AGRICULTURAL DEVELOPMENT IN SINDH

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ABSTRACT

Agriculture is by far the most important of the worlds economic activities. It uses one third of the total land surface and employs 45% of the working population. So is the case in Pakistan; 90% of the economy of Pakistan depends on the subsistance agriculture directly or indirectly. Recent developments in system of irrigation through the construction of Barrages, canals on the River Indus, dams at several points in the country has consequently increased the agricultural production in general and Sindh in particular. In this article an attempt has been made to determine the difference in the nature of the Agriculture before and after the modernization in various aspects of agriculture and effects of application of modern techniques. In the end the writer has made some suggestions to improve the present scale of production in Sindh.

INTRODUCTION

Sindh, the South Eastern Province of Pakistan has quite long history of agriculture which mirrors the national development and the difficulties faced by agriculturists within the country as a whole and for Sindh in particular. Agriculture of this area is the age old activity of the residents, it has been through many ups and downs ever since the evolution of the land mass. Subsistance agriculture has been the most remarkable character even today especially on the right bank of the River Indus(1). Above all recent history of Sindh shows the critical importance of achieving an adequate and appropriate irrigation system within the region. Before the recent developments in irrigation system in Sindh, the crops in the dry season were absolutely dependent on the strength of inundation of the River Indus; and canals. Whole of the Province being covered with a large number of inundation canals which dated back few centuries. Hence all the production from the lands were greatly dependent on the flooded areas (2). This pattern was modified by checking and improving the inundation canals in 1891, when the canal colonies were formed by British Rule. Many steps were taken in development of irrigation; resulting the expansion of the irrigated

area and hence the cultivated area was increased.

HISTORY OF DEVELOPMENT IN AGRICULTURE

The history of agriculture in Sindh goes back to the evolution of the landmass, when the people of these areas were just like the people of other remote areas of the globe. They were gatherers of roots and seeds in first stage, primitive agriculturists in the later stage. The implements found during the excavation of Mohan-Jo-Daro near Dokri in Larkana District, reveals the state of the Agriculturists of that era. They were Hoe-culturists using stone implements for tilling their lands(3). Ever since, the land and the system of agriculture has gone through many changing courses. When documentation of the records regarding the population, land, water supply and scale of production took place by the English Government in India, the cultivated land in the region belonging to Pakistan was recorded only half a million acres in middle of the 19th century. This land was extended to about 2 1/2 million acres in 1921 as a result of the improvements in existing irrigation systems. These improvements were the result of the establishment of Canal Colonies in North Western Province of India including Sindh.4 In some years the river rose high and inundation was extensive, in others it rose but little and the area under cultivation was compartively small, but that it should not rise at all seemed almost an impossibility, or at all events so unlikely and remote a contingency that need not to be provided for. However, crops were often washed out by high floods when unprotected by river embarkments. But if the water level remained low, the field far from the main river or main canal could not secure a supply of water by flow methods.

TABLE SHOWING THE DATES OF CONSTRUCTION OF DIFFERENT CANALS

No.	Name of the Canal	Date of Irrigation	Date of Completion
1.	Western Jamna Canal	1820	1886
2.	Sirhind Canal	1891-2	1895
3.	Upper Bari Doab	1883-4	1886-7
4.	Lower Bari Doab	1860-1	1878-9
5.	Upper Chanab Canal	1913-4	1913 (13 & 31.3.1913)
6.	Lower Chanab Canal	1887	1889
7.	Upper Jhehlem Canal	1892	31.3.1917
8.	Lower Jhehlem Canal	1901	31.3.1917
9.	Upper Sutlej Canal	1855	31.3.1858
10.	Sidhnni Canal	1886	1885
11.	Indus Inundation	1849	1840-50
12.	Shahpur Inundation	1870	1898-9
13.	Ghaggar Inundation	1897	1898-9
14.	Lower Sutlij	1895	1895-6
15.	Chanab Sutlej	1895	1895-6
16.	Muzzafar Garah	1895	1896
17.	Pak Pattan Canal	1926	31.3.1932
18.	Dipalpur Canalk	1926-7	31.3.1932
19.	Eastern Nara Canal	1927-8	31.3.1932
20.	Mailsi Canal	1927-8	31.3.1932

Source: Darlung M.L. 1947.

SYSTEM OF CROPPING IN SINDH BEFORE PARTITION OF THE SUB-CONTINENT

There was always a long interval between two consecutive crops, a period of two or three years called Sindh Fallow. It was an extensive and simple system of cropping without use of the manure. Mr.Fife, expressed his views in his report on the agricultural conditions and cultivators of Sindh in

1855 i.e.:

> "When the cultivator is exposed to so many risks rising from the capricious nature of water supply, it cannot be a matter of wonder that people should look upon cultivation as a species of lottery. They are successful one-season, bankrupt the next. No-one who sows can tell what he will reap. Too little or too much water, the supply coming too soon or too late, and the height arising from sowing at the wrong time combine to speculation on the result of the cultivation, a riddle which none can solve".

Traditionally, there have always been two cropping seasons in Sindh as in other parts of the sub-continent.

1. Kharif Season (Summar Season Starting from Mid-April to Mid-October).
2. Rabi Season (Winter Season starting from Mid-October to Mid-April).

Major crops grown in the Kharif season are rice, cotton seasum, Jowar and Baghar, whereas wheat, oilseeds, grams, matter and barley are the main Rabi Season crops. Cotton, various fruits and sugarcane have been grown in Sindh for long time but were not as important as they have become in recent years.

SYSTEM OF CROPPING AFTER PARTITION

To further assure a more dependable water wupply, the Sukkur Barrage was built in 1932. Ghulam Muhammad Barrage in 1955 and Guddu Barrage in 1962. By building these barrages two types of canal systems have been made possible. First is *the non-perennial system,* with irrigation water in the Kharif season only, the second is *the perennial canal system,* with, water available throughout the year.

As is clear from table above, these developments in irrigation have been accompanied by a considerable overall increase in agricultural output in Sindh over recent decades. At the same time due to the existing economical conditions of the nation there have been major changes in the cropping pattern. Before 1921, the mot important crops recorded were rice and Baghar respectively, wheat had third place, Jowar fourth among the food grains, whereas cotton, gram and sugarcane were grown on small areas to meet home consumption.

By 1930-41, rice was the most important crop in acerage,

while Baghar and Jowar had dropped in importance because of the changing trends in the way of life of the local inhabitants. In the past, before partition, 90% of the total countryside population used these two crops as their main diet crops, but since then Wheat has been increasing while Baghar and Jowar. These crops are used as fodder for animals nowadays. Hence wheat has increased its acreage gradually.

However, by 1947 there was an abrupt increase in the population of Pakistan due to the partition of the sub- continent. The number of incoming Muslims was for greater than the number of out-going Hindus. Figure in table above shows the changes in population cultivated areas from 1931-81. The consequent increase in food grain consumption required increased production of wheat and rice. By 1957 wheat occupied the second place after rice while cotton remained in third place. Since 1962 rice has been the principal crop with some Jowar, Baghar, Cotton and Sugarcane. The residual moisture in rice fields is used to produce Dobari crops, e.g. Gram and Mattar. The Rabi crops, wheat and millets are grown on fallow lands flooded by surplus rice irrigation water in August or early September and are known as Bosi crops.

At present, in the Kharif Season rice is the non-perennial main crop while in the perennial areas cotton is grown in summar and wheat and oil seeds in winter. Rice is not normally grown in the perennial areas for two reasons: firstly it is difficult to operate a canal system that delivers the large quantity of water needed for rice in summar and comparatively low quantitites needed for winter crops secondly, rice has been known to create water logging problems in perennial areas such as in Dadu district where huge areas of cultivated lands have turned to Saline-Lakes because of the absence of proper drainage systems.

Outside the barrage commanded area the cultivation falls into two groups: firstly rain fed, i.e. *Barani;* secondly *Salabi,* i.e. flood irrigated. But these areas are very small, Barani being confined to western valley, some area of Dadu, Larkana and Jacobabad Districts, whereas Salabi is confined to some portions of the lower flood plain. These two groups together engage about 10% of the rural labour force. Farming in these

areas provides only seasonal occupation and the land which can be cultivated depends upon the amount of rainfall and the extent of the flooding. Farmers in these areas seek alternative sources of income in the off-season. Some of them seek employment in the canal irrigated areas during the peak periods. A number of the farmers raise herds of cows, goats and sheeps and spend the off-season in western foothills of the Khirthar Range.

This pattern of changing crop and the shifting emphasis of production has been accompanied by a faltering growth in overall agricultural production. During the first decade of independence, agriculture grew very slowly for several reasons such as the old traditional land tenure system, the age old agricultural technology and the acceptance of constraints on key agricultural inputs such as fertilizer and water. However, the government realized the lower rate of growth in agriculture than the growth in population and consequently advocated changes in the way of life of the farmer: (i) Firstly by launching consequent reforms in land ownership pattern; (2) Secondly through broadcasting by television and radio. On the one hand there had been a planned increase in the material inputs for agricultural production - water, fertilizers, improved seeds and control on pests and deseases, on the other hand, new technology and farming practices. Subsequent progress has been encourging. Growth in the agricultural sector, which was 1.3% per annum in the 1950s, was increased to 3.4% per annum in the 1950s and 4.2% per annum in the 1970. Over the last three decades agriculture in Pakistan, especially in areas well irrigated by tubewells, has advanced rapidly by the use of a subsidized inputs including the adoption of improved varieties and use of fertilizers.

CONCLUSION

As is evident from the brief account of developments in Sindh, the changing level of output of agricultural products has been the result of mixture of technical developments in irrigation and responses to government policies which have attemped to increase the efficiency of productive and management methods. Underlying all of these changes are

the potentialities and the uncertainties and difficulties of the natural environment within the region.

The field surveys, conducted during the research, reveals the farmers are extremely poor and incapable to invest huge money on their farms or to get government aids, because they are not approachable on their own.

SUGGESTIONS

In order to increase the Agricultural production in this Region we need to examine the development of irrigation systems and to minimise the constraints which have been faced by agricultural policy within the Region; further it is necessary to encourage the small land owners to realize that cooperative system of Agriculture can help them to reduce the cost of inputs and increase the outputs, which is the major problem for them in order to get and use modern technology for their farms. The small farmers also need to be educated through Social Welfare Organizations to improve their field and get better out of it.

REFERENCES

1. Panwhar, Land Ownership Pattern and Development of Irrigation in Sindh. A thesis written for the degree of M.Phil-Manchester University-Manchester, U.K., 1986, p.167.

2. Haig, M.R., Indus and Delta Country, London, 1894, p.112.

3. Pithawala, M.B., A Physical and Economic of Geography of Sindh, Sindhi Adabi Board University Press, Hyderabad, 1936, p.

4. Panwhar, M., History of Irrigation in Sindh, M research article published in proceedings of Geographical Conference held in Riyadh in 1979, p.211.

5. Darlung, M.L., The Punjab Peasans in Prosperity and Debt, Oxford University Press, Oxford, 1947, p.112.

6. Douglas, P.R., Imperial Gazetteer of India, Sindh Province Vol.VIII, Part-I, 1927, p.91.

7. Fife, J.G., Gazetteer of Bombay Presidency, Vol.XXVVII, General Index under Government order printed at the Government Central Press, 1904, p.51.

8. Dubey, M.A., An Economic Geography of India Revised and enlarged by Dr.Bal-birsing Neqi, Merut, Katab Mahal Allahabad, 1975, p.211.

9. Darling, M.A., Panjab Peasant in Prosperity and Debt, Oxford University Press, Oxford, 1947, p.149.

10. Shaikh, N.R., South Rohri Canal Project Report, Sponsored by World Bank WAPDA, Hyderabad, 1968, B-III.

11. Shaikh, A.R., South Rohri Canal Project Report, Sponsored by World Bank WAPDA, Hyderabad, 1979, p.A-IX.

12. Government of Pakistan, Pakistan Development Annual Journal, published by Government of Pakistan, Islamabad, 1984, p.127.