

## **Problems and Prospects of Agricultural Development in Rajasthan (A Case Study of Sriganganagar District of Rajasthan)**

**\*Dr. Shubha Tiwari**

### **Abstract**

The present paper focuses on examining the various problems presently faced by the farmers of Sriganganagar District of Rajasthan, visualizing the prospects of redressing them along with concrete suggestions in respect thereof. The area under study forms the part of the Ghaggar valley, which happens to be the bed of two Vedic rivers, Saraswati and Drishadwati. The soil of the area is basically alluvial and the same is quite conducive for the production of various crops, which besides food grains and oil-seeds also include the cash crops like sugarcane and cotton. The district has a major stake in the production of food grains, which has enabled it to be called as the granary of Rajasthan. The farmers of the area are predominantly from Punjab, who were brought and colonized by Maharaja Ganga Singh the ruler of the then Bikaner State to undertake the work of cultivation. In fact the Maharaja, who had been able to bring the water of Sutlez through Gang Canal to irrigate the area mostly lying barren for centuries, wanted to use their expertise in agriculture, which he thought besides boosting the production of various crops, would also help the local population to emulate their art of agriculture.

As a result of this in a short span of time the area began humming with a variety of crops including food grains, oil-seeds and the commercial crops like sugarcane and cotton. The two cash crops are sub-tropical crops, which need a lot of rain water and underground water supplemented by the canal water to sustain it during the early stages of its growth. The above irrigation support system resulted in districts of Sriganganagar being turned into the highest sugarcane and cotton-yielding area of Rajasthan accounting for a large part of the total production of the state.

But for the past few years the production and productivity of the crops in the area has registered a decreasing trend for various reasons. The present paper, therefore, seeks to lay emphasis on the key challenging issues that area needs to counter not only to sustain the level of productivity but also to augment the same.

Agriculture in India is of a great antiquity. Even the pre-Harappan people, whose existence has been traced at certain places in and around Baluchistan in the north-western part of undivided India and this part of Rajasthan, depended on agriculture for their sustenance. Stone built terraces known as

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“gabarbandas” were designed by Baluchis to help irrigate the fields. (Randhawa, 1980:113) It is important to point out here that the area under study itself has the distinction to yield proof of the existence of the above civilization. Curiously it is as a result of the excavation here at Kalibangan that the specimen of ploughed land with furrow marks, the oldest of its kind was discovered. (170). Thus right from the pre Indus Valley Civilization, agriculture has been a popular occupation of the Indian people, (Randhawa, 1980:156ff.). The Vedic people, who are believed to belong to the same stock, (Tiwari, 2004:65-66), were far ahead to their illustrious fore-fathers in the art of agriculture and the agriculture constituted the backbone of their economy. (ibid.153ff.). Even today, when the Industrial sector has made a spectacular headway more than 65 per cent population of the country resides in villages and is engaged in agricultural based activities. Thus the Indian economy is basically agrarian and is characterized by a weak industrial base and a low level of employment opportunities coupled with serious regional imbalances.

The same principle holds equally good for the economy of Rajasthan, which too is primarily agricultural and pastoral. Agriculture is the leading economy of the state accounting for 30%. The total cultivated area of the state encompasses about 34.20 million hectares and out of this only 30.6% of the land is irrigated. There are mainly two crop seasons in Rajasthan. The principal crops grown here are, Barley, Wheat, Gram, Oil Seeds, Pulses, Bajra, Jowar, Maize, Ground Nuts, fruits and vegetables and spices. Wheat and barley are cultivated over large areas, as are pulses and oilseeds. Cotton, Sugarcane and tobacco are the main cash crops of the state. Rajasthan is among the largest producers of edible oils in India and the second largest producer of oilseeds. It is also the biggest wool-producing state in India.

At the micro level too agriculture still holds the key of the Indian economy. This fact is far more relevant in the case of Sriganganagar district of Rajasthan, the area under study. Sriganganagar, the very identity of which depends upon its agriculture, furnishes a great testimony of land transformation, where desert land came to be converted into a lush green belt. The credit for this goes to the efforts of the Maharaja Ganga Singh, the ruler of the erstwhile princely state of Bikaner State, who was able to bring the Gang canal to carry the excess waters of Punjab and Himachal Pradesh to the region, enabling Ganganagar district to be known as "the food basket of Rajasthan".

The climate of the region is fully conducive to agriculture, which is although very hot in summer when at times the temperature almost reaches 50 degree Celsius. As against this the temperature in winter is quite low, which dips even below 0 degree Celsius. But notwithstanding this extreme condition the area with its fertile soil and excellent facilities of irrigation has been doing wonders in the matter of agricultural outputs. Viewed from the angle of administrative setup Ganganagar District is divided into 6 sub-divisions, 9 tehsils and 7 Panchayat Samitis. The district has 10 market towns and as many as 320 Gram Panchayats. There are approximately 2839 villages in the district, which are inhabited by human population.

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Vedic rivers, Saraswati and Drishadwati. (Abichandani and Roy, 1966:37). Commenting upon the importance of these rivers, Sharma (1966) says, that the region watered by them formed “early in Indian history the centre of two of our best known civilizations” (7), the Harappan and the Vedic. Being the bed of these rivers the soil of the area was alluvial, which coupled with its temperate climate, was quite conducive to the production of various crops, of food grains, oil-seeds as also the cash crops like sugarcane and cotton. The above situation must have continued for centuries till a series of geological upheavals overwhelmed the area, as result of which the river Saraswati and Maru-Samudra, in which it merged, dried down thereby altering the profile of the area drastically. Besides, in due course of time the westerly winds blowing from Rann of Kutch transported a lot of sand into the entire area not only enveloping the fertile soil but also forming sand dunes every here and there. Further, the paucity of rain and salinity of the underground water turned most of the area unproductive and useless.

The situation continued to remain grim till the advent of the Gang Canal in 1927 made possible by the far-sightedness coupled with indomitable will and determination of Maharaja Ganga Singh. The Maharaja had thus been able to bring the water of Sutlez through Gang Canal to irrigate the area mostly lying barren for centuries. Farmers from Punjab on a large scale were also brought and colonized by the Maharaja alongside the canal to undertake the work of cultivation. In fact he wanted to use their expertise in agriculture, which, he thought, besides boosting the production of various crops, would also help the local population to emulate their art of agriculture. To reinforce the irrigation facilities, in due course of time a few other irrigation projects like the Bhakra Project and the Rajasthan Canal Project (presently known as the Indira Gandhi Canal Project), were launched to meet the growing need of the farmers in the area.

As a result of this, in a short span of time the area began humming with a variety of crops including food grains, oil-seeds and the commercial crops like sugarcane and cotton. Major crops grown here are: bajra, cotton, sugarcane, wheat, vegetables, oil-seeds etc. Mustard, sugarcane and cotton are the main cash crops grown here, which bring huge sum making the area economically well off. Since at the state level the district came to have a major stake in the matter of production of food grains, it came to be called as the granary of Rajasthan (Sehgal, 1972: 125). The two cash crops, sugarcane and cotton grown here are sub-tropical crops, which need a lot of rain water and underground water supplemented by the canal water to sustain it during the early stages of its growth. Owing to the above strong irrigation support system the district of Sriganganagar has been turned into the highest sugarcane and cotton-yielding area of Rajasthan, accounting for a fairly large part of the total production of the state. In this context, it is worth pointing out that the district achieved the distinction of contributing “nearly 50% of the cotton and 30 to 35% of the food grains produce of the entire state.” (Sehgal, 1972: 125)

In short, if Sriganganagar has presently come to occupy a prominent position in Rajasthan, it is because of its prosperity based on agriculture and the animal husbandry, which are the main

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economic activities of the people here. The prosperity of the district as indicated above dates back to 1927, the year when the Gang Canal was inaugurated bringing forth the water of the river Sutlez to this part of Rajasthan. It was as a result of this that a vast area of land of this part of the state, hitherto lying unused, could be brought under irrigation making the same useful for agricultural purposes with multiple crops being grown.

The production and productivity of various crops in the Sriganganagar tehsil of the district has shown a fluctuating trend. This is mainly due to decreasing level of the fertility of soil caused by the varying level of pollution and accumulation of harmful elements in the soil. The lack of timely supply of good quality water in adequate measure, the frequent failure of monsoon and a number of other causes are responsible for the above fluctuations as also the successive failure of the crops in the region. In fact for the past 10-15 years, farmers of this region are facing tough times as the agriculture sector in the district is open to several problems, impeding the production in a big way. The main cash crop of the region, cotton has almost collapsed and the overall production of food grains has also dropped down considerably.

The present paper, therefore seeks to lay emphasis on the key challenging issues, which the area under scrutiny needs to counter not only to sustain the level of productivity but also to augment the same. The main focus of the paper, therefore, is to examine the various problems presently faced by the farmers of Sriganganagar and also to visualize the prospects of their re-dressing along with concrete measures to be adopted in respect thereof. The problems faced by the farmers of the district, which have brought down the level of production can broadly be listed as below:

- At the first instance mention can be made of water related problems. In fact for the last few years the quality of the canal water has been going down due to increasing pollution as a result of which the pH value of soil is continuously rising.
- The supply of water in the canal has also been irregular. Besides the inadequate availability of quality water, the paucity of rain, the salinity of underground water etc. are the other water related problems.
- At present the underground water is impregnated with salt and its quality is also deteriorating in the region due to the percolation of toxic affluent from the factories like those of fertilizer, sugar, paper etc. The industrial wastes are highly saline which getting mixed with the soil cause depletion of the soil.
- In the same way the accumulation of silt in the underground water is also a matter of major concern to the farmers of the region.
- Apart from the above, the farmers of the area are also facing the problem of water-cess as it impedes the free flow of the canal water and is responsible for the inadequate supply of water through canals.

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- It also causes frequent erosions of the canals as a result of which the precious water from it drains out.
- This in turn gives rise to the problem of water-logging which adversely affects the fertility of the soil as the productive components lying in the deep layer shoot up to the surface and are washed away by the flowing water.
- The water problem, which affects most the farmers of this region, is the continuous water tussle with Punjab, the neighbouring state.
- The soil is also gradually losing its fertility for several reasons e.g. the modern methods and techniques of agriculture characterized by excessive use of fertilizers have though helped a lot in boosting the over-all production but the same has resulted in the gradual loss of fertility of the soil.
- The excessive use of fertilizers, pesticides and weed-killers have caused an increase in the level of potassium and nitrate in the soil leading to the rise in pH value (a scale for measuring the chemical composition of soil) due to which the fertility of soil has been further hampered.
- Due to above reasons there has occurred a constant rise in the pollution level, which also does not augur well with the agricultural production.
- There has been a marked decline in the production of cotton mainly due to the attack of Heliothis (a very small insect, called "sundy" in local parlance).
- There are other factors as well like the rates of crops. Rates of cotton are still the same where they were in 1992-1993. Although the other crop wheat has got a hike in rates and has helped people recover to some extent, but still, the overall sale result is not as desired by the farmers .

To combat the various problems as indicated above the following measures need to be adopted by the farmers so as to preserve the fertility level not only to save the production from going down but also to enhance the same up to the maximum possible extent:

- The soil sample of the field is required to be got tested regularly in an authorized laboratory, so as to ascertain its fertility level and to obtain recommendations with regard to the use of fertilizers accordingly.
- Testing on the same pattern should also be done to ascertain the presence of calcium carbonate in the soil, the level of micro nutrients of the soil sample, and the quality of gypsum sample to ascertain the gypsum requirement (G.R.) of the land.
- The quality of water obtained from the tube-wells installed in the field should also be lab-tested to know that it does not contain any harmful properties.

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- The concerned department of the Government should appoint Committees to prepare reports and give recommendations for the measures to be adopted to improve the quality of soil and water in the region.
- The deforestation should be kept under control and plantation of more and more trees be encouraged to contain soil erosion and the environmental pollution.
- The excessive use of chemical fertilizers and pesticides should be avoided as it affects the fertility of the soil in along run.
- The use of manures, obtained by processing cow-dung and agricultural waste, should be encouraged.
- While adopting latest scientific methods in respect of agricultural operations due credit should also be given to the traditional wisdom. Therefore it is of utmost importance to conserve the Indigenous Traditional Knowledge (ITK) from further loss and to encourage the use of the same. For, such good traditions of necessity have some scientific base and the capacity to solve the problems of the people..

To sum up, though the agricultural production in the region has registered a negative trend for various reasons as indicated above and the farmers have been passing through trying times, yet still there is a bright prospect of an early recovery if the farmers understand the problems in a proper perspective and follow the tips prescribed above.

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