

Agriculture and Farmer Welfare

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. Demand on natural resources such as land and water resources from other sectors such as industries and urbanization would further pose challenge for agriculture. 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.

In the State 70 per cent of the population is living in rural areas and 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 per cent of the total area of the State, is known as the Great Indian Thar Desert. 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

Agriculture contributes about 20 per cent of the State Domestic Product. The average size of land holding is 3.07 ha in the State compared to 1.15 ha. at all India level. Agriculture generates employment opportunities for 13.61 million cultivators, 4.93 million agricultural labourers and addition of 0.6 million workforce every year.

Rajasthan's contribution in National Agriculture

- Stands at fifth position after Uttar Pradesh, Punjab, Madhya Pradesh and Andhra Pradesh in food grain production, and stands at third position in area.
- Largest producer of Guar, seed spices like Coriander, Cumin, Fenugreek, Fennel, etc.
- Second in production of gram and the largest producer of MothBean.
- Third 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.
- Fifth largest producer of wheat and largest producer of all coarse cereals.

Agriculture Production in Rajasthan

The production of agriculture in the state largely depends on timely arrival of monsoon. In Kharif Crops, production and Productivity not only depend upon the quantum of rainfall but also on proper and even distribution of rain over an adequate time span and its intensity.

The detailed position of the production under Kharif and Rabi Crops for the last three years is shown in the below Table-a

Crops	Area in Lakhs Hectare			Production in Lakhs Tonnes		
	2013-14	2014-15	2015-16 (Advance)	2013-14	2014-15	2015-16 (Advance)
(A) Cereals	96.28	94.72	90.53	182.49	176.70	159.43
Kharif	61.11	58.08	57.35	62.84	68.81	48.45
Rabi	35.17	36.64	33.18	119.65	107.89	11.98
(B) Pulses	41.97	33.63	40.23	24.70	19.52	22.82
Kharif	22.21	20.39	28.31	7.73	9.63	10.05
Rabi	19.76	13.24	11.92	16.97	9.89	12.77
(A+B) Food Grains	138.25	128.35	130.76	207.19	196.22	182.25
Kharif	83.32	78.47	85.66	70.57	78.44	58.50
Rabi	54.93	49.88	45.10	136.62	117.78	123.75
(C) Oil Seeds	52.79	44.57	48.33	60.41	53.14	58.59
Kharif	21.98	19.80	22.77	22.41	24.15	22.56
Rabi	30.81	24.77	25.56	38.00	28.99	36.03
(D) Suger Cane	0.05	0.06	0.06	3.63	4.09	4.32
(E) Cooton*	3.93	4.87	4.48	12.87	15.28	9.55

* Production in Lakhs Bales (Each Bale of 170Kg.)

Gross Value Added of Rajasthan by Agriculture at Constant (2011-12) Prices (in lakh)

Year	Agriculture	
	GVA	Percent Contribution in GSDP
2011-12	11910650	28.58%
2012-13	12263755	28.25%
2013-14	12994576	28.24%
2014-15	12877970	26.41%
2015-16 A	12419500	24.07%

Decadal Trends of Agriculture Sector Contribution in GDP

(At Constant Price)

	Percentage of contribution of Agriculture & Allied sector in GDP				
	1981-82	1991-92	2001-02	2011-12	2015-16
India	35.35	28.54	22.39	14.37	15.38
Rajasthan	47.13	39.21	32.37	21.26	24.07

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 lakh female workers engaged in on farm work, nearly 50 per cent are with sub optimal workdays. Generation of full employment opportunities through labour intensive agricultural activities in areas like horticulture & agro processing, is a great challenge.

VISION

To enhance farm productivity and income in rural areas through crop-livestock integrated 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

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.
- Rajasthan Agro Processing and Agri Marketing Promotion Policy 2015.
- Large Livestock base in the State.
- State Agriculture Policy

WEAKNESS

- Scanty and erratic rainfall.
- 75 per cent area is rain-fed.
- Scarcity of under-ground water. Only 25 out of 243 blocks are safe as per the ground water survey, 2011.
- Lesser availability of hybrid seeds for Oilseeds and Pulses.
- Lesser availability of market network and agro-processing facilities.
- Sharp variation in day – night & seasonal temperature.
- Large area affected by Salinity and Alkalinity problem, nearly 10 lakh ha.
- Large area under waste land, nearly 50 lakh 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.

OPPORTUNITIES

- 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.
- Sharp change in climatic conditions.

Major interventions taken during Annual Plan 2015-16:

- To increase the speed replacement rate and productivity of Maize in tribal area, 8300 Qtls Hybrid Maize seed was distributed to tribal and non-tribal BPL farmers.
- For water harvesting 9009 km. Pipeline, 1653 Diggies, 4785 Farm Ponds and 292 Water Storage Structure were constructed. This has resulted in greater sustainability of crops in rain-fed areas by providing at least one life saving irrigation.
- To ensure the fodder availability, 3310 minikits have been distributed under State Plan and Accelerated Fodder Development Programme (AFDP) of RKVY.

- To promote farm mechanization, 54711 agricultural implements were distributed.
- Integrated Pest Management demonstration along with Farmers Field School based Integrated Pest Management trainings were organized on farmer's fields to educate and popularize the above practices for efficient plant protection.
- Modified National Agriculture Insurance scheme was implemented in 13 districts. In rest 20 districts Weather Based Crop Insurance scheme was under implementation.
- For increasing participation of girls in agriculture education, 9736 girls studying in agriculture subject were provided incentives. To upgrade the technical skill of women farmers, 13002 women farmers were imparted training.
- 1.16 lakh MT Gypsum was distributed.

Some Steps which are playing major role in Agriculture Development & Farmers Welfare

- ❖ **Improving agricultural productivity in rain fed regions**, which constitutes more than 50% of the country's arable land. Besides watershed management, constructing check dams and farm ponds should be taken up in a mission mode for providing lifesaving irrigation for the crops.

Scheme:- Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) has been formulated with the vision of extending the coverage of irrigation '**Har Khet ko pani**' and improving water use efficiency '**More crop per drop**' in a focused manner with end to end solution on source creation, distribution, management, field application and extension activities.

- ❖ **Reduce cost of Cultivation:**

Rational use of Fertilizer /pesticide and increase water use efficiency and Fertilizer Subsidy and Rationalizing the NPK pricing for maintaining NPK ratio in the soil and better application technologies to improve efficiency and reduce fertilizer subsidy by Rs. 25,000 – 30,000 crores annually.

Scheme:soil health card, neem coated urea, and the promotion of traditional farming practices through the **Paramparagat Krishi Vikas Yojana (PKVY)**.

- ❖ **Reduce Post harvest loss:**

- ✓ The Government has got a study done on "Assessment of Quantitative Harvest and Post-Harvest Losses of Major Crops and Commodities in India" by ICAR - Central Institute of Post-Harvest Engineering and Technology (CIPHET), Ludhiana. The study was commissioned in 2012 and the final report submitted on 31.03.2015. The study has estimated that annual value of harvest and post-harvest losses of major agricultural produces at national level was of the order of Rs. 92,651 crore

calculated using production data of 2012-13 at 2014 wholesale prices. The percentage of post-harvest losses as assessed by the study is as under:

Crops	Cumulative wastage (%)
Cereals	4.65 – 5.99
Pulses	6.36 – 8.41
Oil Seeds	3.08 – 9.96
Fruits & Vegetables	4.58 – 15.88
Milk	0.92
Fisheries (Inland)	5.23
Fisheries (Marine)	10.52
Meat	2.71
Poultry	6.74

- ✓ The Ministry of Food Processing Industries (MoFPI) is implementing various Central Sector Schemes, namely (i) **Scheme for Development of Infrastructure for Food Processing** having components of **Mega Food Parks, Integrated Cold Chain, Value Addition and Preservation Infrastructure and Modernization of Abattoirs** and (ii) **Scheme for Quality Assurance, Codex Standards, Research & Development** and Other Promotional Activities.
 - ✓ Large investments in warehousing and cold chains to prevent post-harvest crop losses.
- ❖ **Incentive to the farmer for high value crop**
 - ❖ **Insuring farmer to get remunerative prices**
 - ✓ MSP
 - ✓ Direct linkage producer to consumer
 - ✓ Direct procure from Farmers
 - ✓ Promoting Contract Farming for vegetable and Horticulture crops
 - ✓ GST
 - ✓ FPO
 - ✓ Creation of a national farm market, removing distortions and e-platform across 585 stations
 - ✓ Review of current scenario of farm credit and subsidy disbursement system.
- Scheme: e-National Agriculture Market**
- ❖ **Diversification :**
 - ✓ Promotion of Integrated farming system approach
 - ✓ Promotion of ancillary activities like poultry, beekeeping and fisheries.
 - ✓ Promotion of intensive vegetable production
 - ✓ Introduction of a new crop insurance scheme to mitigate risks at affordable cost.
 - ✓ **Scheme: Pradhan Mantri Fasal Bima Yojna**

❖ **Technology up gradation and adoption**

- ✓ Promotion of value addition through food processing.
- ✓ Agri infrastructure, storage systems
- ✓ Technology + Improve seed + Extension Effect
- ✓ MSP + Effective mechanism

New Innovations by Government of Rajasthan for Agriculture Development & Farmers Welfare

I. Global Rajasthan Agritech Meet 2016 (GRAM 2016):

The Government of Rajasthan is committed to developing agriculture and allied ecosystem to increase farm incomes in the state. The state has conceived Global Rajasthan Agritech Meet 2016 (GRAM 2016), an Agri-technology and business event as a platform to transform and catalyse the process of improving the sustainability and economic viability of agriculture and allied activities shaping globalized, market-driven and profitable ventures.

Global Rajasthan Agritech Meet 2016 will be organized during the month of Nov., 2016 in Jaipur city. The event will bring together all stakeholders – farmers, academicians, technologists, agribusiness companies and policy makers – to accelerate development of sustainable agricultural and allied activities through innovative methods and best practices. Opportunities for entrepreneurship and partnership in these sectors will also be showcased at this platform.

Global Rajasthan Agritech Meet (GRAM) has been conceived with a two-pronged objective of exposing our farming communities to the technological advancements and global best-practices while showcasing investment opportunities in the state to Agri- business communities across the world.

II. Mukhyamantri Jal Swavlamban Abhiyan

Rajasthan is the largest state of the country has an area of 343 lac hectare. Out of this only 168 lac hectares is arable land. State has 101 lac hectare of land under wasteland. The Aravali range extends from South West to North East divides the state in two parts; on its best there is Thar Desert which has an area around 60% of the state. The annual rainfall is 100 mm in dry hot West to 900 mm in South East. Generally out of five years, 3 years are drought affected means untimely, uncertain & varied distribution of rainfall, this is responsible for the unstable crop production. Large part of the rainfall goes waste due to high intensity of rainfall in small time. Proper utilization of runoff does not take place due to lack of Water Harvesting Structures in the watershed area results continuous decline in water level of the wells.

Mukhya Mantri Jal Swavlamban Abhiyan has been launched in the State with the vision to ensure effective implementation of water harvesting and water conservation related activities in the rural areas using a holistic approach, informed by the values of leadership, moral responsibility, excellence, innovation, partnership and purity.

As State has 75 percent rural population which depends on agriculture and livestock for their livelihood, hence in light of these conditions of state there is need

of Mukhya Mantri Jal Swawlamban Abhiyan to utilize the Four Waters- Rainfall, runoff, Ground Water & in-situ Soil Moisture keeping watershed or Cluster/ index catchment as a unit for Western Rajasthan where there is scanty rainfall & no defined drainage lines.

In this campaign 5035 people have funded and **39.18 Crore Rupees** fund collected.

III. Agriculture Marketing :

In order to provide better marketing facilities and adequate returns on farmers produce, the Directorate of Agriculture Marketing is functioning in the state to implement 'Mandi Regulation and Management' Effectively.

IV. Kisan Kaleva Yojana:

Kisan Kaleva Yojana has been introduced for farmer to provide them quality food on subsidized rates in 'Super', 'A' and 'B' class Krishi Upaj Mandi samite's of the state. 15.58 lakhs farmers and labourers have taken food in market yards at subsidized rate from april to December 2015.

V. State Warehousing :

The main activity of the Rajasthan State Warehousing Corporation (RSWC) is to build godowns and warehouses in the State for scientific storage of agricultural implements and other manures, Fertilizers, agricultural implements and other notified commodities of the farmers, Co-operative societies, traders, Governments and other institutions. Corporation is operating 91 warehouses in 31 districts.