



Agriculture and Economy: A study of Selected District

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The role of the proposed research.

Agriculture encompasses a wide variety of specialties and techniques, including ways to expand the lands suitable for plant raising by digging water-channels and other forms of irrigation (FAO, 2008).

Agriculture is the most important sector of Indian Economy. Indian agriculture sector accounts for 18 per cent of India's gross domestic product (GDP) and provides employment to 50% of the countries workforce. India is the world's largest producer of pulses, rice, wheat, spices, and spice products. India has many areas to choose for business such as dairy, meat, poultry, fisheries, and food grains etc. India has emerged as the second largest producer of fruits and vegetables in the world.

Type of land use pattern and training is an important procedure of capacity building of people as to enhance the execution. The agriculture production is limited by the many factors like irrigation, land productivity, land use pattern, labour inputs etc. Irrigation is the backbone of agriculture. India's most population near about 71 percent involving in farming. Rajasthan the state of India is largest area of dry land and desert. The sources of irrigation are very low and minor. But the palace is irrigated the crop production is healthy. The area is irrigated is small comparatively of dry farming.

Narrative of Indian agriculture has been changing in recent years. Some of the changing factors are: urbanisation, globalisation/de-globalisation, tariff wars, diversification within agriculture and fast growing rural non-farm sector, developments in value chains, start-ups, technological changes including IT, developments in climate change, and more emphasis on sustainability than earlier.

The western area of Rajasthan being mostly barren encloses the Great Indian Thar desert. However, the terrain is rocky and is much wetter and fertile in the southeastern part. Cotton, food-grains, oilseeds, and sugarcane are grown in the fertile tracts that are utilised as agricultural regions. The western region has also some wooded portions and water bodies. Large areas in the Sabhar region have rich deposits of salt and Khetri and Dariba have many copper mines.

The government started my projected to Increase the irrigated land of the nation, these water projects drastically change the land area of irrigation and increased the agricultural productivity. One of the water projects that was started in the study area is Sidhmukh Irrigation project that drastically changed the land use pattern of the area. The Sidhmukh Irrigation project envisages construction of canal system for providing irrigation to CCA of 86209 hectares (212936 acres) of fertile desert areas in Nohar and Bhadra tehsils of Hanumangarh district and Rajgarh and Taranagar tehsils in Churu district. Water for this project would be available from Rajasthan share in RaviBeas and Sutlej waters. Rajasthan has shared 15% cost of irrigation component of Beas-Sutlej link project and accordingly entitled to get 0.57 MAFt out of total 3.82 MAFt of water diverted into Bhakra Dam through Beas-Sutlej link. The Sidhmukh irrigation project would utilise 0.33 MAFt out of 0.47 MAFt of water allocated by the Government of India vide their order dated January 15, 1982.

The present study explored the change in cropping pattern and agriculture productivity under the Sidhmukh Canal catchment area. Since this area has converted from desert/barren land to highly productive land due to the inception of the Sidhmukh Canal project. For the study of the Change in cropping pattern and agriculture productivity in Sidhmukh Canal catchment area: A geographical study of Hanumangarh District of Rajasthan, the studied selected for it, initially it was a deserted area and contained few patches of the rain-fed agricultural lands. Most of the crops that were grown in the area and natural vegetation were semi-arid type. But by the inception of the Sidhmukh Canal Project the entire land use pattern has changed drastically. The components of



the agro-ecosystems has completely changed. The cumulative effect of this land use pattern, agricultural productivity and crop changes is upliftment in socio-economic status of the local farmers.

Steps of the proposed research.

In response to the questionnaires, it is concluded that the total land occupied by the farmers, out of 53.2% is canal irrigated, 34.0% is mix irrigated type means the farmers are practicing both of irrigation methods viz. canal and tube well. It ensures the high yield of the crops. Still, the 12.8% land is rain dependent or water conserved by the rainwater harvesting techniques. It shows the significant proportion of the land is still waiting for canal water. It is observed that 76.0% farmers are like self-farming and there is also an interest among the farmers to take land on rent or given on contract at the rate of 12% among the total samples.

The state government and centre government are running lot of policies and schemes for the farmers, but it is observed that in studied area, the only 33.6% farmers are being benefited by these policies and schemes. It is noticeable that there are lot of scope to enhance the productivity of the by the strong implementation of these policies and schemes. It is observed that the 78.8% of the farmers are having the Tractor and 71.2% farmers having other agricultural instruments. It is good indication for the advancement of the agricultural in studied area.

Significance of the proposed research.

At the time of study, the present crop grown in most of the areas is wheat and general cropping pattern remains, wheat-mustard, gram-joi, cotton-gaur, and paddy-pulses. These make the necessary commodities for the local population. It is observed that the popularisation of the chemical fertiliser is very common, and these fertilisers are made available by the IFFCO (Indian Farmers Fertiliser Cooperative Limited) on subsidised rates. It is observed that the crop production of nine major crops of the region has risen due the availability of the water. The data were analysed from 2007-2017 with the regular interval of two years. In every two year it was observed that all the nine major crop significantly increased.

The Sidhmukh Canal catchment area 'over' the four Geographical circles of Bhadra Tehsils (Hanumangarh district) such as Bhadra, Bhirani, Dungrana, Ajitpura. The total command has risen in the last 10 years by the development of the canal extension work, local level connectivity of the water system and agricultural fields and willingness of the government. Such extension works ultimately affected every aspect of the region from irrigation to socioeconomic parameters. Undoubtedly, the economic flow has risen in the region by the introduction of the Sidhmukh Canal project. The economic flow has increased the prosperity among the local farmers, quality houses, availability of the life supporting amenities, modern infrastructure, modern techniques of agriculture like extensive use of fertilisers, pesticides, certified seeds etc. The socioeconomic parameters along the demographic indices have drastically changed. The numerical data is clearly supporting this statement.

Objectives of the proposed research.

National Commission on Agriculture (1976) observed that irrigation as practiced in the nation was to some degree extreme in the utilisation of water. It observed that, on an average 0.65-hectare meter of water was utilised to irrigate one hectare of cropped are if source was ground water and 0.90 hectare meter if it was ground water. In many canals, supply of water inadequate and crops did not receive required amount of irrigation. The commission observed that all these efforts have been concentrated at improvement of existing canal systems in the field of engineering. None of these systems have been reviewed comprehensively for improvement in all aspects of schemes, like safety and better regulation on engineering structures, argumentation of supplies if required improvement of efficiency in conveyances of water scientific application of water to crops, adoption of suitable cropping patterns etc.



Charan (1978) in his article on 'Economic Evaluation of an Irrigation Project: A Study of the West Bans Project' uncovered that the presentation of irrigation in the region had helped principally the farming sector in genuinely balancing out rural creation first, and through expanded utilisation of contributions to increasing production. The money saving advantage proportion was more noteworthy than one. This obviously demonstrated the economic feasibility of the project.

Sisodia (1978) applied cost investigation in 'Economic Evaluation of Chambal Irrigation Project in Madhya Pradesh'. Since master evaluation of the project was endeavoured in this investigation, it managed a complete investigation of the economy of the command and non-order area. The degree of innovation utilised, yield per hectare and gross farm yield in every one of the farms apparently was essentially higher in the canal irrigated areas when contrasted with that in non-direction area, and the government investment was defended on these grounds.

Patil et al. (1978) has studied 'Socio Economic survey of Girna irrigation Project Area in Jalgaon District'. They put their opinion that this is useful for economic benefits and raise the social status of farmers. It increased per acre production and income. There is a change of cropping patterns. Due to increase of production, modern techniques and chemicals are used, the result is per acre production has increased. Thus, their living standard has raised, instead of this, they become aware for education, health, family planning and society.

Findings of the proposed research.

Department of Planning and Development, Government of India constituted a group under the chairmanship of Gadgil (1958), to study the direct and indirect benefits of selective irrigation projects. In it they studied Sarola canal, U.P., Triveni canal, Bihar, Damoder canal, West Bengal, Kaveri Mettur project, Tamilnadu, Nijamnagar project, Andhra Pradesh and Ganga canal, Rajasthan etc. Based on primary data, Divakar Za (1967) and Basu and Mukharjee (1963) put forward some observations that due to irrigation, the maximum land came under cropping and farmers started to paying attention on cash crops instead of food grains. The result is that per acre production and income were increased.

Planning Commission (1964) report on 'Criteria for Apprising the Feasibilities of Irrigation Projects' during 1958 to 1961 stated that waterway water system has helped in advancing more prominent usage of land, broadening the normal size of the farm creating interest for extra farm work, moving to new and better assortments of crops, increasing extra generation interest in farm business, and augmenting the extension for increasing the income.

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