

Introduction

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Water Management and Watershed Development Technology

Some of the recent debates on development theories have brought forth the necessity to strengthen the theoretical and empirical analysis in the precincts of resource economics. In the theoretical development of the resource economics, common property resources as well as the open access resources pose a great challenge due to the use rates and pricing policies. The environmental cost of the uneconomic use rates has assumed threatening proportions. Soil and water are the two important and crucial resources facing critical problems in India. Therefore, soil and water management became a central issue of any debate relating to agricultural resource structure. The environmental problems, of the areas with high growth potential in the post new technology phase as well as the rainfed areas which were more or less bypassed by the new technology, emerged as basic challenges for the agricultural policy framework. In this perspective, water management and watershed development approach assume greater importance.

Issues relating to water management and the differential impact of the sources of irrigation occupied the central place in the literature on agricultural economics. Water availability, its optimal utilisation, the related impact parameters and economics of its use, broadly reflect the major issues discussed. During the last decade, the emphasis, however, has been shifting from the financial or physical efficiency of irrigation to the overall ecological impact and thus its relative economic position became the critical issue in the debates. The problems of inefficient management of water not only influence the economic aspects such as equity and lower returns but also result into salinity, waterlogging and depletion of the resource structure in the long run. The common property nature of water resources, differential access to the resource, as well as, new technology and the competition in use rates have together brought into focus the theoretical as well as empirical considerations regarding water pricing. The differential use rates have given rise to issues like well interference, emergence of water markets and even privatisation of the source of water for irrigation. The new theoretical developments relating to these aspects and the empirical results obtained in different parts of the country, offer a good deal of material for policy framework. The debate of farmer's involvement in water management has always been an endogenous factor and discussed at various levels and therefore its importance in dealing with the new issues becomes quite crucial.

The other aspect of water management is the watershed development technology. Water related issues under irrigated regions and those dealing with watershed management in rainfed regions were always treated separately. During the last two decades, the issues relating watershed development in rainfed regions have received some attention and the focus has shifted from viability of the technology to its sustenance in the medium term perspective. A large number of programmes have been undertaken all over the country under various organisational structures and agro-climatic conditions. Since the technologies are indivisible and do not form a common vector across regions, the role of institutions becomes an important exogenous factor. Further, the watershed treatment technology has a strong ecological component involved in it. Therefore, it becomes necessary to bring together various issues pertaining to the development of watersheds in the light of the experience gathered.