winter/ spring maize. The progress in the last years is as under (since 2004-05):

Year	Area(000 Ha)	Yield (MT/ha)	Production(MT)
2004-05	1	5.0	5000
2005-06	5	5.5	27500
2006-07	10	6.0	60000
2007-08	15	6.5	97500
2008-09	22	7.0	154000
2009-10	25	5.0	125000
2010-11	30	7.5	225000
2011-12	30	8.0	240000

Apart from it, a permanent maize scheme (staff scheme) is also being implemented to enhance maize production in the state.

D) **Sugarcane Development Programme**

At present, there are 24 Sugar Mills in the State, out of which 16 are in Cooperative Sector and 8 are in Private Sector. Out of 16 coop. sugar mills

in the State, 7 sugar mills are under liquidation and one private sugar mill has also not operated since 2009-10. The total cumulative crushing capacity of 24 sugar mills is 70016 T.C.D. whereas the capacity of working 16 sugar mills is 54,266 T.C.D.

The year- wise detail is given below:-

S.No.	PARTICULARS	CRUSHING SEASON	
		2010-11	2011-12
1.	Cane Crushed (lakh tons)	34.33	42.7
2.	Sugar produced (lakh tons)	3.02	3.90
3.	Recovery of sugar (%age)	8.80	9.13

The area under sugarcane has increased during the year 2011-12 due to the following reasons:-

1. Fixation of higher SAP by the State Govt. for the years 2011-12.
2. Higher SAP has been fixed before the onset of the sowing season of sugarcane.
3. It was ensured that the sugarmills donot crush the seed crop.
4. Incentives/ assistance was provided to the cane growers for various components under the Macro Management Scheme and RKVY Scheme to encourage the farmers towards sugarcane cultivation.
5. Timely payment of cane price by the sugarmills to the cane growers was ensured.

Development programme

Cane Development programmes regarding sowing of sugarcane crop, ratoon management etc. were chalked out by the Sugarmills to increase the Sugarcane production and productivity per unit area. Accordingly, mill wise targets were fixed, farmers training camps and seminars etc. were organized in mill areas. Farmers were advised by the Agriculture experts from the Department and P.A.U. Ludhiana to follow proper package and practices and adopt latest techniques to increase the yield of sugarcane and get additional income etc. Strenuous efforts were made to promote new techniques of sugarcane plantation such as Trench/Ridge method, to save water.

Targets and Achievements for the year & 2010-11 & 2011-12:-

	PARTICULARS	YEAR 2010-11		YEAR 2011-12	
		Targets	Achievement	Targets	Achievement
1.	Area (Hect.)	90,000	70,000	80000	80000
2.	Average yield (Ton/ Hect.)	60.00	70.45	60.00	70.66
3.	Production (Lakh Tons)	54.00	49.04	60.00	56.53
4.	Distribution of Seed (000 tons)	300	430	350	450
4.	**Plant protection Measures (Hectares)**				
i)	Seed treatment	20,000	6121	20,000	7015
ii)	Soil treatment	20,000	36,018	20,000	37020
iii)	Ground spray	50,000	33,121	50,000	34150
iv)	Top borer control	20,000	11,419	20,000	13415

Training to the Farmers

The farmers were acquainted with the latest techniques of sugarcane production by the experts. For this purpose, farmers training camps/demonstrations/seminars were organized in all the mill areas, before the onset of Spring and Autumn sowing of Sugarcane in which the experts from P.A.U., Ludhiana and Cane section of the Department of Agriculture, disseminated technical knowledge to the cane growers regarding package of practices.

Financial Programme

The detail of expenditure incurred under various schemes during the year 2010-11 and 2011-12 is as under:- **(Rs.In lakh)**

S. No.	Name of Scheme	YEAR 2010-11		YEAR 2011-12	
		Budget allotment	Expenditure	Budget allotment	Expenditure
1.	**Scheme "Direction and Administration"**	75.06	73.14	103.87	102.93
2.	**"Macro-Management Centrally Sponsore work plan-Programme for the development of major crops (i.e . sugarcane)"**	33.34	9.96	43.46	-

3.	**Rashtriya Krishi Vikas Yojna**	80.35	80.35	19.75	19.75

d

E) Support to State Extension Programme for Extension Reforms

After the successful implementation of ITD-component of National Agriculture Technology Project (NATP), the Govt of India approved the implementation of centrally sponsored Scheme "Support to State Extension Programme for Extension Reform (90:10) during the 10th five year plan. This scheme was implemented on 01.07.2005. The main objective of the scheme is to reform public sector extension, promoting private sector to effectively complement / supplement and wherever possible to substitute public extension, Augmenting Media and Information Technology support for Extension, Main Streaming Gender concern in extension, capacity building / skill upgradation of Farmers and extension functionaries etc.

The scheme is being implemented by the autonomous Agricultural Technology Management Agencies (ATMA's) at district level and Sustainable Agriculture Development Agency (SADA) Punjab at state level. During 2010-11, amount of 463.73 lac was released by Govt. of India and 48.16 lac by Govt. of Punjab and 204.30 lac was previous year balance . Therefore amount of 716.19 lac was available during 2010-11 out of which funds in the tune of 468.52 lac were utilized during this year.

During 2011-12 the achievements of scheme are given below:-

S.No.	Components	Physical Progress (no.) 2010-11	Number of Participants 2010-11	Physical Progress (no.) 2011-12	Number of Participants 2011-12
1.	Kisan Mela	33	38522	38	42735
2.	Farmer Scientist Interaction	19	587	18	957
3.	Training Farmers				
	Interstate	71	254	149	2202
	District	171	1102	323	4553
	Village	3910	26899	10220	32591
4.	Demonstrations				
	i) Agriculture	3548	16534	5794	24967
	ii) Agriculture Allied	3248	10654	1905	4744
	iii) Farmer to Farmer Technology	246	803	77	3242

5.	Exposure Visits i) Interstate ii) Within State iii) Within District	154 457 105	1399 4016 7140	897 996 2667	5831 5102 6215
6.	Field day & Kisan Goshti	172	10648	118	15491
7.	Farm Schools	105	---	108	---
8	Farmer Awards	8	---	32	---

F) PLANT PROTECTION

Due to multiple cropping, the incidence of pests & diseases has cropped up. Various plant protection measures were adopted for judicious use of pesticides. To achieve the objective, the following plant protection schemes were implemented for the benefit of farmers during 2011-12.

(Rs. In Lac)

S. No.	Name of the Scheme	2011-12	
		Budget allotment	Expenditure
1.	2401 – Crop Husbandry 001 – Direction and Administration – Non Plan	70.00	67.00

The scheme shown at Sr. No.1 is a staff scheme and no physical targets were fixed in it.

G). Rashtriya Krishi Vikas Yojna (RKVY)

RKVY is state plan scheme and is 100% sponsored by Govt. of India. The scheme was in operation in Punjab state during 2011-12. The main objectives of scheme are given below:-

- To incentivize the states that increase their investment in Agriculture and allied sectors To provide flexibility and autonomy to the States in planning and executing programs for agriculture
- To ensure the preparation of Agriculture Plans for the districts and states
- To achieve the goal of reducing the yield gaps in important crops
- To maximize returns to the farmers
- To address the agriculture and allied sectors in an integrated manner.During 2011-12 , amount of Rs. 145.87 crore were released by Govt. of India and amount Rs. 24.65 crore were utilized under this scheme. The main achievements of this scheme during 2011-12 is given below:-

(Year 2011-12 **Rs. in lacs**)

Sr. No	Project Description	Funds released	Expen. Nov., 11	Physical Progress
1	Subsidy on WheatSeed	350.00	350.00	9120 quintals of wheat seed distributed on subsidy.
2	Subsidy on Barseem seed	500.00	500.00	4999.50 quintals of barseem seed distributed on subsidy.
3	Control of yellow rust on wheat crop	250.00	250.00	82645 lt. of Propiconazole was distributed on subsidy.
4	Efficient distribution of Fertilizers in the State	630.00	630.00	Financial aid was given to Markfed for efficient use of fertilizers in the state.
5	Ameoliration of soil fertility in the state	130.0	30.0	Funds were released to soil testing labs
6	Strengthing of the soil testing labs	50.0	23.0	Three soil testing labs were upgraded as per requirements of N.A.B.L
7	Pesticide residue testing laboratory at Jalandhar	50.0	0.00	Work under progress to make this lab functional
8	Construction of farmers traing centre at Gurdaspur	200.0	200.0	Funds trasfeered to Punjab Mandi Board for construction of building of Farmers Training centre at Gurdaspur
9	Exposure Visits	130.25	92.35	Three foreign visits were made to make agriculture more modernized
10	Administrative Expenditure	5.00	4.50	To run the RKVY scheme smoothly
11	Distribution of paddy transplanters on subsidy	150.0	65.50	46 paddy transplanters were distributed to the 46 farmers
12	Mechanization of harvesting of the sugarcane crop	19.75	19.75	Cane harvester was supplied to the sugar mill at phagwara (kapurthala)

H) National Food Security Mission (NFSM)

It is a100% centrally sponsored scheme. 10 districts namely Amritsar, Tarantaran, Sangrur, Barnala, Ropar, Mohali, Gurdaspur, Hoshiarpur, Bathinda and Ferozepur were selected for Wheat besides Amritsar, Tarn-aran, Sangrur, Barnala, Gurdaspur, Ferozepur& Ludhiana were selected for Pulses . An amount of Rs.3571 lac were available out of which Rs.2828 lac were utilized under different components of Wheat including local initiatives. Financial assistance is provided to farmers under this scheme. The physical achievements of distribution to the farmers in this scheme during 2011-12, are as under:-

(NFSM Wheat)

				2010-11		2011-12	
S. No.	**Approved Intervention**	**Assistance@ Rs.**	**Unit**	**Target**	**Achievement**	**Target**	**Achievement**
1.	Demonstration on improved package of practices (Wheat)	2000/- Per Demo.	Nos.	6095	6095	6000	6000
2.	Increase in SRR (Seed distribution)	500/-per Qt.	Qtl.	320000	297719	300000	243692
3.	Distribution of seed minikits	Full Cost	No.	30486	30486	30486	30922
4.	Incentive for Micro-nutrients	500/ per hect. or in proportion	Ha.	270000	270000	250000	-
5.	Zero-Till Seed Drills /Multi Crop Planters/ Seed Drills	15000/-per machine	No.	1325	1079	905	840
6.	Rotavators	30,000/- per machine	No	1030	1030	1456	1474
7.	Farmers trainings on FFS pattern (one FFS at every one thousand ha.)	17000/- per training	No.	305	305	200	200
8.	Knap Sack Sprayers	3000/- per machine	No.	--	--	0	0

Under NFSM Pulses , detail of achievements during 2011-12 is given on next page:-

NFSM Pulses

S.No.	Intervention	Assistance (@)/Rs.	Unit	2010-11		2011-12	
				Target	Achievement	Target	Achievement
1.	Seeds						
a.	Production of Foundation Seeds	1000/Qtl	Qtl	200	77.55	100	–
b.	Production of Certified Seeds	1000/Qtl	Qtl	650	650	500	500
c.	Distribution of Certified Seeds	1200/Qtl	Qtl	4170.58	3517.81	8950	75
2.	Micronutrients (INM)*	500/Hact.	Hact	20,000	20,000	10000	–
3.	Integrated Pest Management(IPM)	750/Hact.	Hact	1000	1000	4000	3500
4.	Zero Till Drills/Multi Crop Planters/ Seed Drills	15000/ Machine	No.'s	350	350	200	185
5.	Rotavators	30000/ Machine	No.'s	400	400	367	370
6.	Knap Sack Sprayers	3000/ Machine	No.'s	1000	---	0	0
7.	Farmer Field Schools	17000/ Training	No.'s	20	8	35	35
8.	Distribution of Laser Land Levellers	1,50,000/ per machine	No's	50	60	50	45
9.	Distribution of PP Chemicals	500/Hact.	Hact	1500	1500	4000	3825

*** Integerated Nutrient Management**

SUPPLY OF AGRI-INPUTS

Timely and adequate availability of inputs is vital for enhancing crop productivity. Strict vigil was maintained on the supply of seeds, fertilizers and pesticides to the farmers in the state. These inputs were supplied under various schemes. The progress is given as under:-

(A) CHEMICAL FERTILIZERS AND COMPOSTS

i) Consumption of Fertilizers

Balanced and judicious use of fertilizers is essential for increasing the agricultural production. As a result of extensive training and promotion programmes launched by the Department of Agriculture, consumption of fertilizers in the State has increased many folds over the year and now the per unit area consumption in the State is highest in the country. The consumption of fertilizers in the State from 2006-07 to 2011-12 is given as under:-

CONSUMPTION (NUTRIENT IN '000' TONNES)

Year	N	P	K	Total
2006-07	1299	354	39	1692
2007-08	1316	344	38	1698
2008-09	1332	379	57	1768
2009-10	1358	433	74	1865
2010-11	1403	435	73	1911
2011-12	1479	446	54	1979

However, to reduce the use of chemical fertilizers, organic farming and bio- fertilizers are being encouraged in the state.

ii) Supply of micro nutrients (On sale basis)

Due to intensive cropping, deficiency of micro-nutrients has appeared in the soils of the State which adversely affect the crops yield. Deficiency of Zinc has appeared especially in the soils having coarse texture, low organic matter and high ph value. Major crops in which deficiency of Zinc has been noticed are wheat, maize and paddy. In order to meet the deficiency of Zinc, 321981 MT of Zinc Sulphate was consumed in the State during the year 2011-12 . Generally, in paddy crop, ferrous sulphate is applied as foliage spray to make up the deficiency of Iron and 2369 tonnes of ferrous sulphate was used for this purpose during 2011-12.

iii) Supply of Gypsum for Land Reclamation

Scheme for the reclamation of alkaline soils is implemented on 90:10 with assistance of Govt. of India. Under this scheme, gypsum is given to the farmers on 50% subsidy. Progress made during 2010-11 & 2011-12 is as under:-

Year	Amount of subsidy (Lac Rs.)	Gypsum distributed (MT)	Area reclaimed (Hectare)
2010-11	37.50	19995	3999
2011-12	50	3726.65	745

vi) Organic Farming.

In year 2010-11, under National Project on Organic Farming grant of Rs.0.92 lac was received and 0.65 lac was incurred. 6training camps, were organized . Literature of Rs. 4500/- was distributed free of cost to the farmers. During 2011-12, no grant was given for this purpose.

v) Production of Rural Compost and Town compost

Extensive use of organic manures improves the soil structure and maintains the fertility level of the soil. Compost is very useful organic manure. In addition to major nutrients, it also supplies vital micro – nutrients to soil. It improves the water holding capacity of the soil. Its use ensures availability of nutrients to the plants over a longer period of time. Temperature fluctuation in the upper layer of the soil are minimized which help in better root development. All these factors help in increasing the crop production.

However, a large number of farmers still do not adopt recommended methods of preparation and conservation of rural compost resulting in production of manure of poor quality and lesser in quantity. Therefore, in order to educate the farmers about the importance and utility of production and conservation of rural compost on scientific lines and improving its quality & quantity, rural compost work was carried out in the State under Non-plan Scheme during the year under report. There was a provision of one compost Inspector each for 64 blocks of the State under this Scheme. However, with the help of staff provided under other schemes of the Department of Agriculture, rural compost programme was carried out in whole of the State.

Composting of urban waste is a sound system from the point of view of sanitation as well as supply of rich organic matter to the soil. In order to achieve this objective, all the Municipal Committees/Municipal Corporations/Notified Area Committees in the State were advised to conserve urban waste property and supply town compost to the farmers at reasonable rate.

Under the rural compost scheme, Rs. 66.15 lac was allotted during 2011-12 . The expenditure incurred was Rs. 64.76 lac. The district wise rural compost production is given in Table-I. The physical achievement of this programme during 2011-12 is as under:-

S. No.	Component	Unit	Physical Target	Physical Achievement	Remarks
1	Compost samples taken	Nos.	1200	701	Only 322 samples were

2	Quantity of rural compost	Lac tones	307	307.5	analyzed by PAU, Ludhiana
3	Demonstrations held	Nos.	-	4025	
4	Celebration of compost fortnight	Nos.	1	1	
5	Exhibitions Arranged	Nos.	-	3329	

vi) Green Mannuring for maintaining soil fertility

Green Mannuring is one of the effective way of increasing and maintaining the fertility of the soils at a relatively low cost. Farmers are, therefore, advised to adopt green manuring on a large scale. During 2011-12 , the achievement of area coverage under green manuring was 2,06,927 hectares against the target of 2,05,000 hectare. The district wise targets and achievements of green manuring during 2011-12 are given in Table – I.

TABLE – I

S. No.	District	Production of Rural Compost (lac tonnes)		Area Coverage under Green Mannuring (Ha.)	
		Target	Achievement	Target	Achievement
1	Amritsar	12	12.25	9000	8011
2	Bathinda	15	11.40	10000	9923
3	Faridkot	15	16.34	11000	9051
4	Fatehgarh Sahib	15	13.55	10000	12977
5	Ferozepur	20	21.00	14000	15500
6	Gurdaspur	20	20.90	10000	10020
7	Hoshiarpur	18	20.26	10000	10850
8	Jalandhar	20	19.11	15000	16012
9	Kapurthala	19	17.97	10000	10001
10	Ludhiana	19	21.00	10000	16150
11	Mansa	15	15.96	10000	10780
12	Moga	15	13.11	10000	8519
13	Mohali	14	14.05	9000	9118
14	Sri Mukatsar Sahib	15	13.46	10000	9500
15	S.B.S.Nagar (Nawanshahar)	15	16.71	10000	9595
16	Patiala	15	17.13	11000	9395

S. No.	District	Production of Rural Compost (lac tonnes)		Area Coverage under Green Mannuring (Ha.)	
		Target	Achievement	Target	Achievement
17	Ropar	10	10.00	7000	7580
18.	Sangrur	15	17.00	9000	5500
19.	Tarantaran	10	06.32	10000	7530
20.	Barnala	10	09.98	10000	10915
	Total	307	307.50	2,05,000	2,06,927

(B) Supply of Seeds for better Productivity

The use of certified seed as well as quality seed is one of the basic input which increases the production and productivity of the crop. The details of distribution of certified seed during 2011-12 is as under:-

Crop	2010-10	2011-12
Paddy	226057	290266
Maize	27223	29753
Cotton	6972	8500
Kharif Pulses	1992	2126
Wheat	1276804	1367617
Rabi Oilseeds	867	957
Gram	885	925
Barely	7823	9395

(C) Supply of Pesticides

The need based applications of pesticides ensures control of pests & diseases. These are supplied to the farmers by the manufacturers through their dealers network in the state. 5690 MT of (technical grade) pesticides were consumed during 2011-12 against 5600 MT of the previous year.

(D) Supply of fertilisers

During year 2010-11, Rs. 5,70,44,022 /- were spent by Markfed and Punjab Agro under RKVY scheme for efficient utilization of fertilizers in the state. In 2011-12, Rs. 2,45,00,000/- were spent by Markfed under RKVY scheme.

QUALITY CONTROL OF AGRI-INPUTS

To enhance productivity of various crops, agri-inputs viz:- seeds, fertilizers, pesticides and micro-nutrients are supplied to the farmers by the institutional agencies like Markfed , PAIC, Cooperative Societies, KRIBHCO, Seed companies, and manufacturing companies of pesticides & fertilizers through their dealer's net work or their own sale outlets. It is, therefore, essential that these inputs are tested to ensure quality products to the farmers. For this purpose, two seed testing labs, three pesticides testing labs, two fertilizer testing labs are working in the state. Besides, 66 soil testing laboratories are also working to test the fertility status of the soils. The progress of quality testing of various inputs is as under:-

a) Quality control of seeds

Availability of quality seed is essential to ensure maximum returns. Admixture, diseased, insect damaged & poor quality seeds adversely effect productivity of the crops. Sample-wise quality seed testing report during 2011-12 as under :-

Kind of seed sample	Target	Sample analyzed 2010-11	Sample Found Non Standard 2010-11	Targets	Sample analyzed 2011-12	Sample Found Non Standard 2011-12
Seed Act (Enforcement)	5000	4276	111	5000	3930	250
Service sample	4300	4553	918	4300	4033	1059
Bunt	200	658	19	200	441	14
Seed certification	6500	11022	477	6500	12112	1713
University farm	----	-----	-----			
Grow out Test Sample	----	-----	-----			
Total	**16000**	**20509**	**1525**	**16000**	**20516**	**3036**

b) Quality Control of fertilizers

To ensure the supply of quality fertilizers to the farmers, strict check is kept over the supply of fertilizers in the State under Fertilizers Control Order, 1985. All the Agricultural Development Officers (B.Sc. Agri.) Agricultural Officer, Chief Agricultural Officer, Joint Directors of Agriculture (Administrative wing) have been declared 'Fertilizer Inspectors' under the Fertilizers Control Order, 1985 to check stocks and draw fertilizer samples and take action under different sections of FCO 1980 in their respective jurisdiction. Large number of fertilizer samples are taken every year from the stocks of fertilizer dealers especially of those fertilizers which are more prone to adulteration i.e. DAP, SSP, Complex fertilizers, Zinc Sulphate, Ferrous Sulphate etc. Quality control campaigns were also organized in the State during peak consumption periods of

both Kharif and Rabi seasons during 2011-12. Fertilizer samples were drawn and sent to Fertilizer Quality Control Laboratories for analysis. 2994 samples were analyzed out of which 34 samples were found non-standard. The legal as well as administrative action is being taken against the defaulters whose samples were declared non standard. The Target & Achievement of fertilizers sample testing during the last three years is as under:-

Year	Target	Samples Analysed	%age achievement	Samples found non-standard	%age of Non-standard samples
2009-10	3000	3067	102.9	24	0.78
2010-11	3000	3123	104.1	50	1.6
2011-12	3000	2994	99.8	34	1.1

Apart from above during 2011-12, at Soil, Water Testing and Leaf Tissue Analysis Lab, established at Integrated Farmers Training Centre Abul Khurana, Distt. Mukatsar became functional by I.M.T. Technology , Pune. In this laboratory testing facilities for soil, water and leaves have been provided .1753 samples were tested in 2011-12.

Soil Testing for balanced use of fertilizers

Soil testing helps in balanced and economic use of fertilizers, rotational use of land for cropping, use of soil amendments for redemption and correcting micronutrients deficiency of the soils. To achieve the above goals, there are 66 soil testing laboratories working in the State. The progress of testing of soil and water samples is given below:-

Year	Total Samples (Soils and Water) (No.in Lacs)
2010-11	2.29
2011-12	2.34

To give fillip to soil testing work in the State and to ensure the use of recommended doses of fertilizers by the farmers, each soil testing Laboratory has adopted soil testing villages .

(d) Quality Control of Pesticides

The Punjab state has highest per hectares consumption of pesticides in the country. To ensure quality pesticides to the farmers, samples of various

pesticides were drawn from dealer's premises/godowns. Besides, to maintain quality of pesticides in the state, during 2011-12, various kinds of samples were also drawn from the manufacturing units and godowns of the companies. 85 samples were drawn for quality checkup. A total number of 3949 samples of insecticides were analyzed against target of 3900, out of these 127 samples were found sub standard, for which legal action has been initiated under the provisions of Insecticides Act, 1968 and rules 1971 against the defaulters.

AGRICULTURAL ENGINEERING

A. Farm Mechanization

In Punjab State, agricultural mechanization is highest in the country. Farm mechanization has increased the efficiency of farm workers as well as improved the productivity of land which is evident from the fact that the density of tractors is already more than 70 tractors per thousand hectares which is much more than all India average.

The state is already introducing newly developed machinery such as Rotavator, Strip-till-drill, Zero-till-drill, Laser land Leveler, Aero blast sprayers, sugarcane cutter & planter and Paddy transplanter etc. Though most of the agricultural operations are already mechanized, yet some of the operations such as cotton picking, paddy transplanting, fruit and vegetable transplanting, picking and bailing of straw are yet to be mechanized. For dissemination of information regarding minimum/zero tillage technologies amongst the farmers in the state, the department started a mass awareness campaign by organizing farmers training camps at districts, block and village level laying field demonstrations and providing zero till drills to the farmers on subsidy. Consequently, during Rabi 2010-11, an area of 6,92,509 hectares under wheat was sown by adopting Resource Conservation Technology. Retention of rice crop residues has helped in reducing the pollution due to burning of paddy straw and in improving the soil structure and its fertility status.

During 2011-12, an amount of Rs. 17 lac was utilized under the **Centrally Sponsored Macro-Management Work Plan** Scheme. Reason for low progress in this year was unavailability of funds. To popularize newly developed machinery, financial assistance was provided to the farmers for the purchase of newly developed farm machinery. The progress made under the scheme is given below:

Physical Progress

S.no	Component	No. of units distributed on subsidy	
		Year	
		2010-11	2011-12
1	Automatic/Semi Potato Planter	240	-
2	Chisel Plough	2	-
3	Forage Chopper cum loader	15	-
4	Forage Reaper	8	-
5	Happy Seeder	4	-
6	Maize Thresher	2	-
7	Multi Crop Planter	1	-
8	Potato digger	227	-
9	Power Tiller(With Engine 8-15 HP)	2	-

10	Pulverizing Roller	20	–
11	Rotary Power Weeder	9	–
12	Rotavator	541	78
13	Self Propelled Fodder Harvester	9	–
14	Self Propelled Reaper Binder	17	–
15	Straw Reaper	778	–
16	Tractor Operator Power Sprayer	19	–
17	Vertical Conveyer Reaper	5	–
18	Zero Till Drill	165	13
	Total	2064	91

1) Intensification of Farm Mechanization.

To accelerate the balanced development of mechanization of farm operations, it is necessary to create awareness amongst the farmers about the newly developed agri machinery. This shall lead to adoption of newly developed machinery. Farmers are being provided with knowledge for proper selection, optimum utilization and adoption of new machines.

To provide a cheap source of fuel and fertilizers to the farmers the department is promoting the adoption of bio gas plants under this scheme. The field staff provides the technical inputs to the farmers for installation of new bio gas plants. After care and maintenance of already installed bio gas plants is one of the major areas were technical assistance and training is provided to the farmers under the progarmme.

The progress under the intensification of farm mechanization programme during the year 2011-12 is given in the table below:

S.No	Name of The Component	2010-11		2011-12	
		Target	Achievement	Target	Achievement
1	No. of farmers who were given technical guidance regarding efficient use of tractors	2975	3047	2975	3073
2	No of farmers visited to render technical guidance regarding efficient operation of tubewells /diesel engines.	5305	4930	5305	5119
3	Demonstration of newly developed agricultural Machinery such as ZTD, STD, VCR, SCP etc.	1775	1860	1775	1765
4	Proper operations and after- take care of already set up biogas plants	1910	2333	1910	2305
5	Farmers training camps organized at Distt. Block level to guide farmers about efficient use and after care of various types of farms machinery/ implements	430	464	430	453

6	Farmers trained about efficient use & after take care of agricultural machinery/ implement	10600	16618	10600	18752
7	Sowing demonstration plots of different crops using agricultural machinery/ implements.	730	930	730	767

2) Promotion and strengthening of Agricultural mechanization through Training Testing and Demonstrations.

a) Front Line Demonstration- The demonstration plays an important role in popularizing and enhancing the rate of adoption of newly developed machinery/ implements.

During the year 2011-12 against the target for laying 2760 front line demonstrations, 2439 front line demonstrations were laid at the farmer's field. The details of the implement wise demonstration are as follows:

Physical Targets and Achievements

S.No	Year	No. of Demonstration	
		Target	Achievement
1	2010-11	2780	2851
2	2011-12	2760	2439

Equipment wise list of Front Lines Demonstration organized during the year 2011-12.

S. No	Name of the Equipment	Target	Achievement
1.	Paddy Transplanter	650	661
2.	Laser Land Leveler	250	256
3.	Raised Bed Planter	450	422
4.	Happy Seeder	390	129
5.	Rotavator	540	491
6.	Forage Chopper Cum Loader	390	379
7.	Forage Reaper	55	53
8.	Zero Till Drill	55	48
	Total	**2780**	**2439**

3) Programme for Setting up of Agri. Machinery service Centers

In the Punjab State "Farm Machinery Banks" in the form of Agri. Machinery service Centers at block levels are being set up under RKVY and grant from 12th Finance Commission wherein subsidy @ 33% of the cost of equipments is being provided to the Primary Agricultural Co-operative societies, agricultural graduates, village artisans and small & medium farmers. These agri-service centers provide custom hiring services to the small and marginal farmers to save them from the debt burden of owing the costly agricultural machinery. 1509 such agricultural machinery centers have already been sanctioned in the state. This progarmme is being implemented by Punjab State Farmers Commission.

4) Resource Conservation Technologies

Rice-Wheat system practiced by the farmers in the state has led to problems of stagnating yields, lowering of ground water level and degradation of natural resources or in other words the sustainability of the system. To address these issues stress was laid on popularization of Resource Conservation Technology (RCT) esp. zero tillage (ZT) technology, minimum tillage and raised bed planting in the state. Area under RCT has increased from 750 hectares during rabi 2001 to 7,49,000 hectares during rabi 2011-12.

B. TUBEWELLS (Minor Irrigation Scheme)

The tubewell section of engineering wing of the Department of Agriculture, Punjab executes the works relating to exploration of ground water, installation of standard tubewells for the farmers and also provides extension services to farmers regarding latest developments in tubewell technology and for better farm irrigation water management. In addition, it also undertakes the following activities:-

1. To install standard tube wells on farmers' fields in the state on custom basis at very competitive rates to check the private boring companies from exploiting the farmers.
2. To ensure assured irrigation, digging of custom bores is taken up in the inaccessible areas where no concrete information is available on the quality of underground water and where private boring companies do not take up drilling work.
3. To design the screen/filter of tube wells for lasting & efficient use of tube wells by analyzing the strata obtained during boring.
4. To develop the idle tube wells not in working condition with the help of compressors so that the tube wells can again be used efficiently.
5. To develop the newly installed tube wells by the farmers, so that their working efficiency is increased i.e. more area is irrigated with lesser input of energy.
6. To advise the farmers in the state on proper selection of motor and pumping set so that overall pumping efficiency improves. To guide the farmers for maintenance and proper upkeep of the pumping motor sets and diesel engines.

The achievements made with respect to the above mentioned objectives in the year 2011-12 are listed as below:

a) Installation of Tube wells using Power Rigs

In the Kandi areas of the state, which include Hoshiarpur, Gurdaspur, Ropar, Nawan Shahar and some parts of Patiala, the installation of

tube well may or may not be successful because of which the small and marginal farmers cannot install tube well without the help from State Government. Similar situation prevails in the South-West districts of the State i.e. Ferozpur, Faridkot, Mukatsar, Bathinda and Mansa where the ground water is not fit for irrigation. For ensuring proper irrigation, to find new sources of irrigation water and for finding quality irrigation water, deep bores are drilled and deep tube wells are being installed. The quality of water is studied through sample tests. Under this scheme for the year 2011-12, a total of 41 deep tubewells were installed against a target of 55. The technical data of the tube wells has been collected for future planning and use. These tube wells will help in irrigating approximately 820 acres of agriculture land.

b) Development of Tubewells

Different capacities of screw Air Compressors are available with the Department, which are used for development of tube wells and rejuvenating of old tube wells. Because of increased efficiency due to development, discharge of tubewells is increased and a lot of energy is saved during operation of tube well. During the year 2010-11 against a target of development of 150 tube wells, 141 tube wells were developed

d) Extension Services

Under the scheme, training is imparted to the farmers and staff of private companies and technical staff about the latest technology to reduce use of diesel and electricity and proper utilization of irrigation water so that overall efficiency can be improved. The target and achievement are as given under:

Achievement under the Programme for Development of Minor Irrigation

S.no.	Component	Year 2010-11		Year 2011-12	
		Target	Achievement	Target	Achievement
1 .	Installation of deep tubewells with power rigs	45	49	55	41
2 .	Development of tubewells	150	152	150	141
3 .	Installation of shallow tubewells	100	134	–	–
4 .	Extension Services				
a.	Technical guidance for installation of standard tubewells with proper selection of pipes&pump sets	60	60	60	60
b.	Visit to the farmers' fields to suggest rectification measures	600	608	600	684
c.	Preparation of technical literature /pamphlets	6	6	6	6
d.	Training camps for rural artisans for installation of efficient tubewells	6	9	6	8
e.	District level training camps for field staff	4	5	4	5
f.	One day training camps for farmers for proper operation and maintenance of tubewells	70	87	70	83

MONITORING OF GROUNDWATER

There are about 12 Lac shallow tubewells in the state of Punjab. About 72% of the total cropped area is being irrigated exclusively through ground water. The groundwater resources of the state are under stress and at present . As per latest groundwater balance studies (2004), 25 blocks are categorized as "Safe" (stage of development less than 70%), 4 blocks as " Semi Critical" (stage of development between 70-90%), 5 blocks are "Critical" (stage of development between 90-100%) and 103 blocks as "Over Exploited" (stage of development more than 100%). The criteria of categorization is on the basis of stage of development which is ratio of net annual estimated draft to net annual estimated recharge expressed as percentage. Thus ground water monitoring is an important aspect of the department since its inception. It is equipped with important time series data.

The department monitors pre-monsoon, post monsoon and monthly ground water levels of selected observation wells. Besides, it also monitors groundwater quality of the selected wells in the saline/alkaline areas of the state. It collects micro level groundwater data for the purposes of block wise groundwater balance estimates. It provides site and environmental clearance for setting up new industries as well as for their expansion program through competent state Authority , Punjab.

1.)Monitoring of completed Artificial recharge :

Under monitoring of completed artificial scheme, monthly water level of Piezometer tube/ recharge wells at village Jalandhar, Fatehgarh Sahib & Dhanetha (Distt.Patiala) was recorded.

2.)Installation of Piezometer Tubes:

One Piezometer tube each was installed in District Ludhiana & Faridkot. Technical sanction was given for installation of Piezometer tube in district Ferozepur.

3.)Ground Water Quality

351 Ground water samples were collected and analyzed in laboratories of Chandigarh & Bhatinda.Ground water quality maps of district Patiala, Sangrur & Barnala were prepared.The district wise Chemical Quality reports (2000-2010) as per the approved performa were computerized.

4.)Water level

Pre Monsoon and Post Monsoon Water level of about 350 monitoring stations (observation wells and Piezometer tubes) were recorded and analysis reports were prepared.

5.)Maps

Pre-monsoon 2011 Depth to water table map of Punjab State was prepared and depth wise area under different contours of water table depth map of Punjab

State for year 2011 were calculated . The work of contouring/preparation of Post Monsoon Depth to Water table map 2011 of Punjab State is under progress.

Pre-monsoon (June 2010- June 2011) rise /fall map of Punjab State was prepared & areas were calculated

Pre-monsoon depth of water table base maps (June 2011) of districts Bhatinda, Patiala, Sangrur, Sri Mukatsar Sahib, Barnala, Mansa, Ferozepur & Faridkot were prepared. Tracing of Post monsoon (2011) depth of water table maps of Bhatinda, Patiala, Sangrur, Sri Mukatsar Sahib, Barnala, Hoshiarpur, Ropar, Nawanshehar, Amritsar, Gurdaspur, Kapurthala & Tarn Taran were prepared.

6.) Electric tubewells Census

District wise list of list of electric tube well lists were collected .

7.) Computerization

Water level data of Pre & Post Monsoon 2011 was updated & District wise hydrographs were prepared.

AGRICULTURAL MARKETING

Joint Director Agriculture (Cash Crops) is the In Charge of this Section. The following
non-plan scheme is in operation in the marketing wing :-

(a) **"2435-Other Agricultural Programmes -01 Marketing & Quality Control -101 Marketing Facilities- and 102-Scheme for Grading of foodgrains & Oilseeds in the Regulated Markets in the State" (Non-Plan).**

The detail of activities of marketing section during 2011-12 is as under:-

1. Agmark Scheme under "Agricultural Produce (Grading and Marking) Act, 1937" is being implemented. Under this scheme agricultural products are being graded and packed after analysis in the State Agmark Laboratories. The Agmark Scheme is beneficial for farmers/ producers, traders and consumers. The farmers and traders get remunerative price of the product and consumer is assured of good quality (without adulteration) and laboratory tested products. Vegetable oils, ground spices, honey, Desi Ghee, Wheat Atta and Besan are graded and packed as Centralized commodities. Three Agmark Laboratories are functioning in the State at Amritsar, Ludhiana and Moga for the quality certification. Citrus fruits (Orange and Kinnow), Table Potato, Grapes and Eggs are also graded and packed as decentralized commodities under this Act.

2. To educate the farmers regarding latest marketing techniques, harvesting methods, grading and standardization, packing and handling of crops etc. the 'Farmers Training Camps were organized at Village and Block level.

3. To safeguard the interest of farmers a campaign was launched for checking of weights, measures and weighments by the staff of Marketing Section during the Kharif and Rabi seasons. In the case of defaulters, references were made to Secretary, Market Committees, such cases were settled after farmers were accordingly compensated.

4. Data regarding arrival and prices of 24 main crops such as food grains, oilseeds, cash crops, fruits and vegetables from the markets in the state is collected by the field staff of the Section. This data after compilation was forwarded to the Economic and Statistical Adviser, Government of India.

5. Daily, weekly, fortnightly and monthly reports regarding arrival, prices and stock position and any other specific information etc. sought by the Govt. of India were collected from the markets in the state and forwarded to the Economic and Statistical Adviser, Government of India.

A) Grading under "Agmark" scheme.

Physical achievements under this scheme are as follows:

	2010-2011		2011-2012	
COMMODITY	Quantity Graded (Qtls)	Estimated value (Lac Rs)	Quantity Graded (Qtls.)	Estimated value (Lac Rs
1. Vegetable Oils	715	47.35	985	68.35
2. Ground Spices	1245	176.61	1294	160.51
3. Honey	580	77.82	785	106.23
4. Desi Ghee	2459	585.07	2833	712.62
5. Wheat Atta	200	3.00	200	3.00
6. Besan	525	23.29	460	23.62
Total	**5724**	**913.14**	**6557**	**1074.33**

Note : Agricultural Products are graded and marked under AGMARK in accordance with Grade specifications notified by the Government of India under the provisions of "Agricultural Produce (Grading & Marking) Act, 1937". Grading under these specifications is voluntary for domestic consumption, hence targets are not fixed.

(B) Weights & Measures

To prevent under weighments of agricultural commodities, the department checks weights and measures in the markets. The achievement of this activity during 2011-12 is given as under:-

	2010-11		2011-12	
Item	Target (Nos.)	Achievement (Nos.)	Target (Nos.)	Achievement (Nos.)
Weighments	58000	30435	59600	30397
Weights & Measures	58000	32343	59600	29991

Financial achievements

Name of the Scheme	2010-11		2011-12	
"2435-Other Agricultural Programmes -01 Marketing & Quality Control -101 Marketing Facilities- and 102-Scheme for Grading of food grains & Oilseeds in the Regulated Markets in State."(Non-Plan)	Budget allotment(Rs)	Expenditure (Rs)	Budget allotment(Rs)	Expenditure (Rs)
	469.62	456.11	199.55	197.18
			For year 2011-12 Budget allotted/incurred for Head Office and State Agmark Laboratories.	

AGRICULTURAL STATISTICS

This is an important ongoing program of the department. The main purpose is to collect and compile statistical information related to agriculture particularly various aspects of land use, and estimation of area & production of various crops in the state. The data is extremely important for planning development works. The financial progress of various schemes implemented during 2011-12 is given as below:-

Sr. No.	Name of Scheme	Expenditure 1.7.11 ਤੋਂ 31.3.12	Expenditure 1.4.12 to 30.6.12	Expenditure 1.7.11 ਤੋਂ 30.6.12
1.	2401-Crop Husbandry-001-direction and Administration (Non plan)	94.09	30.16	124.25
2.	"2401-Crop Husbandry-111-Agri. Economics & statistics plan C.S- 2 centrally sponsored Agriculture Census scheme	28.62	-	28.62
3.	"2401-Crop Husbandry-111- Agriculture Economics & statistics-plan-C.S.-14 centrally sponsored scheme for Rationalization of Minor Irrigation statistics	31.74	-	31.74
4.	"2401-Crop Husbandry-119-Horticulture Vegetable crops & 2401-111-Agriculture Economic & Statistics (plan)	--	--	--

The various activities carried out during the year 2011-12 are given below:-

1. CROP ESTIMATION SURVEYS ON PRINCIPAL CROPS

Crop cutting experiments are regularly conducted. In order to obtain fair, precise and accurate estimate of yield of principal crops which include rice, maize, bajra, groundnut, sugarcane, cotton, wheat, barley and rabi oilseeds. These experiments are conducted through stratified random sampling technique taking block as a primary unit of planning. On the basis of these results, production estimate for the year 2011-12 were sent to Govt. of Punjab. 6554crop cutting estimates were planned and conducted out of which 6494 were analyzed during the year 2011-12 as under:-

Crop	No. of Experiments 2011-12 Planned	Analysed
Kharif		
Paddy	1912	1892
Maize	344	344
Cotton	510	508
Sugarcane	664	640
Total	3430	3384
Rabi		
Wheat	2264	2262
Barley	256	248
Gram	146	142
Rabi Oilseed	458	458
Total	3124	3110
Grand Total	6554	6494

2. CROP ESTIMATION SURVEY ON MINOR CROPS

The Crop Estimation Survey on Minor crops,Crop Cutting Experiments are conducted on Moong, Mash, Arhar, Seasamum, Massar and Sunflower crops.

These experiments are also conducted through stratified random sampling technique in order to auiod bias and to obtain reliable production estimates of these crop. A total of 648 experiments were planned during the 2011-12 on these crops and 569 experiments have been analyzed. The work of Sunflower crop is under progress keeping in view the yield estimates production of these crops have been prepared and send to Govt. of India / Govt. of Punjab and other concerned quarters. The crop-wise total number of experiments planned and analyzed on Minor Crops during the year 2011-12 are as under:-

No of experiments 2011-12			
Kharif	Crop	Planned	Analyzed
	Moong	198	174
	Mash	54	54
	Arhar	62	53
	Til	122	100
	Total	**436**	381
Rabi	Massar	48	48
	Sunflower	164	140
	Total	**212**	**188**
Grand Total		**648**	**569**

3. Scheme for Strengthening of Land Records Agency

The main objective of the scheme is to bring about improvement in area statistics so as to make them more accurate and reliable during the year 2011-12 Tehsil wise area under various crops has been collected by the field staff of agriculture department and reconciled with Director Land Record, Punjab, Jalandhar after removing all the discrepancies there in and final area statistics were prepared released in consultation with Director Land Record, Punjab, Jalandhar. Block wise area under various crops for Kharif 2011-12was prepared by the field staff of agriculture department and finalized after reconciling the same with tehsilwise area. The Director Land Record, Punjab, Jalandhar has been informed regularly regarding the problems discrepancies and methods of improvement through correspondence and seeing by the staff of this Department. Tehsilwise/ Block wise area under various crops for Rabi 2011-12 are under progress.

4. Agriculture census

It is 100% Centrally Sponsored Scheme, for the proper planning of Agriculture in Punjab, The First Comprehensive Agricultural Census was carried out during the year 1972-73 taking 1970-71 as the reference year at all India level. Keeping in view the importance of usefulness of the data of this Census, Similar Census were carried out taking 1980-81, 1985-86, 1990-91, 2000-2001, 2005-06 as the reference year, Now again the Agricultural Census 2005-06 will be carried out periodic Agricultural Census are important as they are main source of basic structure of operational holding and their related characteristics such as land use and cropping patterns, Irrigation, tenancy status and the terms of basis of etc. by different size classes and social groups.

Input survey is the 2nd part of in this schemes , considering 2006-07 as base year survey was carried out during this year which is now completed. The main objectives of this survey is to collect data regarding level of consumption of various inputs namely fertilizers terms of basis of etc. by different size classes and social groups., HY Seeds, Pesticides farm yard manure/compost, Agricultural Machinery/implements and farm credits. Information is collected on the extent change in number of holdings and their fragmentation pattern.

Error free data of Schedule-H of Agriculture Census 2005-06 has been approved by Govt. of India. Error free data of Input Survey of Agriculture Census of 2006-07 has also been Approved by Govt. of India.

Printing of Agriculture Census Schedules 2011-12 is under progress. Training regarding Agriculture Census has been given to the field staff.

5. Survey of Methodological into Highy Yielding varieties programme for the year 2011-12 (01-07-2011 ਤੋਂ 30-06-2012)

The Scheme bas been in operation with the ushering of the area of green revaluation since 1969. The main objectives of this scheme was to know the impact of green revelation in Punjab. The information of various types such as area under high yielding varieties. Variety-wise average yield application of inputs, utilization of produce. Such sold in the market kept for hone consumption and given to laborers in kind etc. The information is being collected in the stipulated Performa survey work was taken up in five villages, which were selected randomly in each block of the state out of these selected villages, six cultivator were selected randomly information was collected from these selected cultivators in the year 2011-12. The physical progress of 2011-12 is as under:-

Year	Season	Planned	Achieved	Progress
2010-11	Kharif	680	637	93.7%
	Rabi	680	583	83.0%
2011-12	Kharif	680	485	71.3%
	Rabi	680		(Rabi 2011-12 under progress)

Scrutiny and tabulation of schedules for the year 2011-12 remains under process.

6. Timely Reporting Scheme (01.07.2011 ਤੋਂ 30.06.2012)

The Timely Reporting Scheme was introduced in the state during the year 1975. Keeping in view the usefulness and timeliness of data, since then it is in operation. The main objective of the scheme to obtain advance, precise and accurate data on the basis of random sampling method. 20 percent villages i.e. 2593 were selected for the collection of jinswar during the year 2011-12 for Kharif and Rabi season each. The advance estimates of total area and Irrigated area were prepared for the major crops and sent to govt. of India.

The progress of receipt of Jinswars is given as under :-

Year	Season	No. of Vill. Planned	No. of Vill Received	Percentage
2010-11	Kharif	2617	2438	93.2
	Rabi	2617	2474	94.5
2011-12	Kharif	2593	2571	99.2
	Rabi	2593	2585	99.7

The estimates of total area and Irrigated area are given below:

(Area in "000" Hect.)

Crop	Total Area		Irrigated Area	
	2010-11	2011-12	2010-11	2011-12
Paddy	2838	2821	2810	2810
Bajra	5	3	5	2
Maize	137	126	85	81
Cotton	495	507	495	507
S.Cane	69	81	64	78
G.Nut	3	1.6	1	0.1
Wheat	3512	3513	3472	3470
Gram	3	2	3	2
Barley	13	11	13	11
Rape & Mustrad	32	30	26	25

7. Rationalization of Minor Irrigation Statistics Scheme from 1.7.2011 से 30.6.12

It is 100% Centrally Sponsored Scheme under the Minor Irrigation development programme of the Govt. of India. The main objective of the scheme is to bring uniformity in the Irrigation Statistics.

The quarterly as wells as the annual progress reports relating to number of structures installed and irrigation potential created/utilized on account of these structures were collected from different organizations i.e Punjab state electricity Board, Soil and water conservation, Chief Engineer (Canals) & Chief Engineer (KAD) irrigation Department, Agriculture Department, Agriculture Development Bank Punjab & Punjab Water Resources Management and Development corporation. These reports up to 31-12-2011 were compiled at state level and sent to Ministry of water Resources, Govt. of India. Quarterly Progress Report ending 31 March, 2012 was prepared and will be sent soon to Govt. of India. District-wise, Crop-wise & Source-wise Irrigated area for Kharif 2007-08 was prepared and sent to Govt. of India.

The physical achievements during the 2011-12 as compared to the last year 2010-11 are given as under:-

A. Minor Irrigation Potential

	(Area in "000"hect)	2010-11	2011-12
a.	Ground Water		
	1) Potential created	5679.6	5725.7
	II) Potential utilized	5463.3	5506.9
b)	Surface Water		
	1) Potential created	87.2	129.2
	II) Potential utilized	70.5	113.1
c)	Total		
	1) Potential created	5766.8	5855.5
	II) Potential utilized	5533.8	5620.0
Minor Irrigation structures (NOS)			
a)	Ground Water		
	1) Dugwell	-	-
	II) Shallow Tubewell	1054382	1058754
	III) Deep Tubewell	12406	18804
	Total	1066788	1077558
b)	1) Surface flow Irrigation	1450	2484
	II) Surface lift Irrigation	540	540
	Total	1990	3024

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8. SCHEME FOR SAMPLE SURVEY FOR STUDY OF CONSTRAINTS IN TRANSFER OF NEW AGRICULTURE TECHNOLOGY UNDER FIELD CONDITIONS.

The Scheme Sample Survey for the study of constraints in transfer of new Agricultural Technology under field conditions was started in Hoshiarpur district during 1984-85. Since then it has become a regular feature of the Statistical section of the department to conduct periodical surveys in both the season i.e kharif and Rabi every year. The main purpose of the Scheme is to study the problems/Constraints. Faced by the farmers as well as the extension agencies in the field while adopting the new Agricultural technology.

Under the scheme two types of enquiries i.e agronomic & Agri-economic survey and yield estimation survey work conducted during the year under first enquiry 400 cultivators were canvassed in 50 randomly selected villages in both the season i.e Kharif & Rabi.

Under the second enquiry Crop-Cutting Experiments were conducted in 50 villages on Maize and Wheat crops.

The physical progress of work done during the year 2010-11 as compare to the past year is as under:-

Name of Survey Conducted	Season	year	Planned	Survey
1. Agronomic & Agro-economic	Kharif	2006-07	50	50
		2007-08	50	50

			2008-09	50	Under Progress
		Rabi	2006-07	50	50
			2007-08	50	50
			2008-09	50	Under Progress
2	Yield Estimation	Kharif	2007-08	50	50
			2008-09	50	Under Progress
		Rabi	2007-08	50	50
			2008-09	50	Under Progress

9. SCHEME FOR IMPROVEMENT OF CROP STATISTICS FOR THE YEAR 2011-12

To improve the quality and reliability of Area and yield Statistics. This scheme was introduced in the State during the year 1974-75 and is in operation since then.

The following surveys were conducted under the scheme in 2011-12:-

1. Area Enumeration.
2. Area Aggregation
3. Yield estimation on the basis of crop cutting experiments under the scheme the work of area enumeration and page totaling was done for 200 villages in each season for State and central samples. The season-wise response is given below:

Schedule A.S 1.0 (Area Enumiration)

	No.of villages Planned				No. of villages Received				Percentage			
	2010-11		2011-12		2010-11		2011-12		2010-11		2011-12	
Season	S	C	S	C	S	C	S	C	S	C	S	C
Kharif	200	200	200	200	178	200	178	200	89%	100%	89%	100%
Rabi	200	200	200	200	172	200	Work in progress		86%	100%	Work in progress	

Schedule A.S 1.1 (Area Aggregation)

Kharif	200	-	200	-	172	-	-	-	143	86.0	-
Rabi	200	-	200	-	172	-	-	-	86.0	Work in progress	

Centre Govt. has stop filling centre sample of A.S 1.1

The Schedule A.S 1.0 related to the Supervision of Area Enumeration and schedule 1.1(page totaling) were tabulated both for state and central Sample and result are given below:-

Correction factor regarding errors:

		2010-11			2011-12		
Season	Crop	State	Central	Pooled	State	Central	Pooled
Kharif	Paddy	0.952	0.993	0.974	0.991	1.063	1.025
	Cotton	1.013	1.031	1.023	1.000	1.042	1.019
	S.Cane	1.005	1.017	1.003	1.000	0.985	0.917
	Maize	0.998	0.989	0.994	1.000	0.917	0.961

Season	Crop	2010-11 State	2010-11 Central	2010-11 Pooled	2011-12 State	2011-12 Central	2011-12 Pooled
Rabi	Wheat	0.981	0.909	0.990	Work in progress		
	Gram	1.000	0.846	0.976	- do-		
	Barley	1.000	1.058	1.030	-do-		
	Oil seed	1.000	0.972	0.986	-do-		

Schedule A.S 1.1 (page totaling)

Season	Crop	2010-11 State	2011-12 State
Kharif	Paddy	1.000	1.000
	Maize	1.001	0.999
	Cotton	1.005	1.001
	S. Cane	1.000	0.997

Season	Crop	2010-11 State	2011-12 State
Rabi	Wheat	1.000	Work in progress
	Gram	1.000	
	Barley	1.000	
	Rabi Oil seed	1.002	

Crop Cutting experiment under Major crops were supervised at the harvest level stage & schedule A.S 2.0 filled up. Target and achievement during Kharif and Rabi are given below:-

Schedule A.S 2.0 (No. of Experiments)

	Planned				Received				Percentage			
	2010-11		2011-12		2010-11		2011-12		2010-11		2011-12	
Season	S	C	S	C	S	C	S	C	S	C	S	C
Kharif	380	380	380	380	356	380	380	380	93.7	100%	100%	100%
Rabi	320	320	320	320	412	440	Work in progress		93.6	100%	Work in progress	

The Schedule A.S 1.0 related to the Supervision of Area Enumeration and schedule 1.1(page totaling) were tabulated both for state and central Sample and result are given below:-

Estimates of Average Yield Kg/hect.

Season	Crop	2010-11 State	2010-11 Central	2010-11 Pooled	2011-12 State	2011-12 Central	2011-12 Pooled	Crop Cutting
Kharif	Paddy	3712	4091	3914	3703	3906	3855	
	Maize	3518	3848	3623	3780	3574	3677	
	Cotton	607	328	487	570	366	468	
	S. Cane	5227	6146	5673	6051	6439	6245	

Season	Crop	2010-11 State	2010-11 Central	2010-11 Pooled	2011-12 State	2011-12 Central	2011-12 Pooled	Crop Cutting
Rabi	Wheat		4594	4886	4750	Work in progress		
	Gram		1330	1251	1279			
	Barley		3774	3775	3774			
	Rabi Oil seed		1324	1391	1361			

BUDGETARY PROVISIONS

For the implementation of various plan, Non-plan and centrally sponsored schemes, the State Govt. has provided Rs. 3,99,86,11 thousand for the year 2011-12. An expenditure of Rs. 3,05,66,83 thousand has been incurred under various schemes during 2011-12. Budget allotment and expenditure under various allotted heads during 2011-12 is given in Table-I. The income generated from various sources is given in Table-II.

TABLE – I
HEADWISE BUDGET ALLOTMENT AND EXPENDITURE FOR THE YEAR 2011-12

(Rs. in Thousands)

Major Head	Plan		Centrally Sponsored		Non Plan	
	RBE	EXP	RBE	EXP	RBE	EXP
2401-Crop. Husbandry	1474480	722821	181462	18791	1158020	1138782
2415-Agriculture Research & Education	936000	936000	--	--	100000	100000
2435-Other Agriculture Programs 01-(State) Marketing & Quality Control facilities	--	--	--	--	52596	53880
2702-Minor Irrigation	--	--	--	--	73893	68087
2810-Non Conventional Source of energy-01-Bio Energy-001-Direction & Administration	--	--	--	--	12150	8322
4401-Capital	--	--	--	--	10	00

Outlay on crop husbandry						
6401-Loans for Crop Husbandry	10000	10000			--	--
Total	**2420400**	**1668821**	**181462**	**18791**	**1396669**	**1369071**

RBE: Revised Budget Estimates **Exp**: Expenditure

TABLE – II
2401 CROP HUSBANDARY INCOME 01.04.2011 TO 31.03.2012

0401	**Head**	**Income (in Rs.)**
103	Seeds	35,10,013
104	Receipt from agriculture farms	40,74,505
105	Sale of manure & fertilizer	6,90,950
107	Receipt from plant protection services	7,85,586
108	Receipt from commercial crops	2,83,50,175
0435	Other agriculture programs	-
102	Fee for Quality control of agri. Products	5,97,274
0702	**Minor Irrigation**	
103	Receipt from Boring and Tube wells	10,15,913
	Total	3,90,24,416

REVIEW OF THE ANNUAL ADMINISTRATIVE REPORT 2011-12

Agriculture has played a vital role in building up Punjab's economy. Punjab State with only 1.5% of geographical area of the country, produces about 22% of wheat 11% of rice and 10% of cotton of total produce under these crops in the country. Similarly, Punjab with only 0.03% of geographical area of the world, it produces 3% wheat, 2% rice and 2% cotton of the world.

The achievements made in the field of agriculture during the year 2011-12 are as under:-

1. Total Foodgrains Production:

Total foodgrains production in the State was 290.91 lac tonnes during 2011-12 as against 278.67 lac tonnes during 2010-11.

2. Area Coverage under major crops

Area coverage under paddy, maize, cotton and wheat crop is as under:-

Area (in '000' ha.)

Crop	2010-11	2011-12
Paddy	2831	2818
Maize	133	126
Cotton	483	515
Wheat	3510	3528

3. Improved Seeds

Seed is the basic input for increasing per unit productivity. During 2010-11 and 2011-12 ,following quantities of certified seed were distributed to the farmers.

(Qty. in qtls.)

Crop.	2010-11	2011-12
Paddy	226057	290266
Maize	27233	29753
Cotton	6972	8500
Kh. Pulses	1992	2126
Wheat	1276804	1367617
Rabi Oilseeds	867	957
Gram	885	925
Barley	7823	9395

4. Fertilizers

During 2010-11 and 2011-12, following quantities of fertilizers were distributed to the farmers:-

	Consumption (Nutrients '000' tonnes)			
Year	**N**	**P**	**K**	**Total**
2010-11	1403	435	73	1911
2011-12	1479	446	54	1978

5. Micro-Nutrients

In order to meet the deficiency of zinc and iron in crops, 32198 MT of zinc sulphate and 2369 Tons of Ferrous sulphate was supplied to the farmers.

6. Soil & Water Testing

66 soil testing laboratories are functioning in the state. To guide the farmers for the balance use of fertilizers, 2.34 lac samples were analyzed.

7. Development of Tubewells

During 2011-12, 41 Tubewells were installed by power rigs. Similarly, 141 old chocked tubewells have been developed.

8. Sugarcane Development Programme

During 2011-12, 24 Sugar mills took up to crushing operations. Progress made is as under:-

	Units	2010-11	2011-12
Cane Crushed	(Lac Tonnes)	34.33	42.7
Sugar Production	(Lac Tonnes)	3.02	3.9
Sugar Recovery	%	8.80	9.13

9. Cotton Development Programme

Area and production are given as under:-

Item	**2010-11**	**2011-12**
Area (000hectare)	483	515
Production (000 bales)	1822	1621

10. Marketing

The state Govt. has been approaching Govt. of India for offering remunerative support price for important commodities like wheat, paddy, bajra, cotton, maize, sugarcane and potatoes. In case of wheat and paddy due to the assured marketing and remunerative prices, the production has been increased. However, the production has not been witnessed in case of cotton, sugarcane, pulses and oilseeds due to non assured marketing. There is a wide variation of price in most of the agricultural commodities. The intelligence wing of the marketing section has conveyed market rates and weekly trend to the All India Radio for broadcasting. During 2011-12, 785 qtls. of honey, 2833 qts of Desi Ghee, 985 qtls. of vegetable oils and 1294 qtls. of spices were graded under AGMARK.

11. Quality Control

During the year 2011-12, 20516 samples of seeds were tested, out of which 3036 samples were failed.20194 samples of fertilizers were analyzed out of which 34 samples were found non-standard. 3949 samples of insecticides analyzed out of which 127 samples were failed. Legal action has been initiated under the various provisions of Seed Control Order 1983, Fertilizer Control (Order) 1985 and Insecticides Act, 1968 against the defaulters.

CRITIQUE OF THE ANNUAL ADMINISTRATION REPORT 2011-12

Punjab a tiny State of India, contributed 35-40% of rice and 50-55% of wheat to the Central 'Pool'. Total foodgrains production in the State was 290.91 lac tonnes during the year 2011-12.

CROPWISE PRODUCTION

1. Cotton

The production was 16.21 lac bales during 2011-12 as against 18.22 lac bales during 2010-11.

2. Maize

The production was 5.02 lac tonnes during the year 2011-12 as compared to 4.91 lac tonnes during 2010-11.

3. Oilseeds & Pulses: -

The production of oilseed & pulses was 55.2 lac MT during 2011-12 as compared to 91 lac MT during 2010-11 .

4. Sugarcane:-

The production was 4.67 lac MT (Gur) during 2011-12 as against 4.17 lac MT (Gur) during of previous year. Sugar recovery was 9.13 % during 2011-12 as compared to 8.8 % during the 2010-11.

5. Wheat:-

The production was 179.82 MT during 2011-12 as compared to 164.72 lac lac MT during 2010-11

OTHER PROGRAMMES

1. Fertilizers:

Fertilizers consumption during 2011-12 as compared to 2010-11 has increased.

(Lac Tonnes)

Year	N	P	K	Total
2010-11	14.03	4.35	0.73	19.11
2011-12	14.79	4.46	0.54	19.79

2. Plant Protection:

There was no shortage of insecticides/pesticides/ weedicides, observed in the State during 2011-12.

3. Certified Seeds:

For increasing the production of foodgrains in the State under various schemes 17.09 lac qtls. of certified seed of various crops were distributed to the farmers during 2011-12 as against 15.48 lac qtls. Of 2010-11 .

4. Micro Nutrients:

Micro Nutrients consumption (On sale basis) in the state during 2011-12 as compared to 2010-11 is as under:-

(In MT)

	2010-11	**2011-12**
Zinc Sulphate	32321	32198
Ferrous Sulphate	2381	2369

5. Supply of Gypsum:

To reclaim alkali soils, MT of 3726.65 Gypsum was supplied to reclaim 745 hectares during 2011-12 as compared to 19995 MT of gypsum to reclaim 3999 hectare during 2010-11.

COMPARATIVE STATEMENT

Area " in lac ha."
Production "in lac M.T. / Bales"

Sr. No.	Particulars	2010-11	2011-12
1.	WHEAT		
	Area	35.10	35.28
	Production	164.72	179.82
2.	RICE		
	Area	28.31	28.18
	Production	108.36	105.42
3.	**MAIZE**		
	Area	1.33	1.26
	Production	4.91	5.02
4.	**COTTON**		
	Area	4.83	5.15
	Production	18.22	16.21
5.	**SUGARCANE (GUR)**		
	Area	0.70	0.80
	Production	4.17	4.67
6.	**IMPROVED SEEDS (Qtls)**	1276804	1367617
	Wheat	226057	290266
	Paddy	6972	8500
	Cotton	27223	29753
	Maize	3744	4008
	Oil Seeds & Pulses		
7.	**FERTILIZERS SUPPLY (Nutrients in Lac Tonnes)**	14.03	14.79
	N.	4.35	4.46
	P.	0.73	0.54
	K.	19.11	19.79
	Total		

8.	**SUGARCANE DEVELOPMENT PROGRAMME** Sugarcane crushed (Lac Tonnes) Sugar produced (Lac Tonnes) Sugar Recovery (%)	 34.33 3.02 8.80	 42.7 3.9 9.13
9.	**OILSEEDS & PULSES DEVELOPMENT PROGRAMME** Area (000 Hectare.) Production (000 MT)	 75 91	 52.8 55.2
10.	**Quality Control (Sample Nos.)** • Seeds • Fertilizers • Pesticides	 20509 3123 3970	 20516 2994 3949