

CHAPTER - 7

AGRICULTURE PRODUCTION

Research & Education

7.1 The Rajasthan Agricultural University (RAU) Bikaner, established in 1987 with the objective of imparting education, generating information through basic and applied research, was bifurcated in 1999 with the creation of a new University, Maharana Pratap University of Agriculture & Technology (MPUAT) with headquarter at Udaipur. At present RAU, Bikaner has a service area of 21 districts of arid & semi-arid regions while MPUAT, Udaipur has a service area of 12 districts of south & south-eastern parts of the state. The major mandates of these Agricultural Universities are (i) Education (ii) Research and (iii) Extension, keeping in view the agricultural development aspects of their respective service areas.

7.2 For developing improved varieties of crops and cost-effective improved technologies for sustainable development of agriculture in the seven agro-climatic zones spread over the service area, RAU, Bikaner has seven Agriculture Research Stations. For veterinary & animal science research the University has three Livestock Research Stations at Bikaner, Chandan & Nohar along with two Animal Disease Surveillance & Diagnostic Centres (APEX Centres) at Bikaner & Jaipur. The University has also a National Seed Project at Bikaner with the mandate of producing breeder seed used for certified seed production by GOR/GOI agencies for the benefit of farmers. NSP unit also produces truthful labeled seed for direct supply to the farmers.

7.3 MPUAT, Udaipur has three Agriculture Research Stations at Udaipur, Kota, Banswara; Agriculture Research sub-stations at Pratapgarh, Aklera; Dryland Farming Research Station, Bhilwara and Live Stock Research Station at Vallabhnagar. The University has also a NSP Unit catering the need for Breeder Seed Production and Production of TFL seed for benefiting the farmers in the operational area of 11 districts.

7.4 For extension activities RAU, Bikaner has the KVKs at Bikaner, Jaisalmer, Fatehpur, Jhunjhunu, Bharatpur, Dholpur, Nagaur, Dausa, Sriganganagar, Navgaon, Ajmer, Jalore, Hindon-Karoli & Swaimadhopur. MPUAT, Udaipur has 10 KVKs at Banswara, Baran, Bhilwara, Bundi, Chittorgarh, Dungarpur, Jhalawar, Rajsamand, Sirohi & Kota.

7.5 During Xth Plan, the quality of education has improved substantially which is reflected by higher placement of students through campus interviews. To take advantage of opportunities arising out of globalization course curriculum has been re-oriented for entrepreneurship.

7.6 A new college of Horticulture & Forestry was established in Jhalawar in 2004 which will cater to the needs of trained and skilled manpower in Horticulture & Forestry sector in the state. A new College of Agriculture was also established in Lalsot (Dausa) in the year 2007-08.

7.7 The Extension Programmes of the University have been reset to disseminate technologies through programmes like village adoption, development of model technology units at KVK's, knowledge centres in villages etc. The University has embarked on ambitious programmes of promoting horticulture.

7.8 In RAU, Bikaner likely expenditure during 2008-09 is Rs. 454.16 lacs and amount proposed for 2009-10 is Rs. 475.00 lacs. In MPUAT, Udaipur likely expenditure during 2008-09 is Rs. 484.35 lacs and amount proposed for 2009-10 is Rs. 278.97 lacs.

Crop Husbandry

Agriculture Department

7.9 Agriculture plays a vital role in the economic development of the State and continues to be the backbone of our economy. Agriculture contributes about 27 per cent to the State Domestic Product. The average size of land holding in the State is 3.96 ha. as compared to 1.41 ha. at the all India level.

Concerns in Agriculture Sector

- Low Productivity
- Precarious water regime– Uncertain rains. Over use of ground water.
- Deteriorating soil health.
- High Production Vulnerability – Uneven and unstable production from year to year and across the region with in the same year.
- Low Technology adoption.
- Inadequate infrastructure.
- Lack of Crop diversification-Reliance on traditional crops due to low investment capacity and uncertain weather conditions.
- Low R&D investment / effort – specially for drought prone / rainfed areas
- Weak extension machinery – Declining number of extension workers to cater increasing number of clients (farmers)
- Inequity between productivity in irrigated and un-irrigated areas.
- Low investment.
- Under developed Markets – Inadequate marketing linkage / support.

- A large tract of land, about one million hectare is having saline and alkaline soils.

Vision

- Access to improved agricultural practices through extension services, printed literature and other media support. (Every farmer should get farm specific technical message in print form before every crop season.)
- Maintenance of soil health through judicious use of fertilizers. Every farmer should get soil health card in every crop season, which will include the recommendation for micro -nutrients also.
- Ensuring availability of good quality seed of desired crop / variety to each farmer at his doorstep.
- Encouraging optimum use of water through installation of sprinklers on every operational well by the end of the XI Plan. (Extending the coverage from existing 3 lac to 7 lac wells / tube wells).
- Shift the focus of Extension workers from crop production to Post Harvest Management and Marketing.

7.10 Projections on Production of Food-grains and Non Food-grains Crops for XI Plan: The production of food-grains has registered a compound growth rate of 2.9 % per annum which is almost similar to the growth in population being 2.8% per annum for last one decade. The growth in food-grains has been contributed by two factors i.e. by increase in yield levels and area expansion. In oilseeds considerable higher growth rate of 6.6% has been attributed primarily due to area expansion. Now the possibilities of increasing agriculture production through area expansion are very little. The expansion in production output, therefore, has to be a function of improvement in yields. Attaining higher levels of growth in agriculture production will become crucial in years to come if the trends in population rise continue to be at the same rate which has been observed in the recent past (2.8 % per annum). With this rising trend of population, the requirement of food-grains by the end of XI Plan for an estimated population of 7.22 crore, be around 122.74 lac ton Cereals, and 21.66 lac ton Pulses, 7.27 lac ton oil based upon per capita requirement. To meet this requirement, the production programme will have to focus a target well above the real requirements. It is highlighted that during last 20 years period (1985-86 to 2005-2006) the growth rate of production of Food-grains and Oilseeds was 2.9% and 6.6% respectively. The agriculture production for the XI Plan has been targeted as under:

Table No. 7.1

Table: Projections for field crops production during XI Plan

(Area in lac ha, prod. in lac ton/bales)

S. No	Crop	Average Area		Production.		% Increase Production
		Xth Plan	XIth Plan	Xth Plan	XIth Plan	
1	Cereals	94.90	94.25	134.27	162.74	21
2	Pulses	32.09	40.75	14.82	23.40	58
3	Total Food-grains	126.99	135.00	149.09	186.14	25
4	Oilseeds	45.08	50.55	51.67	69.70	35
5	Sugarcane	0.11	.05	6.30	3.00	
6	Cotton	3.50	5.00	7.47	13.24	77
7	Guar	28.08	27.00	6.58	10.80	64

Annual Plan 2009-10

7.11 A sum of Rs.16835.97 lac (excluding Work Plan provision of Rs. 250.00 lac) has been kept for Annual Plan 2009-10, of which Rs. 16499.89 lac as committed provisions and Rs. 336.08 lac for new items. The flow towards capital outlay is Rs. 195.06 lac., The flow towards TSP and SCP is likely to be 12.37% and 16.95% (including work plan) respectively on the basis of proposed programmes for the Annual Plan 2009-10. The summarized table of Annual Plan 2009-10 is as under:-

Table No. 7.2

(Rs. In Lacs)

	Committed	New	Total
Revenue	16474.89	166.02	16640.91
Capital	25.00	170.06	195.06
Total	16499.89	336.08	16835.97

DETAILS OF THE PROGRAMMES PROPOSED**(A) DIRECTION AND ADMINISTRATION**

7.12 Under direction and administration Rs.57.11 lac has been kept. Only Rs.0.04 lac as token provisions for salary, office expenditure and Rs 57.00 lac for contractual services as new item has been kept. Rs.0.07 lac as token provisions also has been kept for committed items.

7.13 Contractual staff for running soil testing labs - As it is obvious that soil testing has great significance to propagate the habit of precision farming among the farmer to optimize of production. Support to farmers is the endeavor of 33 Soil Testing Labs (STL). For smooth running of these labs, 91 personnel are proposed to be taken on contract basis. For this Rs. 56.82 lac is proposed for 6 months. Details are as below:-

Table No. 7.3

(Rs.in lac)

S. No.	Name of Service	No. of person required	Estimate rate Rs. per month	Total amount for 6 months
1	Analyst	25	15000	22.50
2	JSA/lab.assitt./computer operator	44	10000	26.40
3	Lab. attendant	22	6000	7.92
	Total	91		56.82

(B) Seed Sector

7.14 Seed is an important component in agriculture development. Provision of Rs. 60.00 lacs has been kept for the year 2009-10. Sub-component wise details are given below:

7.15 Establishment of Seed Processing Plants in Private Sector: 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 vegetables. 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; it is proposed to be continued during 2009-10. Rs. 30.00 lac is proposed for the 2009-10 under aforesaid scheme.

7.16 Buffer Stock of Certified Seed by RSSC: Rajasthan State Seed Corporation is committed to provide good quality certified seeds to farming community. Timely availability of good quality seeds in required quantity plays a vital role in increasing production and productivity. Particularly in Kharif crops, if good quality certified seeds of required varieties are made available in time, seeds alone can increase production significantly under existing agronomic practices.

7.17 RSSC is planning to distribute maximum possible certified seed of Kharif Crops, but risk of unsold seed being carried over to next season is to be accounted for in achieving this objective. This risk is further aggravated due to wide gap in the prices of Kharif crop seeds and grains, in case unsold seed is sold as grain. The scheme will support availability of additional Kharif seeds e.g. groundnut, til, arhar, urd, moth, cowpea, and guar in the State by RSSC by covering their additional risk. A provision of Rs. 10.00 lac has been kept for 2009-10.

7.18 Strengthening/ Operating Cost for Seed Testing Laboratories/ Hybridity Test Lab: To ensure quality seed distribution, it is necessary to test the seed samples, therefore, operating cost for seed testing labs/ hybridity test lab / finger printing lab is required. These labs also require some lab articles to strengthen and make operational. An amount of Rs. 20.00 lac has been kept for the year 2009-10.

(C) Manures & Fertilizers

7.19 A provision of Rs. 247.00 lac is kept for committed items. Sub component wise details are given below:

7.20 Strengthening & Operating Cost for Fertilizer Quality Control Laboratories, Soil Testing Labs, Pesticides Residue, Pesticides Testing & Phyto Sanitary Laboratories: Rs. 45.00 lac has been kept in Annual Plan 2009-10 for strengthening & operational cost for Fertilizer Quality Control Lab and Soil Testing Labs along with Pesticide Residue Testing and Phyto Sanitary Laboratories.

7.21 Popularizing use of Bio-Fertilisers: A sum of Rs. 2.00 lac has been kept for testing of Bio-fertilizers manufactured by other agencies at Rhyzobia Laboratory, Durgapura.

7.22 Dissemination of village level package of practices: In the past, Department of Agriculture has conducted intensive soil fertility management through soil testing, soil fertility mapping, and preparation of soil health cards and now sufficient information is available for promoting application of nutrients on basis of soil test results. The facilities 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 soil test results which are available for cluster of villages.
- The soil fertility survey is now available for 205 blocks and all 237 blocks will be covered by end of this year.

7.23 On basis of data generated, a Geo-referenced data base Soil fertility GIS maps have been prepared and two districts have been linked on DOIT GIS "Vikas Darpan" website. All the remaining districts would be covered by March, 2009.

7.24 Earlier POP was prepared at agro climatic zone level covering 3-4 districts and the recommendations were same for the entire zone. As fertility varies from block to block hence there is need for developing recommendations and popularizing them at micro level cluster of village basis. Department of Agriculture now proposes to popularize package of practices on village basis as information is now available for providing

information for individual household/ farmer. This will help in sites specific recommendations as per the existing soil health condition and shall also help in reducing cost of cultivation through actual based need of nutrient management. For information/ knowledge dissemination and popularization POPs upto farmer level a massive campaign is proposed before the crop season at village level for promoting nutrient management as per need and requirement. For this Rs. 195.00 lac is proposed for organizing trainings, preparation of village level POP cards/ village level soil health cards etc.

7.25 Besides, for accessing the changing pattern in soil fertility regular monitoring of soil health status is required. Therefore soil fertility mapping of blocks which were surveyed in the earliest phase is needed. For this, Rs 5.00 lac is required.

7.26 This intervention in long term will increase the sustainability of the agriculture system of the area.

(D) Plant Protection

7.27 Eradication of Pests & Diseases in Endemic & Non Endemic Areas: 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. Though, this activity has been covered under Work Plan but due to cap on subsidy under Work Plan a differential subsidy of 25% is proposed to be given from State Plan. A sum of Rs. 35.00 lac has been kept for 2009-10 for eradication of Pests/ Diseases in Endemic/Non Endemic Areas by use of PP chemicals.

(E) Commercial Crops

7.28 Incentive Cotton Development Programme (ICDP), Integrated Scheme of Oilseed & Pulses Oilpalm & Maize (ISOPOM) and Agriculture Technology Management Agency (ATMA) are Centrally Sponsored Schemes. For state matching share following provision is made:-

Table No. 7.4

(Rs. in lacs)

S. No.	Name of Scheme	Eleventh Plan Outlay	Provision for 2009-10
1	ICDP (Cotton)	1000.00	52.00
2	ISOPOM	9200.00	1800.00
3	ATMA	250.00	175.00
	Total	10450.00	2027.00

(F) Extension & Training

7.29 A total provision of Rs.1064.26 lac as committed item and Rs 108.98 lac as new item for computerization & related activities has been kept under this sector for the year 2009-10, Sub component wise details are given below:

7.30 Staff Training & Visit: For the year 2009-10, a provision of Rs. 65.00 lac has been kept for staff training in inter and intra state for developing communication skill, and dissemination of technology, adoption process and capacity building of extension/ research functionaries for effective extension and need based transfer of technology. Funds would also be utilized for organizing Workshops/ Seminars/ Symposium on specific subject related to Agriculture Department and State Agriculture University.

7.31 Demonstration on Organic Farming and Vermiculture: 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 sites 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 850 demonstration (Kharif and Rabi) of 0.4 ha each. Rs. 15.30 lacs as committed is kept for organic farming demonstrations.

7.32 Promotion of Organic Farming by providing incentive to Registered Organic Growers- For the promotion of 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. Hence, the total amount of Rs. 40.00 lac as committed item is proposed.

7.33 Agriculture Information- Agriculture Technology Dissemination through Mass Media and Printing of Farmers Friendly Literature: A sum of Rs. 200.00 lac has been kept towards advertisement, documentation and Publicity of Agriculture Information & Agriculture Technology

through Exhibitions (State/ National Level Exhibitions / Expos), Use of Electronic and Print Media i.e. Doordarshan (Navankur), AIR (Kheti Ri Bantan) sponsored programmes, information dissemination through News Papers etc. and agriculture information activities at Panchayat Samittee, District, Division and State level, during Annual Plan 2009-10. Apart from these, CDs of Agriculture films, pamphlets, small booklets of agriculture technology, printed material of agriculture technology, AV Aids, Krishi Calendars and Video Films of Latest technology will be made available to field offices and ATC so that they may disseminate agriculture knowledge to farming community of the State. Repair and Maintenance of existing Audio Visual Equipments, printing machines, printer-cum-Fax and photocopiers machines will be undertaken which are being used for dissemination of technology and extension activities at Headquarter and Field Offices.

7.34 Computerization and Related Communication Expenditure: 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.

7.35 A common web server has been established at Pant Krishi Bhawan, Jaipur for the common Agriculture Portal for the following departments/agencies:

- Agriculture Department
- Agriculture Marketing Department
- Horticulture Department
- Rajasthan State Agriculture Marketing Board
- Rajasthan State Seed Corporation Ltd.
- Rajasthan State Seed & Organic Product Certification Agency
- Rajasthan State Ware House Corporation Ltd.

7.36 The valuable information related to farmers are available on this common web site i.e. latest technology, packages of practice, market trend, schemes & programs going on, price of various commodities, video-clips and authorized seed, fertilizer & pesticide manufacturers & dealers information. Huge statistical information on the website is useful for agriculture learner and research holders. In house information & data are useful for departmental officials for analysis and management decision.

7.37 The entire infrastructure & resources are geared to provide fair and efficient delivery of services to end-user. Offices at sub-district level, district and division headquarters are well equipped by IT infrastructure

and soon be facilitated with internet facility to make an intra-network in between them with head office.

7.38 Regular training program and work shops of the officers and officials are being scheduled and organized by the department to cop up with latest information.

7.39 A provision of Rs. 20.00 lac has been kept for AMC & Training for field and Hq. officials/officers for 2009-10.

7.40 New Item: Department of Agriculture is working towards to increase efficiency and transparency through IT infrastructure to provide convenience services to farmers, agriculture learners and research holders, companies and departmental employees. The following new developments are taking :-

1. Application for establishment cell
 - a. Online employees information
 - b. Leave status online
 - c. Training conducted and status
 - d. Departmental enquiry status
2. Application for Quality Control Cell
3. Enhancement of the Website
 - a. Information of beneficiaries system
 - b. Information of soil
 - c. Package of Practices
 - d. Farmer query & reply system
 - e. More information on Paste Management

Now following new item are proposed :-

Table No. 7.5

(Rs. in lac)		
S. No.	Items	Amount
1	For strengthening the Divisional offices one new computer is required at each Divisional office. Work load has been increased in many folds. Old computers could not compatible with new technology. Jt. Director Division officers are also the nodal officers of the district plan. Ten computer system @ 0.70 lacs	7.00
2	For maintaining information and data at various level there is need of new applications development for quality control & establishment cell and the enhancement of department website.	5.00

S. No.	Items	Amount
3	Replacement of 46 old computers (computers purchased in the year 2001-2002) at the rate of 0.70 lacs for each office i.e. 46*70000.00	32.20
4	Replacement of 15 years old computer furniture at head office (table & Chairs) 15 @ 10000/-	1.50
	Total	45.70

7.41 Besides this, looking to the computerization done upto Assistant Director Office level i.e. more than 112 offices having computer facilities, it is necessary that to utilize this facility networking of all these officers is essential. Field offices (Division / District / AD Offices) are using internet facilities for sending their information to Head Office. For this most of offices are equipped with Broad band facilities through BSNL. The Department has also undertaken the work of computerization of soil health cards and block level soil fertility maps are being uploaded on GIS. Presently, information is being shared and utilize through internet services. The facilities of State Wide Area Networking (SWAN) are under process through Department of Information Technology & Communication (IT&C).

7.42 For effective utilization of facilities created there is a felt need of the Department of Agriculture to prepare online application for different activities (soil health cards, MPR, expenditure information, beneficiaries information, training programme, personnel management information, physical verification etc.) and intranet service (SWAN, NIC, BSNL, VSAT). For this, it is proposed that approximately Rs. 63.28 lac may be provided during 2009-10.

7.43 Thus, total Rs. 108.98 lac (Rs. 45.70 + 63.28 lac) are proposed as new item for computerization.

7.44 Agriculture Extension Services: A provision of Rs. 723.96 lac for annual Plan 2009-10 has been kept for various on going following field extension activities:

7.45 Incentive to Girls: 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 Sate. In Rajasthan, more than 70% of the agricultural operations are performed by farm women. Girls would be encouraged by providing incentives to them for taking agriculture subject at Sr. Secondary and College level. Provision of Rs 145.00 lac has been kept for the year 2009-10. Incentive to women taking agriculture subject at Sr. Secondary will be given Rs 3000, for graduation level Rs 5000 for post graduation and Ph.D. level Rs. 10000.

7.46 Rent for Kisan Sewa Kendra: Presently there are 4373 KSKs in the State, which are rendering services to farmers. But all of them do not have buildings facility of their own. However, some KSK buildings have been constructed in a phased manner. Still majority of KSKs are being run in public buildings due to non-availability of own building; hence, nominal rent @ Rs. 150/- per month per KSK is provided. Provision of Rs. 32.00 lac has been kept for the year 2009-10.

7.47 Inter & Intra State Exposure Visit of Farmers: The gap between technology evolved and adopted is widening day by day. Direct intervention between farmers & research scientist, is however limited in existing system. The village level extension workers whose function is to work as an intermediary between the farmers and research scientists provide the cutting edge between the farmers and research extension linkage. It is proposed to introduce and institutionalize system of providing direct interface between farmers and scientists on problems and constraints faced in agriculture and communicating relevant technological advances to the farming community. The regular system of farmer scientist interaction provides a forum on the spot identification of problems & therefore for suggesting remedial measures the farmers of particular region will be sent to specific locations where any technology is popular among the farmers and also at the zonal agriculture research station. During their visits they will be trained intensively through interaction session and field visit to demonstration site. For Inter & Intra state visits a provision of Rs. 150.00 lac has been kept for the year 2009-10.

7.48 Communication & Mobility of Field Staff: For effective implementation of agriculture development activities and to facilitate better mobility of field functionaries for effective monitoring, a provision of Rs. 75.00 lac has been kept for the year 2009-10.

7.49 Women Empowerment: A project on technological empowerment of women in agriculture is proposed to be undertaken as joint programme of state Government and SAUs. Under the project, women farmers will be trained in agriculture technology to become Vikas Vahini for technology dissemination. For this, a provision of Rs. 22.00 lac has been kept for the year 2009-10.

7.50 Organization of Camps (Krishi Yojanaen Apke Dwar): 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, the Department of Agriculture is implementing "Krishi Yojanaen Apke Dwar" from 2005-06. This activity has now been institutionalized. For the year 2009-10, 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. For this, a provision of Rs. 150.00 lac has been kept for the year 2009-10.

7.51 Kisan Mahotsav: A provision of Rs. 149.96 lac is proposed for the year 2009-10 for 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.

(G) Crop Insurance

7.52 National Agriculture Insurance Scheme (NAIS) has been implemented in the State since Kharif, 2003. This scheme is compulsory for loanee farmers and optional for non-loanee farmers. In the State 12 crops are covered in the Kharif season i.e. Jowar, Bajra, Maize, Moong, Moth, Urad, Cowpea, Groundnut, Til, Guar, Arhar and Soybean. In the Rabi season 10 crops are covered under NAIS i.e. Wheat, Barley, Gram, Mustard, Taramera, Masoor, Coriander, Cumin, Isabgol, Methi.

7.53 In NAIS, claims beyond premium are shared equally by GoI and GoR on 50:50 basis. A provision of Rs. 800.00 lac is proposed for the year 2009-10 for payment of bank service charges on deposited premium, premium subsidy for small and marginal farmers and Rs. 60.00 lac is kept for administrative & operating cost, incentive to the farmers & staff for crop cutting experiments.

(H) Distribution of PP Equipments

7.54 For providing support to farmers for popularization of improved & energy efficient farm machinery & Plant protection equipments, a provision of Rs. 10.00 lac is proposed as "differential subsidy of 25%" for the year 2009-10.

Other Expenditure

7.55 A provision of Rs. 735.00 lac is proposed for the year 2009-10. Sub component wise details are given below:

7.56 Subsidy on Sprinklers/ Diggi/ Drip/ Rain Gun/ Pipe Line: Due to cap on subsidy to farmers, 25% subsidy on water saving devices is being provided to all farmers Under the Work Plan. 50% subsidy was provided before this cap to all farmers. The programme has been affected adversely due to this cap on subsidy under Work Plan. A sum of Rs. 100.00 lac has been kept for 2009-10.

7.57 Land Stock Improvement- Reclamation of Saline and Alkali Soil: At present, 25% subsidy is being provided to all farmers for reclamation of saline and alkali soils under Work Plan. The programme has been affected adversely due to cap on subsidy (25%) under Work Plan which was 50% earlier. For distribution to meet the deferential subsidy of 25% and for advance stocking of gypsum, a sum of Rs. 125.00 lac are proposed for 2009-10.

7.58 Innovative Programme: Rs. 510.00 lac for 2009-10, is kept for innovative programme 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 on going schemes. Out of Rs. 510.00 lac , Rs. 50.00 lac is proposed for core budget, Rs. 400.00 lac is proposed for minikit distribution it includes fodder minikits and Rs. 30.00 lac for enhanced seed production infrastructure and development and hi-tech demonstration on Government farms and Rs. 30.00 lac are proposed for development of organic farming package of practices as well as support to RSSOPCA.

7.59 Crop Compensation Fund: For this purpose, a sum of Rs. 11436.52 lac has been kept for annual plan 2009-10 for payment of GOR share in claims under NAIS.

7.60 Capital Expenditure- Civil Works through Department / RSAMB: During the year 2009-10, A total provision of Rs 195.06 lac is proposed of which Rs. 25.00 lac has been kept for various ongoing civil works i.e. construction of Kisan Sewa Kendras, General repairs and maintenance of AAO/Agri. Supervisor residence quarters and Rs.170.02 lac has been proposed for new civil works to be undertaken through RSAMB.

Rashtriya Krishi Vikas Yojana (RKVY)

7.61 Concerned by the slow growth in the Agriculture and allied sectors, the National Development Council (NDC), in its meeting held on 29th May, 2007 resolved that a Special Additional Central Assistance Scheme (Rastriya Krishi Vikas Yojana) be launched.

7.62 The RKVY aims at achieving 4% annual growth in the agriculture sector during the XI plan period, by ensuring a holistic development of Agriculture and allied sectors. The main objectives of the schemes are:

- (i) To incentives the states so as to increase public investment in Agriculture & allied sectors.
- (ii) To provide flexibility and autonomy to states in the process of planning & executing Agriculture & allied sector schemes.
- (iii) To ensure the preparation of agriculture plans for the districts and the states based on agro-climatic conditions, availability of technology and natural resources.
- (iv) To ensure that the local needs / crops / priorities are better reflected in the agricultural plans of the states.
- (v) To achieve the goal of reducing the yield gaps in important crops, through focused interventions.
- (vi) To maximize returns to the farmers in Agriculture and allied sectors.

(vii) 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.

7.63 The RKVY will be a State Plan Scheme. The eligibility for assistance under the scheme would depend upon the amount provided in State plan Budgets for Agriculture and allied sector.

7.64 The RKVY funds would be provided to the states as 100% grant by the Central Government. The states are required to prepare the Agriculture Plans for the districts and the state that comprehensively cover resources and indicate definite action plan.

7.65 Funds for the implementation of this scheme will be made available by GOI on the preparation of District Agriculture Plans, which have to be compiled in State Agriculture Plan and submitted to the Planning Commission & to the Ministry of Agriculture for approval. The plans should seek to augment, supplement & convergence with ongoing schemes as per the felt needs of the district.

7.66 Assistance under RKVY is available in two categories:

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

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

7.67 State Level Sanctioning Committee (SLSC) headed by the Chief Secretary, Government of Rajasthan of the State has been constituted and three meetings of SLSC have been convened on 1st March, 2 July and 18 Aug, 2008.

FINANCIAL STATUS

Year 2007-08

7.68 Under Rashtriya Krishi Vikas Yojana (RKVY), Rajasthan State was eligible to get Rs. 6888.00 lac for the financial year 2007-08. Apart from this, GOI had also sanctioned Rs. 2.80 crores for preparation of District Agriculture Development Plans. GOI has issued following releases during 2007-08 as under:-

Table No. 7.6

(Rs.in lac)

Release	Date of release	Amount	Date of re-validation	Purpose of release
1	23.11. 07	1700.00	04.6.2008	Stream II
2	03.01. 08	280.00	26.5.2008	Preparation of District Agriculture Plans
3	31.03.08	3595.88	26.5.2008	Stream I for projects sanctioned under NADP
Total		5575.88		

7.69 The revalidated funds of stream II will also be utilized on stream I.

Year 2008-09

7.70 For the year 2008-09 GOI has allocated Rs. 233.75 crores under RKVY. Out of which following releases has been made by GOI:-

Table No. 7.7

(Rs. In Lacs)

Release	Date of release	Amount	Purpose of release
1	26.6.2008	2495.00	Stream II
2	3.9.2008	5305.00	Stream I
3	19.9.2008	3888.00	
Total		11688.00	

7.71 Out of total available funds Rs.17263.88 lacs, 17163.88 lacs have been transferred to concerned Departments till now. Department wise details are given below:-

Table No. 7.8

(Rs. In lac)

S.No.	Name of Department	Administrative Approval	Funds Transferred	Exp. Upto Jan.,09
1	Agriculture	3476.52	2934.13	1585.91
2	Horticulture	6699.73	4529.25	2315.71
3	Fisheries	540.00	222.50	178.00
4	RCDF	4769.00	4769.00	1953.00
5	RAU, Bikaner	1046.00	696.00	396.00
6	MPUAT, udaipur	2251.62	1575.00	1000.00
7	Animal Husbandry	1409.87	600.00	200.00
8	Cooperative	2074.12	1500.00	1500.00
9	College Education	400.00	100.00	100.00
10	Water Resources	7188.00	2600.00	1400.00
	Total	30054.86	17163.88	10628.62

7.72 The indication given for RKVY in 2009-10 is Rs. 350.00 crores. The department of agriculture has given department & Head wise breakup. The summary of the same is given below:-

Table No. 7.9

(Rs. in lac)

STATEMENT SHOWING RE 2008-09 AND BE 2009-10 UNDER RKVY

S. No	Name of Deptt.	RE 2008-09			BE 2009-10		
		Revenue	Capital	Total	Revenue	Capital	Total
1	Agriculture	2079.50	695.63	2775.13	6871.36	1700.00	8571.36
2	Horticulture	4920.33	1779.40	6699.73	3749.11	1050.02	4799.13
3	Fisheries	178.00	0.00	178.00	362.00	0.00	362.00
4	RCDF	2407.00	0.00	2407.00	2746.73	0.00	2746.73
5	RAU, Bikaner	696.00	0.00	696.00	1074.48	0.00	1074.48
6	MPUAT, Udaipur	1575.00	0.00	1575.00	2360.19	0.00	2360.19
7	Animal Husbandry	1295.87	114.00	1409.87	1062.21	450.02	1512.23
8	Cooperative	1159.00	550.00	1709.00	1218.00	800.00	2018.00
9	College Education	204.00	100.00	304.00	0.02	100.00	100.02
10	Water Resources	188.00	4834.15	5022.15	0.01	4425.73	4425.74
11	WD&SC	0.00	0.00	0.00	3286.01	0.00	3286.01
12	Agriculture Marketing Board	0.00	0.00	0.00	0.00	2926.13	2926.13
13	RSSC	0.00	0.00	0.00		817.96	817.96
14	Marketing Department	0.00	0.00	0.00	0.02	0.00	0.02
	Total	14702.70	8073.18	22775.88	22730.14	12269.86	35000.00

HORTICULTURE

7.73 Rajasthan's diverse agro-climatic conditions favour growing of large number of horticultural crops like fruits, vegetables, spices, flowers and medicinal & aromatic plants through out the year. During 2007-08, about 10.24 lacs ha area is reported to be under horticultural crops as per departmental estimates. This includes 0.47 lac ha under fruits, 1.46 lacs ha under vegetables, 6.31 lacs ha under spices and 1.94 lacs ha under medicinal & aromatic crops. As far as production of these crops is concerned, it is 5.20, 15.73, 6.77 & 1.51 lacs MT under fruit, vegetable, spices & medicinal and aromatic crops respectively.

7.74 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 system
- Promotion of high value vegetable, flower and aromatic crops.
- Organic farming of fruit, vegetable and spices

- Green house cultivation
- Promotion of water harvesting structure for irrigation in rainfed area.
- Post harvest management and marketing of horticulture produce.

7.75 Area specific, economically viable and technically feasible horticulture developmental activities undertaken in the state during past 10 years have contributed to overall development of this sector. The huge existing potential has now converted into production. As a result certain belts of horticulture crops have been developed in different pockets of the State.

- Mandarin- Warm humid areas of Jhalawar
- Kinnow- Dry and cool climate of Ganganagar
- Ber- Western parts of the State
- Aonla - Central semi arid parts
- Low volume high value seed spices crop cumin in Barmer, Jalore, Pali, Jodhpur, Nagaur, Bhilwara, Ajmer, Tonk
- Coriander - Kota, Baran, Jhalawar, Bundi, Chittorgarh
- Fennel- Sirohi, Tonk
- Chilli- Jodhpur, Ajmer, Bhilwara, Tonk, S. Madhopur, Karoli
- Garlic- Jodhpur, Chittorgarh, Baran, Jhalawar, Kota
- Vegetables like onion, tomato, pea, okra, Cole crops, cucurbits etc.- Central western parts of the state
- Isabgol- Barmer, Jalore
- Mehandi- Pali
- Sonamukhi- Jodhpur, Pali
- Ashwagandha- Nagaur, Jhalawar
- Aloevera- Jaipur, Ajmer
- Aromatic grasses- Baran, Ganganagar

7.76 With a view to provide further boost this crucial sector, an outlay of Rs. 5545.00 lacs has been proposed for the Annual Plan 2009-10 which includes 15% matching share of National Horticulture Mission (NHM) and 20% of Micro Irrigation Scheme (MIS).

7.77 The brief description of each programme is as under:

Establishment of Fruit Orchards

7.78 In order to promote the diversification of agriculture for sustainability of the farm economy, the assistance for the establishment of new orchards would be provided @ Rs. 7500 per ha particularly for those crops which are not included in NHM. During Annual Plan (2009-10) an outlay Rs. 25.00 lacs has been proposed for fruit plantation in 333 ha.

Demonstration

7.79 In order to propagate production technology of horticultural crop, demonstration would be laid out for with assistance of Rs.1500/ per beneficiary for vegetables, spices, flowers, medicinal & aromatic crops and

Rs.5000/ per beneficiary for fruits demonstration. During Annual Plan (2009-10) an outlay of Rs. 50.00 lacs has been proposed for laying out demonstrations.

Subsidy on Post Harvest Management Activities

7.80 Horticultural crops are perishable in nature as a result of which about 30 % losses occurs after it's harvesting due to non adoption of the post harvest practices. Therefore it is proposed to provide financial assistance @ 50% of the capital cost of project subject to maximum of Rs. 5.00 lacs per unit for setting up of pack houses, including grading, sorting & waxing facilities, processing units and packing material etc. This subsidy may also be used in complementary and supplementary to assistance under NHM subject to the fulfillment of the condition of 50% subsidy in totality and the State Plan share should not exceed to Rs.5.00 lacs. During the Annual Plan (2009-10) an outlay of Rs. Rs. 20.00 lacs has been proposed for subsidy on PHM.

Additional Subsidy for Establishment of Green House

7.81 For growing off season vegetables seedlings and other horticultural crops under controlled atmospheric conditions of green house, 33% subsidy is provided to general farmers and 50% to small/ marginal farmers under National Horticulture Mission. This technology is not getting momentum due high cost involvement. So that, differential subsidy @ 17% for general farmers and 25% for small/ marginal farmers would be provided for green house which are to be established under NHM. During the Annual Plan (2009-10) an outlay of Rs. 100.00 lacs has been proposed for differential subsidy.

Innovative schemes

7.82 Horticultural development is multi dimensional and emerging areas and new techniques need to be encouraged. Innovative scheme will be funded and implemented in the field with assistance to farmers not exceeding 75% of the cost of activity. During the Annual Plan (2009-10) an outlay of Rs. 8.00 lacs has been proposed for innovative schemes.

Research & Development

7.83 To enhance the productivity level of different horticultural crops and better Post Harvest Management, the need based research work including labour and contractual manpower would be conducted on state agricultural universities and adaptive trial centers of department and other public or private institutions. Assistance would also be provided to develop protocols and production of homogeneous disease free planting material of horticultural crops and for running / establishment of Tissue Culture Lab/ Phytosanitary Labs. During the Annual Plan (2009-10) an outlay of Rs. 15.00 lacs has been proposed for Research and Development.

Setting of vermi compost units

7.84 Keeping in view the side effect of residue of chemicals and fertilizers on human health, it is required to promote the cultivation of organic produce providing assistance for production of organic input vermi compost. The assistance may be given @ Rs. 2500/- for establishing vermi compost unit at farmer's field. During the Annual Plan (2009-10) an outlay of Rs.10.00 lacs has been proposed for setting of 400 vermi compost units.

Dry land Horticulture (Water Harvesting Structure)

7.85 Collection of rainwater by diverting the flow of runoff in cemented structure and recycling it for the production of horticultural crops may be the best approach for development of horticulture in the rain fed area of the State. For the purpose, it is proposed to assist the farmers @ Rs. 30000/- or 50% of the cost of construction of cemented / polyethylene lining based water harvesting structure. During the Annual Plan (2009-10) an outlay of Rs. 18.00 lacs has been proposed for construction of 60 Nos. of water harvesting structure.

Assistance on P.P. Measures

7.86 The plant protection measures for horticulture crops are very much essential. When the infestation of insect, pest and disease has become epidemic and resulted in severe loss of crop yield, the assistance may be given @ 50% cost of pesticide up to maximum of Rs. 500/- per ha with an outlay of Rs.18.00 lacs for Annual Plan 2009-10.

Matching Share of National Horticulture Mission

7.87 National Horticulture Mission has been launched by GOI from the year 2005-06 with 100% assistance in X Plan. From the year 2007-08 the programmes of NHM are being funded of the ratio of 85:15.

7.88 NHM is implemented through District Horticulture Development Society under the chairmanship of District Collector. Funds are directly made available to the district level society. 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.

7.89 For the Annual Plan 2009-10 an outlay of Rs. 1500.00 lacs has been proposed for matching share of NHM.

Matching Share of Micro Irrigation Scheme

7.90 GOI have launched micro irrigation scheme with the 50% financial assistance to the farmers. As per guideline of micro irrigation scheme, State Government will share the 20% amount of subsidy.

7.91 MIS is implemented through District Horticulture Development Society under the chairmanship of District Collector. Funds are directly made available to the district level society.

Scheme components:

- Drip Irrigation - 18670 ha
- Sprinkler Irrigation - 117500 ha
- Drip Demonstration - 25 ha

7.92 For the Annual Plan 2009-10 an outlay of Rs. 2000.00 lacs has been proposed for matching share of MIS.

Additional assistance for Drip

7.93 To increase the area under efficient methods of drip irrigation, 50% subsidy is being provided under Micro Irrigation Scheme. This technology is not getting momentum due high cost involvement. Additional subsidy would be provided for drip installation in 21500 ha area. This additional subsidy would be provided @ 20% and 10% for horticultural and agricultural crops respectively with the financial provision of Rs. 1650.00 lacs during 2009-10.

Subsidy for Processing Unit of Aonla, Mandarin & Isabgol

7.94 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 will be admissible for only those new processing units for which term loans are taken from bank/ financial institutions. For the Annual Plan 2009-10 an outlay of Rs. 100.00 lacs has been proposed for establishment of processing units.

RAJASTHAN STATE WAREHOUSING CORPORATION

7.95 Rajasthan State Warehousing Corporation (RSWC) is a Government undertaking. The main objective of the Corporation is to construct

godowns and warehouses in the State for scientific storage of agricultural produce, fertilizer, seeds and other notified commodities.

7.96 The Corporation is working with 89 centres in 31 districts of Rajasthan with total own storage capacity of 744170 MTs.

7.97 Likely expenditure during 2008-09 is Rs. 62.00 lacs and amount proposed for 2009-10 is Rs. 100.00 lacs.

Watershed Development & Soil Conservation

7.98 Soil erosion is the most serious and widely prevalent threat to productive land in the State. Productive land is a source of human sustenance and security. It is a non-renewable resource which provides the essential social environment in terms of shelter, roads and other land based facilities. Soils in Rajasthan are also subject to heavy moisture loss by quick evaporation. Uncontrolled run off not only result in loss of water and good top soils, but also in loss of valuable soil nutrient. Adopting appropriate soil & water conservation measures can considerably increase fertility of soil in rainfed areas.

7.99 With the establishment of Watershed Development & Soil Conservation Department in 1991, Rajasthan has been making rapid strides in development of participative, replicable, sustainable, ecological & low cost resource management for Watershed Development & Soil conservation, Management of Common Property Resources by elected User Committees and introduction of Gopals for the live stock development. These have been Rajasthan's innovations in development of rainfed agriculture in the country. The approach adopted has interested several international agencies.

7.100 Empowerment of User Committee had been a major thrust area since 1995-96. In this approach instead of getting works executed through the Government machinery, a committee of the beneficiaries executes the developmental works. These committees are popularly known as Users Committees. The User Committee is elected in general meeting of the village community and is responsible for finding solutions of problems through interaction with Government officials. Presently there are about 15000 Users Committee functioning in the State. The department now has also operationalized bank accounts of User Committee and all payments are cleared through bearer cheques to avoid any misunderstanding.

7.101 For various schemes of Watershed Development & Soil Conservation including soil conservation through Forest Department likely expenditure during 2008-09 is Rs17.79 lacs and amount proposed for 2009-10 is Rs. 20.20 lacs.

Soil Conservation through Forest Department

7.102 The main focus is on carrying out soil and water conservation works for erosion prone sites and also to stabilize the soil by providing necessary soil cover.

7.103 Against the provision of Rs. 310 lakhs for the 11th Five Year Plan, Rs. 37.27 lakhs were spent during the year 2007-08 and Rs. 17.79 lakhs are likely to be spent during the year 2008-09. A sum of Rs. 20.18 lakhs is proposed for the year 2009-10. Scheme-wise details are as under.

Soil Conservation in Hilly & Ravenous Areas

7.104 Under this scheme, Soil and Water Conservation Works are being executed on priority in such hilly and ravenous areas which are more susceptible to soil erosion. The works, which will be taken up, are construction of check dams, contour trenches, earthen bunds (in case of ravines) and planting and sowing of soil binding species. Rs. 20.18 lacs is proposed for the year 2009-10.

Corpus Funds

7.105 The Centrally Sponsored Schemes of soil conservation in the catchments of River Valleys of Chambal, Mahi, Dantiwara and Banas are being implemented with assistance from Government of India. As now the corpus fund will be totally provided by GOI, hence, no amount is proposed for 2009-10.

WORK PLAN

7.106 Government of India started a scheme of "Macro Management of Agriculture" as a part of work plan. A total of 27 Centrally Sponsored Schemes supported by ministry of Agriculture, GoI were subsumed in the work plan. Sharing of funds between GoI and State Govt. is in the ratio of 90:10. The central share comes as 80% grant and 20% loan to the State Government.

7.107 In Work Plan a provision of Rs. 950.00 lacs is proposed for 2009-10 as state matching share for CSS for Macro Management of Agriculture.

7.108 The department wise break up of allocated amount is as under: -

Table No. 7.10

(Rs. in lacs)

S. No.	Name of Department	Eleventh Plan Outlay	Proposed outlay 2009-10
1	Agriculture Deptt.	2350.00	250.00
2	WD & SC - NWDPR	3150.00	350.00
3	Forest Deptt.	1500.00	350.00
	Total	7000.00	950.00