

## **CHAPTER - 10**

### **AGRICULTURE PRODUCTION**

10.1 Agriculture plays a vital role in the economic development of the State and continues to be the backbone of our economy. In the coming years, agriculture will face many challenges due to the rising population. This will directly increase the demand for food and non-agricultural sectors, like industry and urbanization. The scope of increase in arable land and exploitation of additional water resources for irrigation will also decline in future. Hence, there is a greater need for conservation and efficient utilization of natural resources. Agriculture needs intensification of production and improved efficiency in use of resources.

10.2 Agriculture contributes about 22 percent of the State Domestic Product. The average size of land holding, is 3.96 ha in the State compared to 1.41 ha., of all India level. Generating employment opportunities for 13.17 million cultivators, 2.53 million agricultural laborers and addition of 0.6 million workforce every year.

10.3 70 percent of the population of the State is living in rural areas and about 70 percent depends on agriculture as source of livelihood. The geographical features of Rajasthan are dominated by the Aravalli range which divides the State into two distinct zones. The region to the west and north-west, comprising of eleven districts and nearly 61 percent of the total area of the State, is known as the Great Indian Desert Thar. The type of soil is sandy in this region which is poor in nitrogen and has low water holding capacity. The south-east and eastern parts of the Aravalli Hills are productive for agriculture purposes, having clay loam type soil. The rainfall fluctuates from 200-550 mm in the western and semi-arid parts to 550-1000 mm per annum in south-eastern and eastern parts of the Aravalli Ranges.

#### **Rajasthan's contribution in National Agriculture**

- Stands at fourth position after UP, Punjab and Andhra Pradesh in food grain production, and stands at second position in area.
- Fourth-largest producer of wheat and largest producer of all coarse cereals.
- Second in production of gram and the largest producer of Moth-Bean.
- Second largest producer of total Oilseed and the largest producer of Mustard, third position in Soybean production, for Groundnut, it stands at fourth position in the country.
- Largest producer of Guar, seed spices like Coriander, Cumin, Fenugreek, Fennel, etc.

## **Challenges to Agriculture Sector in Rajasthan**

- Increasing gap between demand and availability of water
- Scanty and uncertain rainfall affecting agriculture in particular and economy in general.
- Deteriorating quality of land and underground water.
- Low value agriculture.
- Large gap between potential and realized yield of crops and high inter-year variation in productivity.
- Mono-cropping in western dry region and southern tribal belt of the State, limiting the scope for diversification.
- Low share of vegetable and fruit crops, seed spices and medicinal plants, depriving the benefits of value addition and extra employment for the rural masses.
- Out of 90 lac female workers engaged in on farm work, nearly 50% are with suboptimal workdays. Generation of full employment opportunities through labour intensive agricultural activities in areas likes horticulture; agro processing is a great challenge.

## **VISION**

10.4 Vision of the State for the agriculture sectors for the 12th Five Year Plan is to enhance farm productivity and income in rural areas through crop-livestock integrate production systems and creating multiple livelihood opportunities through sustainable management of natural resources i.e. land and water and articulating basic parameter of agricultural development by promoting value addition, agro processing, post-harvest management, agri-business, marketing of agricultural produce, crop diversification use of Biotechnology, information and communication techniques, ensuring timely availability of inputs(seeds, fertilizers and PP chemicals and bio-agents) efficient crop insurance and easy access for credit to farmers so as to become a developed state through sustainable use of human, natural and other resources.

## **SWOT Analysis of Agriculture Sector**

10.5 To achieve the vision of enhancing farm productivity and income in rural areas, a SWOT analysis has been attempted. The main findings of SWOT analysis are as under:

### **STRENGTHS**

- Diversified Agro- Climatic conditions.
- Availability of huge land mass.
- Large extension network.
- Adequate infrastructure facilities

- Agri Business and Agro Processing Policy 2010.
- Large Livestock base in the State.
- State Agriculture Policy under finalisation.

### **WEAKNESS**

- Scanty and erratic rainfall.
- 75% area is rain-fed.
- Scarcity of under-ground water. Only 33 out of 249 blocks are safe.
- Lesser availability of hybrid seeds for Oilseeds and Pulses.
- Lesser availability of market network and agro-processing facilities.
- Sharpe variation in day – night & seasonal temperature.
- Large area affected by Salinity and Alkalinity problem, nearly 10 lac ha.
- Large area under waste land, nearly 50 lac ha.
- Scarcity of fodder during famine years.
- Inadequate staff in Soil, Seed and Quality Control Laboratories in comparison to norms.
- Low rate of popularization of new techniques at farm level.

### **OPORTUNITIES**

- Area expansion by land reclamation and use of waste lands.
- Export of seed spices, vegetables and fruits.
- Development of processing & Storage facilities.
- Scope for diversification in Agriculture and Allied sectors.
- Scope for increase farm mechanization.
- Farmers ready to take new programmes.
- Varied agro-climatic conditions provide opportunities for diversification & increase in farm income

### **THREATS**

- High cost of cultivation.
- Drought prone area.
- Inadequate availability of Agriculture labour.
- Deterioration of under-ground water quality.
- Sharpe change in climatic conditions.

## REVIEW OF THE ELEVENTH FIVE YEAR PLAN

10.6 The objectives to augment the agricultural production have been one of the prime concerns in every Five Year Plan. Up to the Tenth Plan period, the attempt was towards increasing production through extensive area coverage under crops. From the Eleventh Plan Period, the shift has towards increasing productivity and growth through efficient use of inputs and better management of natural resources viz. improving Soil Health, Efficient Use of Water, Adoption of New Hi-tech Technologies, Adoption of Integrated Farming Systems Approach, Better Marketing and Agro-Processing Infrastructure and greater access to Farm Credit.

10.7 During the Eleventh Plan, the emphasis was on achieving 4% growth rate in agriculture sector and ensuring food & nutritional security. To achieve this objective, some new and innovative central sector schemes were launched like Rashtriya Krishi Vikas Yojana (RKVY), as additional central assistance, gave greater flexibility to the State to implement agricultural development programmes as per the local needs of the area. National Food Security Mission (NFSM) was also launched to take care of food and nutritional security. Agriculture Technology Management Agency (ATMA) was further strengthened to take care of extension needs and as an alternate system of extension delivery.

10.8 State Government has constituted Rajeev Gandhi Krishi and Pashupalan Mission for the development of Agriculture and Animal Husbandry Sector. The objectives of this Mission are comprehensive agriculture development, increase use of improved technology, adoption of dry land practices, storage of agricultural produce, conservation of soil and improvement of soil health, improvement in marketing and processing of agriculture produce. This Mission will also take care of crop insurance, fodder development, input availability and water conservation.

10.9 The review of the Eleventh Plan initiatives in agriculture is summarized as below:

**Table No. 10.1**  
**Production and Productivity in the State**

(Area in lac ha & productivity in kg/ha)

Crops	10 <sup>th</sup> Plan		11 <sup>th</sup> Plan (up to Oct. 2011)	
	Area	Productivity	Area	Productivity
<b>KHARIF</b>				
Cereals	88.01	757	71.59	908
Pulses	22.07	275	25.96	351
Oil Seeds	12.81	961	17.48	1040
Cotton	3.98	286	3.62	393
Guar	20.06	277	29.52	360
<b>RABI</b>				
Cereals	27.97	2985	28.51	3098
Pulses	10.60	704	13.28	721

Crops	10 <sup>th</sup> Plan		11 <sup>th</sup> Plan (up to Oct. 2011)	
	Area	Productivity	Area	Productivity
Oil Seeds	32.13	1185	28.33	1645
<b>TOTAL CEREALS (K+R)</b>	94.90	1294	100.10	1532
<b>TOTAL PULSES (K+R)</b>	32.09	462	39.23	476
<b>TOTAL OIL SEEDS (K+R)</b>	45.08	1086	45.81	1117

10.10 The total area under cereals has increased from 94.90 lac ha during the 10th Plan to 100.10 lac ha during the 11th Plan. The productivity has also increased to 1532 kg/ha from 1415 kg/ha., showing an increase of 9% over the 10th plan. Likewise, in pulses, area has increased to 39.23 lac ha over 32.09 lac ha. Increase in productivity has also been observed in guar and cotton crops.

### **Increase in Seed Replacement Rate (SRR)**

10.11 There has been a quantum jump in SRR of almost all kharif crops with increase to the extent of more than 2 to 3 times over the SRR at the beginning of the 10th Plan. This has helped in increasing the productivity in most of the crops. Similarly, linear increase in SRR has been observed in all rabi crops during the 11th Plan and average SRR has increased to 28% from 18% in the beginning of the 10th Plan.

### **Seed Distribution**

**Table No. 10.2**

(in Lac Qtls.)

Seed Distribution	2007-08	2008-09	2009-10	2010-11	2011-12
Kharif	3.25	4.84	5.17	5.56	6.07
Rabi	8.55	9.39	9.67	10.57	11.80
<b>Total</b>	11.80	14.23	14.84	16.13	17.40

10.12 Seed availability has almost been doubled in Kharif (3.25 to 6.07 lac qtls) and has increased by 1.5 times (8.55 to 11.80 lac Qtls) in Rabi season. Fertilizer is critical input for increase in productivity. Fertilizer distribution has increased from 20.64 lac MT in beginning of the 11th Plan to 29.80 lac MT by 2011-12.

### **Plant Protection-TGM**

**Table No. 10.3**

Items	2007-08	2008-09	2009-10	2010-11	2011-12
Area covered (in lac ha.)	104.68	97.19	103.76	136.59	117.00
TGM used (in MT)	3802	2572	3527	3623	2775
Seed Treatment (lac ha.)	62	68	72	77	83

10.13 Use of plant protection chemicals depends on occurrence of disease and pest. Hence there is year to year variation in area covered and use of plant protection chemicals.

#### **Agriculture Implements Distributed**

10.14 For timely operation in crops and to bring increase in farm mechanization in view of lesser availability of farm labour and higher cost of labour, farm mechanization plays an important role. Farm mechanization was promoted accordingly during the 11th Plan.

#### **State Plan:**

10.15 Under State Plan, in addition to establishment/ operating expenses of new offices/ staff/ labs/ ATCs/ capital works, provision for those innovative schemes/ activities has been kept which are not covered in any of the ongoing CSS Schemes and are of vital importance to the State. Besides this, provision for State Matching Share towards CSS and crop compensation & Livelihoods Mission is kept under State Plan.

#### **Centrally Sponsored Schemes:**

##### **ISOPOM: Integrated Scheme of Oilseed, Pulses, Oil palm and Maize**

10.16 The objective of this scheme is to enhance productivity, processing, value addition and product diversification to make the oilseed sector sustainable and competitive. The main activities taken under this scheme are seed production and distribution to increase SRR, block demonstration, IPM & plant protection chemical, Plant Protection Equipments, bio-fertilizers, gypsum as nutrient, micro-nutrient demos, piped water conveyance, farmers training and infrastructure development etc.

##### **ICDP (Cotton): Mini Mission-II of Technology Mission on Cotton (Intensive Cotton Development Programme)**

10.17 The major objective of the scheme is to boost the production of cotton in terms of quality and quantity. The main activities covered under the scheme are certified seed availability, IPM on FFS pattern, plant protection equipment's, HRD activities, information support, staff & contingencies etc.

##### **Macro Management of Agriculture: Work Plan**

10.18 The scheme was conceived to be a step to provide sufficient autonomy and initiative to the State Governments to develop programmes and activities as per their needs and priorities. The main activities covered under the schemes are Popularization of Certified seeds, IPM, INM, Agriculture Mechanization, Extension, Training & Information Support Activities, Soil Reclamation, Infrastructure Support etc.

### **National Food Security Mission (NFSM)**

10.19 The National Development Council, in its 53rd meeting held on 29th May, 2007, adopted a resolution to launch the National Food Security Mission in order to increase the production of Rice, Wheat and Pulses. The objectives of NFSM are increasing production of wheat, rice and pulses in a sustainable manner in identified districts, restoring soil fertility, creating employment opportunities and enhancing farm level profitability.

10.20 15 districts of the State viz: Ajmer, Banswara, Bhilwara, Bikaner, Jaipur, Jalore, Kota, Jhalawar, Nagaur, Pali, S. Madhopur, Sikar, Sirohi, Tonk and Udaipur have covered under NFSM (Wheat) and all districts under NFSM (Pulses). The Mission interventions include demonstration of improved packages of practices, distribution of certified seed for increase in SRR, integrated nutrient management, integrated pest management, mechanization, soil amelioration, farmers field school based training, etc.

### **Accelerated Pulses Production Programme 2011-12**

10.21 Accelerated Pulses Production Programme has implemented in the identified districts of the State during kharif on moong & urad and on gram during Rabi under National food security mission- pulses. The objective of A3P is to promote INM and IPM technology to increase production and productivity of pulses, by participating farmers.

### **Rashtriya Krishi Vikas Yojana (RKVY/NADP) is launched with following objectives:**

- To incentivize the States so as to increase public investment in agriculture & allied sectors.
- To provide flexibility and autonomy to the States in the process of planning & executing the schemes of agriculture & allied sector.
- To ensure the preparation of agriculture plans for the districts and the States based on agro-climatic conditions, availability of technology and natural resources.
- To ensure that the local needs/ crops/ priorities are better reflected in the agricultural plans of the states.
- To achieve the goal of reducing the yield gaps in important crops, through focused interventions.
- To maximize returns to the farmers in agriculture and allied sectors.
- To bring about quantifiable changes in the production and productivity of various components of agriculture and allied sectors by addressing them in a holistic manner.

**Assistance under RKVY is available in two categories:**

10.22 Stream-I - For new interventions proposed by the districts on project basis.

10.23 Stream-II- For meeting the additional requirements of the districts for ongoing approved activities.

10.24 During the year 2011-12, five new sub-schemes were launched (4 for Agriculture and 1 for Horticulture). It is proposed that these new sub schemes may be continued in the 12th Plan.

**Rain-fed Area Development Programme (RADP)**

10.25 The objective of this scheme is to increase productivity in rain-fed areas and crop diversification to increase the cultivator's income. 16 districts have been covered under this scheme.

**Accelerated Fodder Development Programme (AFDP)**

10.26 To ensure green fodder availability for animals by improved technology of fodder cultivation. Fallow and uncultivable land will also be used for fodder cultivation under this scheme

**Initiative for Nutritional-Security through Millets Promotion Scheme (INSIMP)**

10.27 To increase production of coarse cereals by way of demonstrations, trainings and improved technology. Post harvest management and dissemination of improved technology is also a part of this scheme. Presently the selection of area by GOI is crop specific.

**60,000 Village Pulses Development Programme**

10.28 To demonstrate Integrated Pest Management and Integrated Nutrient Management techniques and crop Management by way of compact block in pulses crops.

**Agriculture Technology Management Agency (ATMA)**

10.29 "Support to State Extension Programme for Extension Reforms" was launched for revitalizing agriculture extension, to make the extension system decentralized and demand driven. The scheme recommends setting up of an autonomous district level institution called as Agriculture Technology Management Agency (ATMA) headed by District Collector with participation of various key stakeholders involved in agriculture activities for sustainable agriculture development i.e. Agriculture and line departments, SAUs, KVK, Banks, representatives from CIGs, NGO, etc.. The Member Secretary of ATMA is Dy. Director Agriculture/ Animal Husbandry, This district level autonomous body facilitates convergence of programme of all line departments in agriculture and allied sector.

**Major interventions taken during the 11th Plan are as under:**

- Kharif and Rabi Abhiyan- Special campaigns have organized before each crop season at gram panchayat level to disseminate the technical knowhow and timely availability of agriculture inputs at the door step of farmers.
- To increase the seed replacement rate and productivity of Maize in tribal area, the Golden Rays Programme was launched under this programme, nearly 81130 qtls. Hybrid maize seed was distributed in Kharif 2010 and 2011 to cover all BPL, SC & ST farmers. This has resulted in 1.5 to 2.0 times increased productivity of maize crop. This has increased the pace of economic betterment of tribal farmers. Similarly 19000 qtls. Hybrid Bajara seed was distributed to 12.65 lac farmers of eight western districts to increase the productivity of Bajra crop. This has helped to increase productivity of Bajra by approximately three qtls/ha.
- Department has taken up a massive programme for water harvesting. Under this programme about 11191 Diggies, 6750 Farm Ponds and 2699 Water Storage have been constructed during 11th plan period. This has resulted in life saving facility in rain-fed areas of the state and has helped in greater sustainability in rain-fed areas by providing one life saving irrigation.
- Approximately 1.63 lac hectares additional irrigation facilities have been made available in western part of the state i.e. in Jalore and Barmer districts through Narmada Canal Project during 11th Plan period.
- Efficient and Judicious use of water in agriculture is of paramount importance. The Department is putting thrust on popularization of MIS techniques. Approximately 4.25 lac hectare area covered under sprinkler irrigation and 0.36 lac hectare areas covered under drip and mini sprinkler irrigation systems during 11th Plan period.
- To ensure balanced and integrated use of fertilizer on soil test basis, horizontal expansion of soil testing services has been made by operationalization of 12 new soil testing labs with creation of micro nutrient testing facilities in 32 labs. To promote the use of soil test data by farmers, soil fertility data of 38098 villages have been uploaded on GIS & departmental Website. 52.5 lac Village soil health & package of Practice cards have been distributed to farmers for adopting the recommendation. Department has also taken up a PPP programme for soil testing. Under this programme, 12 mobile laboratories are operating on PPP mode. This has increased in the annual capacity of soil sample analysis by 0.60 lac over existing 3.50 lac per year. 13.85 lac soil health cards have been distributed to farmers in the 11th Plan period.

- For popularization of newly developed improved varieties of different crops and to increase seed replacement rate, 25.50 lac Minikits have been distributed. Similarly, for inculcating the habit of adopting recommended Package of practices, 1.20 lac full package demonstrations of different crops were laid out.
- Integrated Pest Management and safe use of plant protection chemicals is the key for Good Agricultural Practices. During 11th Plan period 7150 IPM demonstrations along with FFS were laid out on farmer's fields to educate and popularize the above practices for efficient plant protection.

### **FOCUS AREAS/PRIORITIES DURING THE 12TH PLAN**

- Productivity enhancement in Pulses from 476 Kg/ha to 580 Kg/ha.
- Area expansion in Pulses from 39.23 lac ha to 41.07 lac ha.
- Productivity enhancement in Soyabean from 1233 Kg/ha to 1342 Kg/ha.
- Increase in area under Oilseeds from 45.81 lac to 50.26 lac ha.
- Increased availability of certified Seeds.19 to 22 lac Qtls.
- Distribution of soil health cards for all land holdings.
- Maximization of cropped area under insurance coverage.
- Almost 50% land holdings with Small, Marginal, SC and ST farmers having low investment capacities.
- Popularization of Hi-Tech Protected Cultivation of Vegetables, Flowers and Nurseries development.
- State Agriculture policy will be launched shortly.
- Drip/Sprinklers will be installed on every operational well by the end of the 12th plan.
- Crop Insurance scheme is to be modified as per area specific need and workable triggers on climatic parameters.
- Pre-positioning of fertilizers to ensure the timely availability of fertilizers to farmers.

### **GOAL - PRODUCTIVITY ENHANCEMENT**

10.30 There is gap between potential and actual yield at farmer's field. Reasons need to be identified for difference in actual & potential productivity at block/ village level and the constraints causing gap will be addressed.

10.31 Agriculture Department is providing latest technologies to increase per unit productivity and per unit water productivity. Presently, productivity of cereals is 1532 Kg/ha.. Efforts will be made to increase the productivity to 1827 Kg/ha by the end of the 12th Plan. Likewise

under pulses, it is 476 Kg/ha at the end of 11th Plan, which is proposed to be raised to 580 Kg/ha. Oil seed crops are also important for the state, and there is great scope to increase the productivity of castor and soybean. The productivity of castor is 1253 Kg/ha and proposed productivity at the end of 12th Plan 1312 Kg/ha. Present productivity level of Soyabean is 1233 kg/ha and proposed productivity at the end of 12th Plan 1342 Kg/ha. Bt-cotton seed is now a day's getting popularity among cultivators, it is proposed to increase the cotton productivity from 393 kg/ha to 460 kg/ha at the end of 12th Plan. Guar is an important Kharif crop in arid region of the state. Present productivity 360 kg/ha which is proposed to be increased to 459 kg/ha by the end of 12th Plan.

### **STRATEGY**

10.32 The goal would be achieved through sustainable management of natural resources i.e. land and water and articulating basic parameters of agricultural development. Timely availability of inputs (seeds, fertilizers and PP chemicals and bio-agents), efficient crop insurance and easy credit access will be ensured to farmers. Marketing of agricultural produce, crop diversification, use of Biotechnology, information and communication techniques will help further in achieving the goals set for the 12th Plan period. To demonstrate improved package of practices, full package demonstrations will be laid out for different crops.

### **SOIL HEALTH MANAGEMENT**

10.33 Judicious and balanced use of nutrients on the basis of soil test is an integral part of integrated nutrient management. For strengthening and expansion of soil testing services and adopting recommended dose of fertilizers following steps will be taken up:

- Distribution of soil health cards to all land holding and same will be uploaded on GIS.
- To increase annual testing capacity by 5.22 lac over existing capacity of 3.50 lac per year through private participation.
- Capacity building and strengthening of staff as per norms will be ensured in 33 existing soil testing labs along with basic necessary infrastructure for different testing parameters.
- 24.67 lac soil health cards will be provided during the 12th Plan period. To ensure the adoption of soil test recommendations at least 5% follow up for soil health cards will be monitored at the start of the 12th Plan and proposed to increase by 25% at the end of the 12th Plan.
- To promote use of micro-nutrients, incentive will be provided @ 50% or Rs. 875 per hectare on their application as per soil test recommendations. 1.26 lac demonstrations will be organized

during the 12th Plan period on cluster approach. One training at each cluster will be organized.

### **INPUT AVAILABILITY AND QUALITY CONTROL**

#### **Seed:**

10.34 The paramount role of quality seeds is well understood. In order to ensure higher availability of quality seeds to our farmers, emphasis would be given to organize massive seed production programme both in public and private sectors. Necessary steps in respect of quality parameters would also be taken so that farmers get quality seeds and higher yields from per unit area sown. The following targets have been kept for SRR:-

- For Kharif crops, it is proposed to increase the SRR from present level of 21% to 36% by the end of the 12th Five Year Plan.
- For Rabi Crops, it is proposed to increase the SRR from present level of 22% to 34% by the end of the 12th Five Year Plan.

#### **Fertilizer:**

10.35 It will be ensured that chemical fertilizers are used as per soil test recommendations, cultivators will be motivated to use bio-fertilizer and micro- nutrients in deficient areas. The use of Bio-fertilizers will be increased from the present level of 35 lac Packets to 60 lac Packets by the end of the 12th Plan. To ensure timely availability of fertilizers to farmers, pre-positioning of fertilizers is proposed.

#### **Plant Protection Chemical:**

10.36 Cultivators will be motivated to adopt IPM practices, for better crop Protection and environment management. It is proposed that use of plant protection chemical will be reduced from 2725 MT at the beginning of the 12th Plan to 2300 MT by the end of the plan period.

### **STRENGTHENING OF INPUT DELIVERY MECHANISM**

- Greater involvement of private sector in delivery of services with assured quality of inputs.
- Involvement of private input dealers for popularization of low cost inputs like bio-fertilizer, gypsum etc.; Necessary incentive will be provided to private sector for this intervention.

#### **QUALITY OF INPUTS:**

- To ensure quality of inputs like seed, fertilizer, Pesticides, bio-fertilizer campaign approach before sowing season will be adopted:- Pre Season Kharif and Rabi camps.
- Regular checking, monitoring of input quality will be ensured through enforcement agency.

- 3 new fertilizer quality control labs will be established and operationalized.
- The testing capacity will increase to 14000 samples over existing capacity of 8000 samples per year.
- Strengthening of existing of 04 fertilizer testing labs, 06 pesticide testing labs, 06 seed testing labs, 01 bio-fertilizer testing labs will be ensured in terms of capacity building of human resource strengthening of staff as per norms and other basic necessary infrastructure for desired testing parameters/new molecules.

#### **INTEGRATED NUTRIENT MANAGEMENT (INM):**

- Use of vermin- compost/ Green manuring/ FYM/Compost will be promoted through different IEC/Extension activities.
- To demonstrate the technique of sodic soil reclamation and improvement in its productivity incentive will be provided on the use of Gypsum and green manure seed. It is targeted to treat 46000 hectare area with approximately 1.40 lac MT gypsum during the plan period. .
- Use of low cost input for improving soil health- Supplementing secondary nutrients like Sulphur and Calcium to oil seeds and pulses will not only increase the productivity but improves the quality of produce also. For this purpose 8.83 lac MT gypsum will be distributed on subsidized rates (i.e. Rs 700 per MT). Almost 35.32 lac hectare area will be treated.
- To supplement and increase the efficiency of applied nutrients, use of bio-fertilizers will be promoted through distribution of subsidized 242 lac culture packets at subsidized rate during the plan period.

#### **PROMOTION OF INTEGRATED PEST MANAGEMENT:**

- Focus on judicious use of PP chemicals, agronomic & cultural practices.
- Encourage use of eco-friendly pesticides and bio-agents and bio-pesticides like trichoderma, trichogramma, NPV and neem based insecticide.
- Farmers Field School (FFS) based demonstration for adoption and popularization of IPM practices.

#### **EFFICIENT USE OF WATER:**

10.37 As water is limited, efficient use of water and harvesting of rain water are major intervention during the 12th Plan.

#### **Efficient Water use Practices**

- Promoting construction of water harvesting structures like diggies in canal command areas, farm ponds in high rainfall and heavy soil

areas and water storage tanks in well and tube well irrigated areas for efficient use of water.

- Water harvesting structures like Farm Pond, Diggie and Water Storage Tank on fields of Small/ Marginal/BPL farmers will be taken up during the 12th Plan period by effective convergence with MNERGA under **Apna-Khet-Apna-Kam** scheme.
- Efforts will be made to reduce area under high water requirement crops like wheat, groundnut and sugarcane and promoting low water requiring crops like oilseeds and pulses and in cereals Barley in Rabi season.
- Motivating farmers for adoption of irrigation scheduling as per critical crop growth stages.
- Pipelines are very important in minimizing conveyance losses of water from the source to the field. Subsidy is provided on PVC/H.D.P.E pipelines at the rate of 50% of the unit cost or Rs. 15000 whichever is less. 25000 KM pipeline will be laid during plan period.

#### **Rain water harvesting and collection of canal water activities**

- **Diggi cum sprinkler:** In canal command, the diggies are used to ensures timely irrigation and efficient water use by sprinklers/drip system. The present provision of subsidy is @ of 50 % of the unit cost or Rs. 2,00,000 per Diggi whichever is less, is proposed to increase the subsidy to the extent of 3 lac. It is proposed to construct 25000 digies during plan period.
- **Farm Ponds (Khet Talai):** Rain water harvesting structures particularly the farm ponds are useful in runoff water collection during rainy season which can be used for life saving irrigation during Kharif or Rabi crops. The present provision of subsidy is @ of 50 % of the unit cost or Rs. 50000, it is proposed to increase the subsidy by 1,00000 per pond whichever is less. It is proposed to construct 25000 farm ponds during plan period.
- **Water Storage Tanks:** Water storage tank ensures 'as and when required' irrigation facility in well and tube well irrigated areas. The present provision of subsidy is @ of 50 % of the unit cost or Rs. 50000, it is proposed to increase the subsidy by Rs 75,000 per Tank whichever is less. It is proposed to construct 12500 water storage tanks during plan period.

#### **Organic farming:**

10.38 Organic farming is practiced in Western Rajasthan by default but farmers are not aware about process of certification and even they are not able to maintain the documents for certification process. Following programmes are proposed as under during 12th Plan:

- Demonstration on organic farming- For transfer of technology about organic farming FFS based demonstrations is to be laid out. The pattern of assistance would be Rs. 2000 per demonstration (0.4 ha) or 50% input cost whichever ever less.
- Incentive to cultivators for organic farming- For organic grower's incentives will be provided at Rs. 8000 per ha which will include registration and certification fees.

### **FARM MECHANIZATION**

10.39 The priority will be to:

- Promote energy efficient farm machinery
- Encourage use of solar/ non-conventional energy by providing incentives.
- Emphasis will be given on R&D of hand tools and bullock drawn implements for small & marginal farmers for all agro climatic zones. Training and testing centre to be established.
- 75% subsidy to promote improved implements like rotavator, reapers, seed dresser post harvest management and agro processing implements etc.
- Training of unemployed youth & extension workers to repair and maintenance of implements at village level.
- Drudgery reduction equipments/ implements will be provided to women farmers in two day institutional trainings free of cost to the limit of Rs. 300.
- It is proposed to provide uniform pattern of subsidy for all schemes to the extent of 75% for big and costly equipments and 25% incentive would be supplemented from state Plan.

### **CROP DIVERSIFICATION:**

10.40 Focus will be on-

- Diversification from cereals crops to high value and less water requiring crops like pulses/ oilseeds/ spices.
- Promote cultivation of vegetables and fruit plants using drip irrigation for higher yields and quality produce.
- Marketing support for introduction of new crops – Declaration of minimum support price and ensuring guaranteed buy-back for vegetable and fruits.
- Cultivation of Olives, JOJOBA and Plantation Crops in suitable areas.
- Protected cultivation through green houses and shade nets.
- Promote fodder cultivation for fodder security in rain-fed area.

- Promotion of varietal diversification as per farming situation to enhance the productivity level of crops and also help in value addition and agro processing.

## **HUMAN RESOURCE DEVELOPMENT**

10.41 Vocational Training is important for skill development and any investment towards skill development in the youth would in a long way go for better availability of human resources, not only for agriculture sector but also in other allied sectors including agro based industries. Mapping of the Vocational and Education Training Courses conducive to growth of rural economy will be promoted during the 12th Plan.

### **Objectives & priorities**

- Facilitating Producers-Market-Consumer linkage and increase post-harvest management practices
- Promoting drought proof agriculture to maximum extent possible.
- Giving diversifying crop activities for adoption of farming system approach i.e. Horticulture, Animal Husbandry, vermi-compost, nursery management, and protected cultivation.
- Gender sensitization in Agriculture.
- Selection of Krishak-Mitra (KM) at farmer field school level

### **Vocational Trainings**

10.42 During the 12th Plan the department would approach the State Agriculture Universities and Institute undertaking vocational training programme to start such courses which are remunerative in long term for providing sustainable incomes in rural areas. Some examples of such course may be Organic Farming, Seed Treatment, Pest Management, Flower Cultivation, Vegetable Crops, Milk Production Training, Green House Cultivation of Vegetables, Maintenance Farm Machinery & Implements, Post-Harvest and Value Addition, Agri Business Management etc. courses are proposed to be designed as per need.

### **Scope and approaches**

- Involvement of Public Private Partnership for skill development and trainings, and for adoption of package of practices (POP) at farmer's field.
- Provide IEC material to farmers.
- Facilitate door to door service to the farmer animal husbandry department trainees (Livestock Assistant) such as Artificial insemination, poultry, Fisheries, Piggeries, Vaccination etc.
- Plans related to physically challenge group (Disable)
- In district level training programme FFS, field days, farmers fair will be organized at field level during the 12th FYP. Focus will be

given to remote and un-served area population by using service of Krishak-Mitra as well as KVK's.

- Provide services in remote and un-served areas by 12th passed agriculture students through their choice of courses i.e. bee keeping, mushroom cultivation, PHM, Fisheries, Piggeries, Poultry, Nursery Management etc.

### **Information Communication Technology**

10.43 It is planned that farmers should get technical know-how through all sources of communication like electronic, print and mobile messages before and during every crop season. This will be attempted through

- Knowledge empowerment of farmers through mobile phones, dedicated TV and radio channels on agriculture.
- Reorganization as per need is proposed during plan period.
- POP and other technical support material will be placed on website for as and when required can be referred.
- Fertility status of soil will be depicted on GIS for easy access to farmer.
- Community Radio Station will be operationalize.
- Popularization of GRAMSET- two way communications will help in transfer of technology and spot solution of problem.

### **EFFECTIVE CROP INSURANCE SCHEMES**

- Promote modified weather based crop insurance scheme (MNAIS)/ NAIS by area specific and workable triggers on climate parameters.
- To cover maximum area under crop insurance scheme.
- Capacity building of various stake holders like farmers organization SHGs, Cooperatives, banks and insurance companies for viable and robust crop insurance.
- To develop comprehensive agricultural technological package to reduce risk associated with farming especially in rain-fed areas.

### **INFRASTRUCTURE DEVELOPMENT-**

10.44 During 12th Plan period department is proposing following infrastructural development activities to strengthen the department:

- Kishan Seva Kendra cum knowledge centers will be constructed at the roof top of Rajeev Gandhi Knowledge centers at the places where posts of AAO's and Agriculture Supervisors' exists (4749 No's)
- The knowledge will be equipped by putting charts, live demonstration of seed, projectors and mass media communication materials.

- Repair and maintenance of existing buildings along with new administrative buildings.

### **OTHER POINTS**

- Promote agro processing, agro based industries as per agro processing and agri business policy 2010.
- Training of field functionaries and rural youth regarding PHM, agro processing and agri business.
- Export opportunities will be properly exploited for such agricultural produce, for which the State has potential i.e. Seed spices, mustard, guar, moth, isabgoal, horticultural produce, vegetables, floriculture, medicinal products etc.
- Financial support needs to be provided for R&D in Agriculture Sector in field of food processing, post-harvest management including packaging, cool chains, cold storage and other necessary infrastructure.
- For agro/ food processing– training of functionaries at all levels with regards to Post Harvest Management, Health & Environment Standards and Assistance on Implementation of Quality Management System by the entrepreneurs.
- Promotion of safe storage at household level.
- Support to be taken from State Agriculture Universities and Institutes for seed sector, farm mechanization, training of field officials, research on alternative energy resources and relevant technologies.
- Private participation is encouraged in developing scientific storage facilities.
- Promote private sector participation and investment in extension, Agriculture R & D, seed protection.
- Custom hiring of different improved Agricultural Implements will be focused during 12th plan.
- Sensitization for efficient farm water techniques be popularized.
- There can be a clear policy of subsidizing the farmer for his purchases of crop nutrient-whether it is water soluble fertilizer or micro-nutrient.
- Better convergence will be focused under MNERGA, especially for Small, Marginal & BPL farmers through Apna Goan Apna Khet scheme.

## **SUCCESS STORIES OF SOME IMPORTANT INTERVENTION UNDERTAKEN UNDER RKVY:**

### **Agriculture Department**

#### **A. Seed Sector Interventions**

10.45 Programme Golden Rays- Rajasthan (During 2010-11 & 2011-12)

- Golden rays programme is the largest ever programme for enhancing maize productivity in tribal areas of the country and the biggest PPP for livelihood of BPL families in 5 tribal district (Banswara, Dungarpur, Udaipur, Pratapgarh & Sirohi). 39130.60 qts hybrid seed distributed in 2010-11, in minikit size of 5 Kg each to 7.83 lac SC, ST & BPL tribal cultivators. In year 2011-12, 42000 Qtls seed of different hybrids were distributed to 8.40 lac tribal farmers in 6 districts. Excellent Crop condition and productivity of over 30-32 Qtls/ha achieved against average yield of 18 Qtls/ha.
- Similarly 19000 qtls. Hybrid Bajara seed was distributed to 12.65 lac farmers of eight western districts to increase the productivity of Bajra crop. This has helped to increase productivity of Bajra by approximately 3 qtls/ha.

#### **B. Intervention for efficient use of Water**

- Department has taken up a massive programme for water harvesting. Under this programme about 11191 Diggies, 6750 Farm Ponds and 2699 Water Storage have been constructed during 11th Plan period. This has resulted in life saving facility in rain-fed areas of the state and has helped in greater sustainability in rain-fed areas by providing one life saving irrigation. During 2011-12, 5500 Diggies, 8000 Farm pond and 2000 water tank will be constructed with an outlay of Rs. 160.0 crores.

### **Horticulture Department**

- Date palm planted on 130 ha area in Western Rajasthan at Govt. Farm Sagra Bhojka in Jaisalmer district.
- Date palm plantation on 300 ha area at Farmer's field completed in Ganganagar, Hanumangarh, Bikaner, Jaisalmer, Barmer, Jodhpur, Churu & Nagaur
- 100 community water harvesting structures completed.
- 227 Shade net house established.
- 500 ha pomegranate orchards developed.
- 93257 Vegetable seed Minikits distributed.
- 40000 plastic creates have been distributed for transportation of fruits and vegetables.

### **Animal Husbandry Department**

- 1.35 lac mineral mixture and deworming kits were distributed to dairy farmers in Rabi and 1.27 lac kits were distributed in Kharif to help drought affected cattle population.
- Using Kharif & Rabi Abhiyan mineral mixture and de-worming medicines distributed in 18320 camps.
- Programme to combat infertility in cattle completed. Total 400 camps were organized.

### **Water Resources Department (Minor Irrigation)**

- 37 minor irrigation projects were to be constructed with the outlay of Rs. 70.00 crore
- 26 Projects completed by March, 2011. 7 under progress.
- 23735 ha more area brought under irrigation
- It will help increase 47470 MT agriculture production valued to 71.20 crore.
- By the storage of water in dams ground water will also be recharged.

### **Advance Stocking of DAP by Cooperative Department**

- 3.20 lac MT DAP was advanced stock for timely availability fertilizer to the farmers with an outlay of Rs. 45.00 crores during 2010-11 and during 2011-12, 1.00 lac MT SSP and 2.75 lac MT DAP has been stocked and distributed with an outlay of Rs. 35.00 crores.
- Computerizations of Cooperative Institutions (PCS) to cover 1665 PCSs @ Rs.1.50 lac per Primary Cooperative Society (PCS) to facilitate as mini bank.

### **Community Managed Works**

- N.M. Sadguru, a NGO is working on community managed water harvesting structure and lift irrigation in Jhalawar and Banswara district.
- 782 ha area brought under irrigation.
- Benefiting 857 farm families (516 families in Banswara and 341 families in Jhalawar).
- An income of Rs.1.17 crore expected to be generated on tribal farmer's fields.

### **Rajasthan Cooperative Dairy Federation**

- 289 Bulk Milk Coolers have been installed at various dairy units with an outlay of Rs. 20.00 crores.

- Rs. 31.76 crore has been provided this year for installation of 465 bulk milk coolers and Rs.10.00 crore for quality control equipments for milk testing and feed analysis.

### Total funds received under RKVY since inception

Table No. 10.4

(Rs. in crore)

Year	Funds received	Funds Available including unspent balance	Expend. Incurred/ Booked	Unspent Balance as on 1 <sup>st</sup> April	UCs Sent to GOI
2007-08	55.76	55.76	0.00	55.76	0.00
2008-09	233.76	289.52	175.78	113.74	175.78
2009-10	186.12	299.86	248.62	51.24	248.62
2010-11	628.01	679.25	615.27	63.97	615.27
2011-12	685.04	749.01	328.00 (up to Dec. 11)		200.00

10.46 The proposal for RKVY for 2012-13 is Rs. 74600.00 lac and Rs. 519647.00 lacs for 12th Plan.

10.47 The department wise breakup for 2012-13 will be:

Table No. 10.5

S. No.	Department	Amount (in lac)
1	Agriculture	41049.85
2	Horticulture	13450.02
3	RAU	500.00
4	RCDF	3000.01
5	MPUAT	500.00
6	Fisheries	500.01
7	Marketing department	0.02
8	Soil Conservation	0.02
9	Animal Husbandry	1700.02
10	Water Resource	6000.00
11	Co-operative	4000.01
12	College education	100.02
13	Marketing Board	2000.01
14	RSSC	0.01
15	Forest	800.00
16	Rajasthan Veterinary University	1000.00
	<b>Total</b>	<b>74600.00</b>

10.48 The proposed Annual Plan of RKVY for 2012-13 is as under:

Table No. 10.6

(Rs. in lac)

	2011-12	2012-13
	Committed/New	Committed/New
Revenue	63220.01	63949.98
Capital	11680.00	10650.02
<b>Total</b>	<b>74900.01</b>	<b>74600.00</b>

**Table No. 10.7**  
**Department-wise Funds Transfer under RKVY from 2008-09 to Dec., 2011**

(Rs. in lacs)

S. No.	Detail of Project	Fund Transfer					Total
		2007-08 & 08-09	2009-10	Revalidated 10-11	2010-11	2011-12	
1	Agriculture Including NGO	4075.13	13014.39	871.56	29934.36	17053.36	<b>64077.24</b>
2	Forest		200.00	83.00	800.00	1000.00	<b>2000.00</b>
3	Animal Husbandry	600.00	562.50	250.00	1087.70	500.00	<b>2750.20</b>
4	RSAMB		420.00	121.00	2250.00	1000.00	<b>3670.00</b>
5	MPUA&T, Udaipur	1575.00	652.55		1572.00	350.00	<b>4149.55</b>
6	RAU, Bikaner	696.00	544.49		1190.41	500.00	<b>2930.90</b>
7	RUVAS Bikaner					575.00	<b>575.00</b>
8	Horticulture	6699.73	3167.16	1670.00	5020.04	8982.17	<b>23869.10</b>
9	Cooperative Department	2333.72	2272.82	13.00	8528.83	4000.00	<b>17135.37</b>
10	Fisheries	222.50		0.10	200.00		<b>422.50</b>
11	RCDF	2407.00	1736.00		5625.99		<b>9768.99</b>
12	Higher Education (by RSAMB)	100.00	100.00	100.00		100.00	<b>300.00</b>
13	Water Resources	2600.00	2500.00		6554.00	3000.00	<b>14654.00</b>
<b>Grand Total</b>		<b>21309.08</b>	<b>25169.91</b>	<b>3636.66</b>	<b>62763.33</b>	<b>37060.53</b>	<b>146830.85</b>
<b>Sub-Schemes</b>							
1	RADP					3200.00	<b>3200.00</b>
2	AFDP					2450.00	<b>2450.00</b>
3	INSIMP					5523.90	<b>5523.90</b>
4	60000 Pulse Village					2861.00	<b>2861.00</b>
5	Vegetable Clusters					1200.00	<b>1200.00</b>
6	Protein Supplement					721.06	<b>721.06</b>
<b>6</b>	<b>Sub-Schemes Total</b>					15955.96	<b>15955.96</b>
<b>7</b>	<b>Grand Total</b>	21309.08	25169.91	3636.66	62763.33	53016.49	162786.81

**Table No. 10.8****Department-wise Expenditure Under RKVY from 08-09 to Dec. 2011**

(Rs. in lacs)

S. No	Detail of Project	Expenditure Up to 31-12-11				
		2008-09	2009-10	2010-11	2011-12	Total
1	Agriculture Including NGO	3512.38	13108.49	30308.16	11113.36	58042.39
2	Forest		116.37	832.55	470.00	1418.92
3	Animal Husbandry	594.00	318.41	934.15	639.58	2486.14
4	RSAMB		299.00	2371.00	1000.00	3670.00
5	MPUA&T, Udaipur	1424.00	843.55	1572.00	150.00	3989.55
6	RAU, Bikaner	544.95	695.45	1190.41		2430.81
7	RUVAS Bikaner				807.81	807.81
8	Horticulture	5780.39	2416.61	6071.25	2340.65	16608.90
9	Cooperative Department	1777.72	2816.57	8541.83	2250.00	15386.12
10	Fisheries	131.81	89.87	78.10	90.00	389.78
11	RCDF	1953.00	2190.00	5625.99		9768.99
12	Higher Education (by RSAMB)	100.00		100.00		200.00
13	Water Resources	1759.10	1977.00	3927.83	2203.76	9867.69
	<b>Grand Total</b>	<b>17577.35</b>	<b>24871.32</b>	<b>61553.27</b>	<b>21065.16</b>	<b>125067.10</b>
	<b>Sub-Schemes</b>					
1	RADP				2453.64	2453.64
2	AFDP				2250.00	2250.00
3	INSIMP				4384.00	4384.00
4	60000 Pulse Village				2110.00	2110.00
5	Vegetable Clusters				126.00	126.00
6	Protein Supplement				375.00	375.00
<b>6</b>	<b>Sub-Schemes Total</b>				11698.64	11698.64
<b>7</b>	<b>Grand Total</b>	<b>17577.35</b>	<b>24871.32</b>	<b>61553.27</b>	<b>32763.80</b>	<b>136765.74</b>

## Details of Physical Progress under RKVY up to December 2011-12

Table No. 10.9

S. No.	Detail of Project	Unit	Target	Up to Dec. 2011
A	<b>Deptt. Of Agriculture</b>			
1	District Agriculture Plan			32
2	Specific Project for Productivity Enhancement, Quality Improvement, Area Expansion eg. Target 20+, Operation 150%, Operation Do-guna.	No.	55	55
3	Strengthening of Soil, Fertilizer, Pesticides and Residue Testing Laboratories in the state.	No.	12	12
4	Water Storage Tank Pucca (40x30x6)ft 50%of actual cost maximum up to 40000/-	No.	2000	1326
5	Farm pond (Khet Talai)50% of actual cost maximum up to 40000/-	No.	8000	2045
6	Diggies /Plastic lined diggies in canal command areas (50%of actual cost maximum to RS 150000/- (2009-10) Rs 200000(2010-11)	No.	5500	675
7	Popularization of Bio-fertilizers. {Total cost of the project is Rs. 2000.00 lac }	Lacs	5.71	5.71
8	Infrastructure development and hi-tech agriculture at newly established Adaptive Trial Centre (ATC) of DOA at Abusar, district Jhunjhunu.	No.	1	1
9	Strengthening and modernizing the agriculture training infrastructure at State Institute of Agriculture Management (SIAM), Durgapura, Jaipur.	No.	1	1
11	Setting up Bt. Cotton analysis facility in Seed testing labs	No.	1	1
12	Promoting Bajra hybrid increase SRR of Bajra in 9 western Rajasthan District.	Qtl	19868.8	19868.8
13	Enhance of seed production and water management research and capacity building at CAD Kota. <b>(New Project)</b>	No.	1	1
i	Barley Minikit Dist. in Nagaur & Ajmer	Qtl	2710	2710
ii	Certified Seed Dist. in Non NFSM	Qtl	182573	90736
iii	Support to work plan for certified Wheat & Barley seed.	Qtl	209847	161317
14	Beej Rath Kharif 2009-Rabi 2010	Qtl	22598	22598
15	Special initiative for Oilseed and Pulses Dev in Dry Land area.	Qtl	70000	31000
16	Free Distribution under MADA Yojana in Bhilwara & Chittor Dist ( 16000 Qtl Seed)	Qtl	1600	1543.4
17	Golden Rays Project 2010-11 in the five tribal district on Maize crops to increase SRR <b>(New Project)</b>	Qtl	42000	42000
18	Community marginal small scale land and water resource development N.M. Sadguru foundation.	No.	6	6
19	increasing productivity and value chain intervention in jhadol, Access development	No.	231	233
20	Tribal Area Agri Dev. programme	No.	1608	1502

S. No.	Detail of Project	Unit	Target	Up to Dec. 2011
B	<b>Forest Department :</b>			
1	Pasture development in Thar Desert restoring of beeds in silvi - pastoral model in Hanumangarh, Sri-Gangangar, Jalore, Jaisalmer, Jodhpur & Pali Districts for six years.	Hac	11540	6700
C	<b>Animal Husbandry:</b>			
1	Strengthening of Disease Diagnosis & Control System.			
	Strengthening of Disease Diagnostic Facilities			
	Disease Control			
	"Programme - Battle Against Infertility"			
	Strengthening of Infrastructure:			
	Outdoor Facilities	No.	1	Complete
	Training Facilities	No.	1	Complete
	Animal Nutrition Lab.	No.	1	Complete
	Establishment of Rathi Cattle Breeding Farm.	No.	1	Complete
	Establishment of Kankrej Cattle Breeding Farm.	No.	1	Complete
	Establishment of Tharparkar Cattle Breeding Farm.	No.	1	Complete
	Establishment of Gir Cattle Breeding Farm.	No.	1	Complete
2	Programme to combat infertility in cattle	No.	1	Complete
3	3 day camps, (a total of 400 camps) will be organized. Cattle owners will be provided short term training on good husbandry practices viz. nutrition & feeding, management, breeding, etc. Simultaneously all the animals will be checked and treated accordingly. For supply of One lac kilogram mineral mixture and one lac dose of de-worming medicines through Animal Husbandry department in Krishi Gyan and Adan Shivar being organized from 20th May to 15th June.	No.	9160	9160
4	Available of Travis at Gram Panchayat.	No.	1000	834
D	<b>RSAMB: 1-</b> Olive cultivation is being promoted by Rajasthan State Agriculture Marketing Board on 7 farms across the State. (Project is for three years).	No.	7	Complete
	<b>2-</b> For cold storages construction at KUMS, Jodhpur, Sikar, Alwar, Udaipur, Bhilwara and Sumerpur	No.	6	Complete
E	<b>Horticulture Department</b>			
1	Date palm cultivation in western Rajasthan.& Import of Date palm planting material along with management	Hac	130	130
2	Horticulture Development Programmes in non NHM Districts.			
3	Development of Devrivas Nursery.	No.	1	1
4	Project to upgrade irrigation infrastructure at Government Farms in the State on which Olive cultivation is being undertaken.	No.	8	8
5	Establishment of International Horticulture Innovation and Training Centre	No.	1	1
6	Grape Plantation on model farms & on farmers fields at a cost of Rs.616.64 lac.	Hac	60	32

S. No.	Detail of Project	Unit	Target	Up to Dec. 2011
7	Pomegranate production on farmers fields at a cost of Rs.388.825 lac.	Hac	500	450
8	Date palm plantation on farmers fields at a cost of Rs.5164.57 lac.	Hac	628	300
9	Date palm Tissue culture Laboratory and Nursery (PPP model) at a cost of Rs.1753 lac.	No.	1	1
10	Subsidy on green house planting material at a cost of Rs.407.43 lac.			
11	Pilot Project for Litchi cultivation in Banswara & Kumbhalgarh at a cost of Rs.158.27 lac.	Hac	10	6
12	High-tech vegetable cultivation under Shade net house at a cost of Rs.1000 lac.	No.	225	225
13	Banana cultivation with precision farming in southern Rajasthan	Hac	40	25
14	Strawberry cultivation on pilot basis in Mewar	Hac	6	1
15	Vegetable Minikits	No.	89000	89000
16	Development of Model Demonstration Centre on protective cultivation and high tech nursery at Horticulture farm Bassi Jaipur.			
17	Construction of community farm ponds on farmer field	No.	100	100
18	Establishment of Hi-tech agro- horti research and Demonstration Centre Bassi project cost Rs. 22.00 crore <b>(Through ROCL)</b>	No.	1	1
19	project for pilot of Olives on farmers fields <b>(Through ROCL)</b>	No.	7	7
20	Distribution of drying spices sheet	No.	4000	3833
21	Distribution of Plastic Crates	No.	40000	40000
22	Vegetable seed Production Under PP Mode			
F	<b>Cooperative Department/ (RAJFED)</b>			
1	Stocking of fertilizer For 2010-11	MT	3.2	3.2
G	<b>Fisheries Department</b>			
1	Strengthening of Fisheries Training School, Udaipur	No.	1	1
2	Establishment of Fish Seed Production unit in Public Private Partnership at Hanumangarh and Tonk	No.	30	15
3	Development of Fish Seed Rearing Area	No.	200	65
4	Establishment of Small Ornamental Fish Breeding and Culture units			
5	Fish cum Prawn Culture at Tonk, Alwar, Pali and Bharatpur	Hac	500	250
H	<b>RCDF</b>			
1	Establishment of a milk Processing Unit at Jaisalmer.	No.	1	1
2	Milk Coolers installations			
3	Establishment of Solar system for heating water at chilling Centres and providing illumination at DCS level.	No.	8	8
4	Establishment of cold chains for handling, storage & transportation of milk products.	No.	41	32
5	Establishment of New Infrastructure	No.	9	6

S. No.	Detail of Project	Unit	Target	Up to Dec. 2011
6	Strengthening of infrastructures facilities at a cost of Rs.1100 lac			
7	Membrane filtration for concentration of Milk at a cost of Rs.450 lac	No.	1	Under progress
8	Establishment of 150 MT cattle feed plant per day <b>(New Project)</b>	No.	1	1
9	BMC 289	No.	289	289
I	<b>College Education Department</b>			
1	Strengthening of New College of Agriculture at Uniara (Tonk).	No.	1	1
J	<b>Water Resources Department</b>			
1	Minor irrigation scheme at a cost of Rs.12943 lac.	No.	37	27

## DEPARTMENT OF AGRICULTURE

10.49 The Total Twelfth Five Year Plan proposal of Agriculture Department is Rs.825936.05 lacs including the provisions of RKVY amounting to Rs. 519645.00 lac. From the total provision of Rs. 306291.05 lac (excluding RKVY) the total flow towards continuing schemes is Rs. 305463.24 lacs and towards new activities is Rs. 827.81 lacs.

10.50 The details of schemes proposed are as under:-

### Direction and Administration:

10.51 A sum of Rs. 100.00 lac is proposed for the year 2012-13 and Rs. 660.00 lac for 12th Plan for Rajya Kisan Aayog.

### Seed Sector:

#### Establishment of Seed Processing Plants in Private Sector:

10.52 Under this component a sum of Rs. 30.00 lac has been kept for year 2012-13 and Rs. 250.00 lac for 12th Plan. The SRR of most of the crops grown in Rajasthan is dismally low despite two times increase in availability of improved seed in last two years. The main reason of low SRR is non-availability of good quality seeds, particularly in pulses, (less than 5%) & seed spices. Realizing the need for increased seed production with a view to enhance SRR and in particularly high volume low value crops, private sector involvement is required for boosting seed production. To make greater availability of seeds, a scheme was formulated as CHOKHO BEEJ YOJNA for Promoting Involvement of Private Sector in seed multiplication.

### Manures & Fertilizers:

#### Contractual Staff for Soil testing labs:

10.53 A provision of Rs. 10.00 lacs has been proposed for contractual staff for Soil testing labs for the year 2012-13 and Rs. 50.00 lacs for 12th Plan.

**State Share for establishment of new fertilizer testing labs soil testing labs under NPSMF and operation of 3 FTL:**

10.54 In order to promote balance use of fertilizer through providing soil analysis report to the farmers and acquiring quality of fertilizer, GOI has launched a scheme of National Project of Management of Soil Health & Fertility (NPMSHF). The scheme will facilitate and promote integrated nutrient management through judicious use of fertilizer and strengthening of soil testing facilities to provide soil test base recommendation to farmer to improving soil fertility and economic return of farmer. A Provision of Rs. 108.00 lac is proposed as a new Item for the year 2012-13 and total Rs. 638.00 lac for 12th Plan.

**State Share for establishment of 14 new Soil Testing Laboratories in PPP Mode under CSS – NPMSHF:**

10.55 In order to promote balance use of fertilizer through providing soil analysis report to the farmers and acquiring quality of fertilizer, GOI has launched a scheme of National Project of Management of Soil Health & Fertility (NPMSHF). This scheme will facilitate and promote integrated nutrient management through judicious use of fertilizer and strengthening of soil testing facilities to provide soil test base recommendation to farmers to improving soil fertility and economic return of farmer. Under this scheme 14 static soil testing labs have been approved by GOI. Sums of Rs. 84.00 lacs have been proposed as state share for the year 2012-13 and 569.00 lac for 12th Plan.

**Soil Fertility Mapping and Dissemination of Village Level Package of Practices:**

10.56 Department of Agriculture has conducted intensive soil fertility management through soil testing, soil fertility mapping, preparation of soil health cards and now sufficient information is available for promoting application of nutrients on basis of soil test results. The facilities of micro nutrient testing (Zinc, Iron, Copper and Manganese) have been created in almost all district labs. The department now has following facilities:

- Soil Fertility Mapping and Management
- Soil Health Cards are now available in all villages.
- Fertilizer recommendations can be made on the basis of soil testing results which are available at cluster of villages.
- The soil fertility survey is now available for 237 blocks

10.57 On basis of data generated, a Geo reference data base Soil fertility GIS maps have been prepared and linked on DOIT GIS "Vikas Darpan" Website. A provision of Rs. 10.00 lac has been kept for year the 2012-13 and Rs. 150.00 lac for 12th plan.

## **Plant Protection**

### **Eradication of Pests & Diseases in Endemic & Non Endemic Areas:**

10.58 The provision of Rs. 50.00 lac has been kept for 2012-13 and Rs. 250.00 lac for 12th Plan as committed item for eradication of Pests/ Diseases in Endemic/Non endemic areas by use of PP chemicals. Pests & diseases infestation occurs in the form of katra, white grub, Tobacco Caterpillar, Semi looper etc. Previously a large amount of funds were provided by the Govt. of India for the eradication of different Pests & Diseases in the field crops. Now the Govt. of India has been advocating IPM technology for the management of Insects/ Pests disease. Accordingly, the department is extending the technology among farming community.

## **Commercial Crops**

### **State Matching Share for Centrally Sponsored Schemes: -**

10.59 State's matching share towards CSS schemes: for ISOPOM Rs.1900.00 lacs for 2012-13 and 15556.00 for 12th Plan, for ICDP (Cotton) Rs.20.02 lac for 2012-13 and Rs. 150.02 for 12th Plan, and for ATMA project, a provision of Rs. 800.02 lac for 2012-13 and Rs. 5000.02 lacs for 12th Plan as State's matching share.

## **Extension & Training**

### **Demonstration on Organic Farming and Vermiculture**

#### **FFS based organic farming demonstration:**

10.60 Organic Farming is becoming increasingly popular and global demand for organic product is growing rapidly. It also helps in sustainable Agriculture, is environmental and takes into account the health concern of the consumers. Research is being carried out by SAU's on development of organic package of practices for different crops under different Agro-climatic conditions since 2006-07 and both SAU; s will now provide interim POP to the department. Hence, to popularize organic farming practices among the cultivators it is proposed to lay out demonstration on the cultivators field under the supervision of scientists of SAUs and officers of ATCs, for which assistance will be 50 % of the cost of inputs i.e. organic matter (compost and vermi compost) cost of seed, bio-fertilizers, bio agents, neem based pesticides etc or maximum Rs. 1000/- whichever is less for 0.4 ha per season. On the sides of such demonstration, Farmers Field School (FFS) would also be organized. The demonstration would be laid out on the same site for the minimum period of three years to assess the impact of organic farming practices. There will be 2800 demonstration (Kharif and Rabi) of 0.4 ha each. Rs. 21.68 lacs is kept for 2012-13 and Rs. 109.40 lac for 12th Plan to organize organic farming demonstrations.

### **Promotion of Organic Farming by providing incentive to Registered Organic Growers-**

10.61 The total amount of Rs. 16.00 lac is proposed for the year 2012-13 and Rs.160.40 lacs for 12th Plan to promote organic farming in the State, incentive will be provided to the registered organic farmers for different crops. The incentive of Rs. 8000/- will be provided to each registered farmer on the basis of evaluation report/ documentation approved by certifying agency. This Incentive may also include fee of registration & certification.

### **Computerization and Related Communication Exp:-**

10.62 A sum of Rs. 150.00 has been kept for 2012-13 and Rs. 440.00 lac for 12th Plan toward e-governance, computerization, IT infrastructure.

10.63 Agriculture Department is a key department of the State Government and is concerned with the very important task of improving the productivity of the farm sector. Department is working towards to increase efficiency and transparency through IT infrastructure to provide convenient services to farmers, agriculture learner & research holders, companies and department employees.

### **Agriculture Extension Services:**

10.64 A provision of Rs. 5738.85 lac for annual Plan 2012-13 has been kept and Rs. 102590.06 lacs for 12th Plan for various ongoing and one new following field extension activities:

### **Incentive to Girls:**

10.65 A sum of Rs 477.60 lac has been kept for the year 2012-13 and Rs. 2896.81 lacs for 12th Plan. It is proposed to provide incentive to women taking agriculture subject at Sr. Secondary @ Rs 3000 per year, for graduation level Rs 5000 for post graduation and Ph.D. level @ Rs. 10000. In Rajasthan literacy among women is only 44.34% and in rural areas it is a dismal 37.74%. Farming is the main source of subsistence in rural areas of the state. Involvement of women in agriculture ranges up to more than 70% in different parts of the State. In Rajasthan, more than 70% of the agricultural operations are performed by farm women. As an effort to have Gender Responsive Budgeting in Agriculture, girls would be encouraged by providing incentives to them for taking agriculture subject at Sr. Secondary and College level.

### **One day Gram Panchayat level Women Training (New Activity):**

10.66 A sum of Rs. 350.25 lac has been kept for the year 2012-13 and Rs. 2138.25 lacs for 12th Plan as a new activity. To have Gender Responsive Budgeting in Agriculture, a project on technological empowerment of women in agriculture is proposed to be undertaken. Under the project, women farmers will be trained in agriculture

technology to become Vikas Vahini for technology to technological Empowerment dissemination. By technological Empowerment of women agricultural production will increase.

**Organization of Camps (Krishi Yojanaen Aapke Dwar):**

10.67 A sum of Rs. 200.00 lac has been kept for the year 2012-13 and Rs. 1250.00 lac for 12th Plan for better delivery of extension services and to provide incentives under various schemes to farmers in quick way and to ensure transparency in delivery of services, the Department of Agriculture is implementing "Krishi Yojanaen Aapke Dwar" from 2005-06. This activity has now been institutionalized. For the year 2012-13, such camps at Gram Panchayat level will be organized in Rabi season and some special orientation and review camps will also be organized at Division and State level.

**Kisan Mahotsav (Krishi Gyan Avam Aadan Shivir):**

10.68 A provision of Rs. 200.00 is proposed for the year 2012-13 and 1250.00 lac for 12th Plan to organise Kisan Mahotsav. The campaign is organized in pre Kharif season for better delivery of extension services and for providing incentives under various schemes to farmers in quick way and to ensure transparency in delivery of services besides creating awareness among farmers for water conservation and efficient use of water.

**Rajasthan Agriculture competitiveness Project (RACP):**

10.69 A World Bank base project namely Rajasthan Agriculture competitiveness project will be taken during 12th Plan. Under this project crop production, judicious use of water, marketing of agricultural produce and other allied activities of agriculture will be taken for overall economy empowerment of farming community. Under RACP a Provision of Rs. 4500 lac has been kept for 2012-13 and Rs. 95000.00 lacs for 12th Plan.

**Incentive to farmer:**

10.70 Regular crop cutting experiment are conducted by agriculture department. To compensate the losses to farmer occurs during these experiments. The provision of Rs. 10.00 lac is kept for year 2012-13 and Rs. 50.00 lacs for 12th Plan as a new activity.

**M & E Kits (Taps, Rope, Spring Balance and Gunny Bags etc.):**

10.71 To conduct the departmental crop cutting experiment Taps, Ropes, Spring Balances, Gunny Bags etc. are required. A provision of Rs 1.00 lac in kept for year 12-13 and Rs. 5.00 lacs for 12th plan as a new Item.

**Crop & Weather Insurance:**

10.72 A provision of Rs. 27552.82 lac is proposed for the year 2012-13 and Rs. 171584.94 lacs for 12th Plan. State Government is implementing the Crop based Weather Insurance Scheme in the State. Apart from this, token provision has been kept for crop compensation during 2012-13 and 12<sup>th</sup> Plan for the payment of Government of Rajasthan share, if any claims under NAIS.

**Agriculture Engineering:****Distribution of PP Equipment's:**

10.73 A sum of Rs. 30.00 lac is proposed for the year 2012-13 and Rs. 150.00 lac for 12th Plan to provided popularize improved & energy efficient Plant protection equipment to farmers.

**Water Management:**

10.74 To promote efficient use of water in the state, Rs.100.01 lac is proposed for pipeline/diggies/water tank/farm pond/during the year 2012-13 and Rs. 643.05 lacs for 12th Plan. Water Management is a crucial issue not only in well irrigated areas but is also gaining importance in surface areas particularly in command areas of IGNP. With lesser release of water from Punjab (Pong and Bhakra Dam), the timely availability of water has been affected, thereby effecting the timely release of water in IGNP areas of Ganganagar, Bikaner and Hanumangarh district. Construction of Diggies (Water Storage Tank) in canal command areas on individual farmer's field is gaining importance for providing timely irrigation at critical crop growth stages. By storing water in these diggies on their turn, the farmer can provide irrigation as per need of the crop resulting in efficient use of water. Drips and Sprinklers can also be installed on these diggies for water saving and also increasing area under cultivation. Besides crops, horticultural crops/ orchards can also be taken up with diggi cum sprinkler/ drip modal.

10.75 **Innovative Items:** Under innovative item Rs. 735.00 lacs is kept for 2012-13 and Rs. 4266.50 lacs for 12th Plan as committed items and Rs. 50.00 lacs is kept for adaptive trial center as a new item.

- A provision of Rs. 50.00 lac for 2012-13 and Rs. 307.00 lac is kept for 12th plan to initiate the innovative programmes and contractual research to meet the requirement of research and extension for specific farming situation, core budget to permit taking up of any new schemes or programmes which are not covered under any of the ongoing schemes.
- A provision of Rs. 50.00 lac for the year 2012-13 and Rs. 240.00 lac for 12th plan are proposed for enhanced seed production

infrastructure development and hi-tech demonstration on Government farms.

- A provision of Rs. 35.00 lac is proposed for development of organic farming package of practices as well as support to RSSOPCA for the year 12-13 and Rs. 199.50 lac for 12th plan.
- **Minikit Distribution**- An amount of Rs. 550.00 lac is proposed for Minikit distribution for the year 2012-13 and Rs. 3295.00 lac for 12th Plan. It includes fodder Minikits also. As an effort to have Gender Responsive Budgeting in Agriculture, Minikits are distributed only to women farmers.
- **Adaptive Trail Centers (ATCs)**: A sum of Rs. 50.00 lac is proposed for adaptive research component as a new item for 2012-13 and total Rs. 275.00 lacs for 12th plan. Under this programme specific need based trials would be laid out both at ATCs and on farmer's field which would include various aspects on varieties adaptability/ INM/ Organic farming/ IPM/ Improved seed production etc. All expenses on material and supply including new/need based implements for testing and operating charges POL/Contract charges for vehicle to undertake field visit for supervision of trials on farmer's field, labor contract charges related to trials, traveling allowance regarding visit of trials and farmers training etc. would be borne out of provision.

**Establishment of Rajasthan Institute of Agro processing:**

10.76 A provision of Rs. 2000.00 lac is kept for development of Rajasthan Institute of Agro processing institute at Bharatpur during 2012-13.

**Construction of new departmental buildings:**

10.77 A sum of Rs. 278.55 lac is kept for construction of new departmental buildings to provide proper working environment to field functionaries as a new item for 2012-13 and 708.55 lacs for 12th Plan.

**Establishment of Pesticide Testing Lab/ Pesticide Residue Testing Lab & Soil Testing Labs):**

10.78 A provision of Rs. 65.00 lac has been kept during 2012-13 and Rs. 315.00 lacs for 12th Plan for necessary modernization, addition, alteration of buildings and furniture fixtures.

**HORTICULTURE**

10.79 Planning Commission has set a target to achieve 4% growth rate in Agriculture sector and to achieve this target has envisaged 8% growth in Horticulture and earmarked 30% budget for Horticulture. At the national level Horticulture crops occupy 13.78% area of total net cropped whereas Rajasthan Horticulture crops covers about 5% area of net cropped area in the State.

10.80 Rajasthan is having diverse agro-climatic conditions which favour growing of large number of horticultural crops like fruits, vegetables, spices, flowers and medicinal & aromatic plants throughout the year. In order to ensure sustainability in horticulture crop production, diversification and employment generation, Government of India has taken several steps to increase area of Horticulture crops. The State government has made strenuous efforts to augment Horticulture production. Consequently, the State has achieved 10.6% of growth during 2005-06 to 2008-09 against 5.8% growth achieved during 2001-02 to 2003-04.

### Review of Eleventh Five Year Plan

10.81 To use scarce water resources for irrigation of crops, programme of 20% additional subsidy on drip to provide total 70% subsidy on drips to farmers was introduced in the 11th Plan. During 2011-12, level of additional subsidy was enhanced to 30% to Small Farmers/Marginal Farmers and 40% to general farmers to provide 90% subsidy in Drip Irrigation system. However, additional subsidy @ 10% to Small Farmers/Marginal Farmers and 20% to general farmers is provided on mini sprinkler to provide 70% subsidy on mini sprinkler. For first four years of 11th Five Year Plan, progress under programmes of Drips including mini/micro sprinklers was 29,931 and for 2011-12, anticipated achievement is 22072 Drips including Mini/Micro Sprinklers respectively.

10.82 During the 11th Plan, significant achievements have been made in respect of monitorable targets with the increase in area and production of horticultural crops. Share of seed spices (Coriander, Cumin and Fenugreek) and production of medicinal and aromatic plants (Isabgol & Mehandi) production in total production of country has been well recognized. The area and production under all the horticultural crops have increased during 11 Plan are as under:-

**Table No. 10.10**

(Area in ha & Production in MT)

S. No.	Crop Group	Average 10th Plan		Average 11th Plan (4 years)	
		Area	Prod.	Area	Prod.
1	Fruits	24503	297563	31315	531095
2	Vegetables	115388	606632	135851	786921
3	Spices	453719	416021	591727	578250
4	Medicinal Plants	168862	83933	250679	123742
5	Flowers	2500	2253	3281	4640
	<b>Total</b>	<b>764972</b>	<b>1406402</b>	<b>1012853</b>	<b>2024648</b>

10.83 During the 11th plan, Department of Horticulture has implemented CSS- National Horticulture Mission, MIS renamed National

Mission on Micro Irrigation and National Bamboo Mission. During 2009-10, new CSS- National Mission on Medicinal Plants was introduced.

10.84 The National Horticulture Mission is being implemented with 85% central share and 15% state share in 24 districts of State namely- Ajmer, Alwar, Badmer, Banswara, Baran, Bhilwara, Bundi, Chittorgarh, Dungarpur, Jaipur, Jalore, Jaisalmer, Jhalawar, Jhunjhunu, Jodhpur, Karauli, Kota, Nagaur, Pali, Sirohi, Sawai Madhopur, Sri Ganganagar, Tonk and Udaipur.

10.85 The Micro Irrigation Scheme which has now taken on mission mode with name National Mission on Micro Irrigation is being implemented with 80% central share and 20 % state share for General Farmers and 83.33% central share and 16.67 % state share for Small Farmers/Marginal Farmers in all the 33 districts.

10.86 The National Bamboo Mission financed 100% by Government of India is being implemented in 12 districts namely Baran, Banswara, Bhilwara, Chittorgarh, Dungarpur, Jhalawar, Karauli, Sawai Madhopur, Sirohi and Udaipur.

10.87 On the direction of Horticulture Development, Department of Horticulture has introduced Date Palm cultivation on farmers' field and popularized High-tech cultivation of Vegetables and flowers in Green house and Shade-nets. Similarly, Rajasthan Olive Cultivation Limited has tested Olive Cultivation on 7 Government farm and Olive will now be undertaken on farmers' field.

10.88 All CSS are being implemented through District Horticulture Development Society under the chairmanship of District Collector. The funds are directly made available to the district level society.

10.89 Although, the National Horticulture Mission has emphasized the need for Development of Horticulture in the State but in the present context, when this sector has got prominent place in over all scenario of Agriculture. Horticulture produces specially vegetables and fruits being perishable in nature, require immediate marketing cooling chain and processing facilities. Therefore, appropriate steps should be taken in this direction to protect interest of farmers.

### **Goal/Objectives of 12th Five Year Plan**

10.90 To boost up production and productivity of different horticultural crops in the State and overall development of this sector, following objectives and priorities have been identified:

- Production of quality planting material
- Promotion of sprinkler and drip irrigation along with fertigation and automation system
- Promotion of high value vegetable, flower and aromatic crops.

- Organic farming of fruit, vegetable and spices
- Protected cultivation in Green house and Shade nets.
- Promotion of water harvesting structure for irrigation in rainfed area.
- Post harvest management and marketing of horticulture produce.
- Creation of Horticulture Infrastructures
- Dissemination of horticulture technology and information of programmes to farming community through various mean of Publicity and Media Support.
- Use of non-conventional energy resources in Agriculture-Horticulture sector.

### Production targets for 12th Plan

10.91 Keeping in view the untapped potential of the Horticulture development in the State, Department have set the land marks of area and production of different Horticulture crops, which is to be achieved in the years to come. Taking the area during 11th Plan as benchmark, the goal for increasing area production and productivity up to the year 2016-17 are as under:-

**Table 10.11**

(Area in ha & Production in MT)

S. No.	Crop Group	Average 11th Plan (2007-08 to 2010-11)			Target for 12th Plan		
		Area	Prod.	Yield (Prod./Area)	Area	Prod.	Yield (Prod./Area)
1	Fruits	31315	531095	16960	82000	1394000	17000
2	Vegetables	135851	786971	5793	233000	1514500	6500
3	Spices	591727	578250	977	700000	794500	1135
4	Medicinal Plants	250679	123742	494	290000	174000	600
5	Flowers	3281	4640	1414	5000	8500	1700
	<b>Total</b>	<b>1012853</b>	<b>2024648</b>	<b>1999</b>	<b>1310000</b>	<b>3885500</b>	<b>2966</b>

10.92 In 12th Five Year Plan and Annual Plan 2012-13, outlays of Rs. 83600.00 lac and Rs. 11677.51 lac are proposed respectively for the following schemes as given below:

**Table 10.12**

(Rs. in lac)

S.N.	Schemes	12th Five Year Plan	Annual Plan 2012-13
1	Establishment of Fruit Orchards	159.00	22.00
2	Demonstration of Horticulture Crops	250.00	50.00
3	Establishment of green houses	1135.00	200.00
4	Innovative schemes	50.00	10.00

S.N.	Schemes	12th Five Year Plan	Annual Plan 2012-13
5	Assistance on PP Measures	120.00	15.00
6	Legal and court cases	13.75	2.75
7	District office Pratapgarh (including schemes)	112.65	26.53
8	Publicity and Media Support	50.00	10.00
9	Revitalization & Development	24.89	4.98
10	Matching Share to NHM (15%)	5750.00	1050.00
11	Matching Share to MIS (20%)	18028.80	2900.00
12	Additional Subsidy for Drip	57505.90	7386.24
13	Subsidy on Processing Unit of Mandarin, Aonla and Isabgol	400.01	0.01
	<b>Grand Total</b>	<b>83600.00</b>	<b>11677.51</b>

10.93 Brief description of each programme is as under:

#### **Establishment of Fruit Orchards**

10.94 In order to promote the diversification of agriculture for sustainability of the farm economy, programme of new orchard is mainly undertaken under NHM. Under NHM, each district has a list of selected fruit crops, therefore, for establishment of orchards of non selected fruit, assistance is provided under State Plan. Under this programme of establishment of new orchards assistance would be provided as per assistance admissible under NHM particularly for those crops which are not selected in NHM. In 12th Five Year Plan and Annual Plan 2012-13, outlay of Rs. 159.00 lac and Rs. 22.00 lac are proposed for establishment of fruit orchards respectively.

#### **Demonstration of Horticulture Crops**

10.95 In order to propagate production technology of horticultural crop, demonstration would be laid out, for which assistance of Rs.1500/- per beneficiary for vegetables, spices, flowers, medicinal & aromatic crops, Mehandi and Rs. 5000/- per beneficiary for fruits demonstration will be provided. In 12th Five Year Plan and Annual Plan 2012-13, outlays Rs. 250.00 lac and Rs. 50.00 lac are proposed for establishment of fruit orchards respectively.

#### **Additional Subsidy for Establishment of Green House**

10.96 For growing off season vegetables seedlings and other horticultural crops under controlled atmospheric conditions of green house, 50% subsidy is provided under National Horticulture Mission. This technology is not getting momentum due to high cost involvement. So, additional subsidy @ 25% to small/ marginal farmers would be provided for green house which are to be established under NHM/RKVY. In 12th Five Year Plan and Annual Plan 2012-13, outlays of Rs. 1135.00 lac and Rs. 200.00 lac are proposed for establishment of Green Houses respectively.

### **Innovative schemes**

10.97 The horticultural development has get multi dimensional applications and emerging areas and every day a new technique is evolved. To try up new things, which we may not cover in any of the State Plan/CSS schemes, the specific need based activities are also required to be planned and implemented in the field with the assistance to farmers not exceeding 75% of the cost of activity. In 12th Five Year Plan and Annual Plan 2012-13, outlays Rs. 50.00 lac and Rs. 10.00 lac are proposed for Innovative programmes respectively.

### **Assistance on P.P. Measures**

10.98 The plant protection measures for horticulture crops are very much essential when the infestation of insects, pests and diseases has become epidemic and resulted in severe loss of crop yield. Therefore, the assistance is given @ 50% cost of pesticide up to maximum limit of Rs. 500/- per ha. In 12th Five Year Plan and Annual Plan 2012-13, outlays Rs. 120.00 lac and Rs. 15.00 lac are proposed for Plant Protection Measures respectively.

### **Development of Horticulture Crops**

10.99 Latest horticulture technology to farming community will be disseminated through establishment of district level horticulture infrastructure and various methods of publicity. Under this head, establishment cost including salary etc. of Assistant Director of Horticulture, Pratapgarh will be involved. Dissemination of latest horticulture technology through various methods of publicity including audio/video and print media etc. will also be covered under Development of Horticulture Crops. Besides these, actual payment of wages as per court order and payment of pending liability of schemes previously covered under this head will be made. In the Annual Plan 2012-13, outlays of Rs. 26.53 lac, Rs. 2.75 lac and Rs. 10.00 lac are proposed for Assistant Director Office of Pratapgarh including schemes; Legal & court cases and Publicity & Media Support respectively.

### **Matching Share of National Horticulture Mission**

10.100 National Horticulture Mission was launched by GOI in the year 2005-06 with 100% assistance. From the year 2007-08, 15% matching share is provided from the State Plan.

### **The schemes undertaken under NHM are:**

- Establishment of new orchards of fruits, flowers, spices and medicinal plants,
- Development of nurseries to produce quality planting material,
- Seed production programme,
- Rejuvenation of old orchards,

- Development of water resources,
- Establishment of green houses, shade nets,
- Promotion of bee keeping,
- Organic farming, certification of organic farming,
- Vermi compost production,
- Cold storages,
- Pack houses,
- Refrigerated vans,
- Mobile processing units,
- Infrastructure of mandies etc.

10.101 In 12th Five Year Plan and Annual Plan 2012-13, outlays Rs. 5750.00 lac and Rs. 1050.00 lac are proposed respectively, as state matching share for NHM.

#### **Matching Share of National Mission on Micro Irrigation**

10.102 GOI has launched micro irrigation scheme with the 50% financial assistance to the farmers. Now, this programme has been taken on mission mode with the name National Mission on Micro Irrigation. As per the guidelines of NMMI, State Government will share 16.67% subsidy for SF/MF and 20% subsidy for General Farmer.

#### **Components of the Scheme:**

- Drip Irrigation.
- Sprinkler Irrigation.

10.103 In 12th Five Year Plan and Annual Plan 2012-13, outlays Rs. 18028.80 lac and Rs. 2900.00 lac are proposed as state matching share of NMMI respectively.

#### **Additional assistance for Drip**

10.104 To increase the area under the most efficient methods of irrigation i.e. drip irrigation, 60% subsidy to Small Farmers/Marginal Farmers and 50% to general farmers is being provided under National Mission on Micro Irrigation. Irrigation efficiency of drip irrigation system is about 90-95%. But, this technology is not getting momentum due to high cost involvement. So, additional subsidy would be provided for drip installation in both wide and close row spacing crops. The additional subsidy would be provided @ 30% to Small Farmers/Marginal Farmers and 40% to general farmers to provide 90% subsidy in Drip Irrigation system. Under this programme, additional subsidy @ 10% to S.F./M.F. and 20% to general farmers is provided on Mini Sprinkler to provide 70% subsidy on Mini Sprinkler. In 12th Five Year Plan and Annual Plan

2012-13, outlays Rs. 57505.90 lac and Rs. 7386.24 lac are proposed respectively for Additional Subsidy on Drips.

### **Subsidy for Processing Unit of Aonla, Mandarin & Isabgol:**

10.105 In order to reduce the post harvest losses and for fetching better market prices, establishment of processing units of Aonla, Mandarin and Isabgol would be promoted in the State. A subsidy @ 50% of capital cost limited to Rs. 1.00 crore is being provided for establishment of processing unit of Aonla, Mandarin and Isabgol. The subsidy amount would be equally shared by the RSAM and State Plan of Horticulture. The subsidy will be admissible for only those new processing units for which term loans are taken from bank/ financial institutions. For the Annual Plan 2012-13, a token provision of ₹ 0.01 lac has been proposed for the scheme.

### **Research and Education**

#### **Swami Keshwanand Rajasthan Agricultural University, Bikaner**

10.106 SKRAU, Bikaner has the mandate of meeting the needs of higher agricultural education, research and extension activities covering nearly 80% geographical area spread over 21 districts of the state. The university envisages to strive for quality and excellence in teaching, research and extension as related to agriculture and allied sciences. Students are the main focus of the university. Besides, the University endeavors to keep pace with new frontiers of science and provide technical backstopping to science-led agriculture in the arid and semi-arid areas of Rajasthan. The road map of development of the university has identified thrust areas that comprise management of natural resources, diversification of agriculture to enhance farm income, management of agribusiness, post-harvest value addition and food processing, biotechnology in agriculture, quality improvement and phyto-sanitary standardization of the farm produce in conformity with international market standards, sustainability in agricultural production and maintaining dynamic relationship between agriculture and environment. The university has three Colleges of Agriculture, namely College of Agriculture, Bikaner (1988), SKN College of Agriculture, Jobner (1947) and College of Agriculture, Lalsot (2007). While, SKN College of Agriculture, Jobner has well developed departments, farm facilities, as also laboratory facilities, but non availability of water at the campus and in the nearby area prevents its full role for advancing to meet the requirement of water for irrigation and drinking. The existing water supply from Kuchiawas / Bassi scheme located 13 kms away from the College campus is only the source of water supply to College. However, in near future the underground water level may be reduced drastically which may create serious water problem for the campus. The best alternative is to connect the Bisalpur water supply scheme from Phulera which is 20 km. away from the campus. Besides, there are other urgent

requirements for upgrading the facilities, particularly farm development, hostels and laboratory facilities to meet the emerging requirements of higher education in frontier areas viz. nano technology, biotechnology, remote sensing, etc. On the other hand, the COA at Lalsot is in a nascent stage, yet to take the shape of a reasonably good College of Agriculture, for which strengthening is required mostly in terms of manpower. Similarly, the COA, Bikaner is still in developing phase and needs a large investment for creating necessary departments and academic facilities to suit the minimum requirements of higher agricultural education. The College of Agriculture, Bikaner has at present nine departments viz., Agronomy, Ag. Economics, Plant Breeding & Genetics, Horticulture, Soil Science, Plant Pathology, Entomology, Extension Education and Biotechnology. Thus, there is no department of Animal Husbandry and Dairy Technology nor any sanctioned position, either of Assoc. Prof. or Asstt. Prof. cadre. At UG level there are 3 courses of Animal Husbandry in B.Sc. Ag. Programme and 3 courses related to Poultry and Dairy Technology in B.Sc. Home Science Programme. Under the Rural Awareness Work Experience (RAWE) Programme, mandatory requirement at UG level, practical training and know-how related to Animal Husbandry and Dairying needs to be imparted to the graduating students. Being located at the university headquarters and serving the needs for trained manpower for agricultural development in the vast arid Rajasthan, the college has a long way to traverse in becoming nationally well recognized College of Agriculture.

10.107 College of Home Science, Bikaner is imparting BSc (Hons.) and M.Sc. in four disciplines. To strengthen Home Science education, the college has introduced vocational education as well as starting of new PG courses in Clothing & Textile and FRM and also Ph.D. programmes in HDFS.

10.108 Institute of Agri-business Management, Bikaner, a management institute of SKRAU, is imparting MBA (Agri-Business). The students passing out from IABM are being availing impressive placement opportunities in leading organizations. To strengthen the Management education, the institute has started Ph.D. programme from academic session 2011-12. The strengthening is required mostly in terms of manpower. It will require manpower like Professor, Associate Professors and Assistant Professors.

10.109 Directorate of Extension Education, Bikaner is functioning as a Nodal Agency of SKRAU, Bikaner for transferring of development technologies to end users and imparting trainings to farmers and in-service employees.

10.110 Directorate of Research, Bikaner has an important mandate to develop new varieties of crops and technologies for overall development of

agriculture in the state on sustainable basis. During the past decade, stagnation in crop yield has been observed in many crops and also many new frontier areas of research are emerging. To break all these barriers, there is an urgent need to strengthen research in the fields of water use efficiency and water saving, integrated farming system and organic farming. Also many of the problems arising in the fields are not appearing on the research stations. To attend such problems, need-based farmers' participatory research is urgently required with a blend of ITK and modern farming.

10.111 Directorate of Planning and Monitoring caters the need of planning of various proposals and monitoring of University activity.

10.112 Academic Staff College cum Distance Education Centre, Bikaner is engaged in orientation of new faculty and development of teaching facility through organization of summer/winter school. Recognizing the fact that education is essential for imparting knowledge, further strengthening of the activities of ASC-DEC by starting distance education programme and by launching new certificate programmes have been envisaged.

10.113 Directorate of Students Welfare has proposed a placement cell at University head quarter.

### **The 'Maharana Pratap University of Agriculture & Technology' Udaipur**

10.114 The University was established by the Rajasthan State Government on 1.11.1999 through promulgation of the ordinance No. 6 dated 25.10.1999 and which becomes an Act No. 8 of 2000 dated 03.05.2000. The jurisdiction of the University includes all the campuses including constituent colleges, Agricultural Research Stations, Agricultural Research Sub-Stations and Krishi Vigyan Kendras (except Udaipur) situated at Udaipur, Dungarpur, Chittorgarh, Banswara, Rajsamand, Bhilwara, Kota, Baran, Jhalawar, Bundi, Sirohi and Pratapgarh districts of Rajasthan. Maharana Pratap University of Agriculture & Technology, Udaipur (MPUAT, Udaipur) is the principal academic institute for the south and south eastern part of Rajasthan shouldering responsibilities of Agricultural Education together with identifying developing and/or adopting new production technology for agriculture development.

10.115 The following units are functioning under the umbrella of this University:-

#### **Colleges**

- Rajasthan College of Agriculture, Udaipur
- College of Technology & Engineering, Udaipur
- College of Home Science, Udaipur

- College of Dairy and Food Science Technology, Udaipur
- College of Horticulture & Forestry at Jhalawar.
- College of Fisheries, Udaipur started in the year 2010-11

**Directorate of Extension Education-** Directorate and KVKs - 10

**Directorate of Research**

**Agricultural Research Stations and Sub-Stations**

- Agricultural Research Station, Banswara
- Agricultural Research Station, Kota
- Agricultural Research Station, Udaipur
- Dry Land Farming Research Station, Arjia, Bhilwara
- Agricultural Research Sub Station, Pratapgarh
- Agricultural Research Sub Station, Aklera (Jhalawar)
- Agricultural Research Sub Station, Vallabhnagar
- Mechanized Agriculture Farm (MAF), Ummedganj, Kota

10.116 Besides above Agriculture Farm Matunda and Khanpur have been transferred by the State Government & being operated by KVK, Bundi and CH&F, Jhalawar respectively.

**AGRICULTURE MARKETING BOARD**

**Construction works:**

10.117 It was proposed to invest Rs. 75.00 crore on construction of Link Roads, Mandi Yards and their maintenance along with creation of infrastructure from deposits of other departments against which Rs. 55.34 crore has been invested till Dec. 2011. Out of this Rs. 47.53 crore, Rs. 3.16 crore and Rs. 4.65 crore have been incurred respectively on building, construction of new roads and their maintenance and deposits from various departments.

**Pack Houses and Cold Storages:**

10.118 The construction of pack house at Sohela, district Tonk have been completed. An expenditure of Rs. 3.32 crore has been incurred on construction of buildings. Work order for construction of multi-chambered cold storages at Alwar, Sikar, Jodhpur, Sumerpur, Bhilwara and Udaipur has been issued under R.K.V.Y. All these cold storages are in construction phase. A sum of Rs. 12.13 crore has been incurred on the construction of cold storages.

**Kisan Bhawans:**

10.119 26 district level Kisan Bhawans were sanctioned out of which 21 have been completed. A sum of Rs. 28.95 crore has been incurred on the construction of Kisan Bhawans till Dec. 2011. As per Government

decision the Kisan Bhawans situated at Divisional Headquarter at Kota, Bharatpur, Ajmer, Jodhpur, Bikaner and Udaipur except Jaipur have been handed over to concerned APMC for their operations and maintenance.

**Policy for Promotion of Agro Processing and Agri Business 2010:**

10.120 439 proposals have been received so far under this policy. Out of which 420 proposals are for allotment of land in various KUMS to establish Agro based units under the policy. Government has allotted approximately 48171 sq. meter land in 36 cases to establish Agro base industries in 10 mandi yards. In which approximately Rs 99.00 Crore investment is proposed and under process.

**Twelfth Five year Plan (2012-17) Target as under :-**

<b>Year</b>	<b>Financial Target (Rs.in Crore)</b>
2012-13	80.00
2013-14	90.00
2014-15	100.00
2015-16	105.00
<u>2016-17</u>	<u>110.00</u>
<b>Total</b>	<b><u>450.00</u></b>

**RAJASTHAN STATE WAREHOUSING CORPORATION**

10.121 Rajasthan State Warehousing Corporation (RSWC) is a Government undertaking. The main objective of the Corporation is to construct go-downs and warehouses in the State for scientific storage of agricultural produce, fertilizer, seeds and other notified commodities.

10.122 An outlay of Rs. 480.00 lac is proposed for the Annual Plan 2012-13 and Rs. 2930.00 lac for 12th Plan.