

Chapter-II

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Jha U.M, (1984)¹ in his book “Irrigation and Agricultural Development”, has examined the various aspects of irrigation management and water management. A part from examining the role of irrigation in economic development of an agrarian economy with particular reference to Bihar the present study seeks to analyses and evaluate the process of development of irrigation system in the context of agricultural development In the present day requirements of farm sector of Bihar a comparative study has been presented about unplanned and planned development of various irrigation systems and methods of water-use in agriculture. It also presents a review of existing irrigation policy. A study of nature and extent of flood and flood control measures has also been made. In prescribing a rational irrigation policy it has been tried to consider various view-points on irrigation system in Bihar and to maintain a balance in the treatment of the problem. In fact this research is an attempt to deal with the aspect of the problem which as remained neglected so far.

Gooneratne W. and Hirashima (1990)² “Irrigation and water management in Asia” In this book they examined the key issues in irrigation development and water management through case studies of irrigation systems from a number of Asian countries . The focus is on two major types of irrigation, small-scale community managed and large scale irrigation schemes and their impact on 1) The mobilization of local resources and impact on self-reliance, 2) The maximization of agricultural production and employment and 3) The promotion of equitable

distribution of gains. The study demonstrates how these objectives can more efficiently realize in small irrigation schemes operated and managed by the communities themselves and how in such irrigation system inefficiencies and inequalities begin to emerge when the role of the communities is allowed to be eroded or is replaced by state agencies.

Misra K. M. (1990)³ in her book “Irrigation and Economic Development” has examined the existing rate of irrigation in Orissa and found out that it is inadequate for the maintenance of irrigation channels. Hence the author has tried to find out the proper rate of irrigation that will be helpful both to the cultivator and the government. For this purpose a comparative study of the cropping pattern between irrigated zones and non-irrigated zones has been made. The additional benefit, secured due to irrigation (zone wise) has also been assessed. The book has tested the various principles of fixation of rate and ultimately suggests marginal cost pricing as a promotional measure and average cost pricing or No Profit, No Loss principle.

Pawar C.T,(1989)⁴, in his book “Impact of Irrigation – A Regional Perspective” deals with the relationship between irrigation and agriculture. It has two major objectives first to describe the spatial temporal development of irrigation in relation to socio - physical environment that has shaped the agrarian economy of the region and second, to examine the impact of irrigation on the use of mechanical and biochemical; inputs, land-use, in general and cropping pattern, in particular. The bulk of book is devoted to the examination of relationship between irrigation and change in crop productivity, intensity, crop combination, diversification and overall development of agriculture along with land degradation a problem of paramount importance in the region.

Nayak S. (2005)⁵ in his book “Irrigation and Economic Development” highlighted some socio-economic aspects of the Sriramsagar multipurpose irrigation project in the Telangana region of Andhra Pradesh. Based on the theoretical frame work, the financial, economic, social and environmental aspects of the project were analysed by applying cost benefit analysis technique. The benefits of irrigation project are realized directly and indirectly. Irrigation continues to be the most important input, it directly benefits by increasing agricultural productivity, intensity and stabilizing the agricultural sector from uncertainty of rainfall. It raises employment opportunities in the rural areas, increase the net per hectare benefit and income of the households. Irrigation also reduces the income disparities of various sections of the people in the society. Most importantly, it provides sustained food security in a backward region of the state. The most visible advantage of the large dam is that it provides drinking water facility to the millions of people in a drought prone area of the Telangana region Moreover; the canal irrigation also acts as an impetus for developing other infrastructural facilities in this region.

Poddar B. N. (1987)⁶ in his book “Development of Irrigation and Indian Agriculture” deals with development of irrigation in the north Bihar during the last two decades although irrigation is the most powerful instrument for increasing production by farmers is a disheartening phenomenon. The most important factors bringing about shifts in cropping pattern are extension of irrigation facilities evolution of hybrid seeds and changes in relative prices of different crops.

Barrow J. Christopher (1999)⁷ in his book “Alternative Irrigation” deals with a comprehensive introduction, by one of the world’s leading experts to a neglected and ever more important form of agriculture

Runoff agriculture uses surface and subsurface water which is often otherwise overlooked and wasted. It enables small farmers as well as commercial agriculturalists to improve yields and security of harvest, even in harsh and remote environments. The author introduces the techniques and strategies as well as the challenges and the potential of this crucial approach, which can contribute so much to reducing land degradation and improving conservation and sustainability.

Sharma T.C (1997)⁸ in an article in “Transaction of Indian Geographers” entitled “Trends in Cropping Intensity in Karnataka : a Regional Profile” states to show that in spite of a 20 percent increase in area sown, more than once during the period 1966-90, Karnataka remains one of the least intensively cropped states in India. Paucity of irrigation appears to be the main reason for low cropped intensity in the state. A massive expansion in irrigated areas raising it over 48% of cropped area can make any significant differences in the situation as assured moisture supply was required for rabbi, summer as well as khariff crops over most of the area in the state. It would also be essential to restrict the cultivation of sugarcane and rice in the drought prone maiden as these crops consume excessive moisture quantities and thus virtually prevent the cultivation of several rabbi and summer crops for want of moisture supply.

Shukla Lakshmi and Gurjar R.K. (1991)⁹ in their book “Canal Irrigation Management Problem of Time and use Relationship” have studied the relation between water availability and agricultural pattern with reference to Indira canal. Obviously, availability of water has always obtained special significance in the life of the people of the area and even today, whatever economic and social development was seen in certain part of the study area, was because of Indira canal. The increase of population, rise in literacy, percentage of people, increase in the

number of cattle and other animals, emergence of new crop pattern and modernization of agriculture are the clear evidences of the impact of the availability of irrigation water, It means agricultural diversification in Indira canal area was found due to the irrigation through canals.

Jha T.N. Viswanathan K.U (1999)¹⁰, an article entitled “Problem and Prospects of Agricultural Development in Bihar” in occasional paper 10 NABARD Mumbai examined the relationship between irrigation and crop diversification in Bihar state Creation of irrigation potential involves private and public investment. As a natural corollary, a farmer would not only make optimal use of irrigation, but also use it in crops, which maximize farm income.

In the Report of the National Commission on Agriculture, (1976)¹¹. Part –V, it has been pointed out that the irrigation rates are low keeping pace with the rising prices. During the two decade 1953-73, the wholesale price of rice rose by 169 percent while no change was made in the water rates for this crop in Andhra Pradesh, Madhya Pradesh and Punjab, Rajasthan raised it only by 5 percent. There has been a marked disinclination to take the unpopular but thoroughly justifiable measure of raising water rates to a proper level.

Bhullar A.S. and Sidhu R.S.¹² in their article entitled, “Integrated land and Water Use” A case study of Punjab” Economic and Political Weekly, December 30 January 5 -2007 VOI XLI No- 52 focus on the efficient use and management of land and water, along with their conservation, are extremely important for the sustainable growth of any economy. This paper addresses the issue of over exploitation of these natural resources in the India. Punjab in the quest for higher productivity and income in total disregard to their sustainability. The paper also spells

out the policy agenda, aimed at an integrated system for the use of land and water to ensure the sustainable development of the agricultural sector.

Tulasi Das V. Sanjeeva Rao and Nirmalamani N.¹³ in their paper published in January 1, 2007 – Southern Economist Volume - 45 article entitled “Irrigation Development: A Study of Jalalayaram in A.P” pointed out that there is a need to integrate irrigation policy giving due attention to minor irrigation, drainage flood control, power generation, water supply for industry and for domestic use, land reclamation, control of water pollution, control of ground water levels etc. Political interference while formulating and implementing the irrigation policy should be minimum and should not become a constraint in implementation of irrigation policy.

Bhosale Y.M. (2002)¹⁴ in his thesis entitled “ A study of Agricultural Diversification in Kagwad Agricultural Range of Karnataka State ” has examined agricultural diversification factors contributing to agricultural diversification in Karnataka. It concentrates on the profile of the state the benefits of irrigation, agricultural technology and diversification, livestock diversification in Kagwad agricultural range of Karnataka.

Patil A.K. (2006)¹⁵ in his thesis entitled “A study of Agricultural Diversification in the Kasari Irrigation Command” has evaluated the change due to irrigation in the agricultural pattern, land use, use of technology, irrigation intensity and other Socio-economic effects on the drought region in general and the farmers in particular in a command area of Kasari Irrigation Project in Kolhapur district.

In an article entitled “An Evaluation of Commercial Irrigation Projects in Andhra Pradesh” in Lok Udyog of February 1977, Dr. S.

Kishan Rao¹⁶ is of the view that, Independent India, committed for planned development on the lines of socialistic pattern of society, should view the irrigation projects unmindful of the return, but from overall macro consideration such an increasing national income and self-sufficiency in food grains. Irrigation should not have any productivity test like education and community development, rather should be given a liberal treatment. Estimate of returns should be considered as an economic exercise and should only guide in fixing inter sector priorities in sanctioning projects.

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