

CHAPTER I

HISTORICAL BACKGROUND

1.1 Introduction

1.10 Agriculture is the main stay of Indian Economy. Despite large scale of industrialisation during the plan periods more and more emphasis has been given on increasing agricultural production. The land available for agriculture has its limitations and tending to stabilise during the recent years. It is essential to mobilise all efforts to maximise the productivity of agricultural land. One of the major impediments of full exploitation of the possibility of intensive agriculture is the lack of assured and dependable water supply throughout the year. The average yield are usually low with high fluctuations from year to year. The rainfall in large parts of the cropped area is low and uncertain in its distribution that it does not prompt intensive cultivation even during the main crop season, and so there is a strong need for irrigation.

1.11 The area under irrigation has increased substantially during the past years of independence and major, medium and minor irrigation projects have contributed to this result. The Minor Irrigation Schemes provide the farmers with just type of controlled irrigation which the new high yielding varieties of seeds demand. These schemes are labour intensive, quick maturing and do not require heavy investment for its installation. As a part of various development programmes, innumerable new schemes are being taken up in the States/UTs. Some of the already completed schemes in the States might have gone out of use due to one reason or the other. As many surface water projects are not able to meet the full demand of water, farmers have installed wells and tubewells in their command area to provide supplementary irrigation and as well as irrigate these areas which do not get any water although included in the commands. The potential created by such minor irrigation schemes is not being accounted for separately.

1.12 A detailed census of minor irrigation works was first recommended by a sub-committee on irrigation statistics set up by the Planning Commission in 1970. The National Commission on Agriculture, which examined in detail the present status of minor irrigation in India

observed that although many State Governments publish some information on the principal irrigation sources as mainly wells, tubewells, tanks, etc. in their season and crop report, no complete information is available on all India basis. The National Commission on Agriculture had recommended that a Census of irrigation sources be undertaken alongwith the Agricultural Census once in five years. Special irrigation surveys on the number of works and their utilisation might be undertaken by the States. The Technical Committee on Agricultural Census 1980-81 discussed the list of items in respect of data relating to minor irrigation proposed to be collected alongwith the agricultural census in 1980-81. It was viewed that the agricultural census data are being compiled from the existing land records on various States and the information as required do not figure in the land records, and it would not be possible to collect this information through the main agricultural census. Subsequently, in a meeting taken by the Additional Secretary (Agri.), it was decided to include certain information on irrigation in in-put survey for each holding on sample basis.

1.13 The scheme for Improvement of Irrigation Statistic was taken up as a sequel to the recommendations of a inter-ministerial Committee under the aegis of Planning Commission which considered the availability of statistics relating to minor irrigation projects. The Committee highlighted the need for undertaking a detailed census of minor irrigation projects on a quinquennial basis. The scheme of Improvement of Irrigation Statistics was launched in 1980-81 by the Deptt. of Agriculture. Although a census of minor irrigation works was to be taken up under this scheme, it could not be conducted till 1985-86. While discussing various issues and problems in the irrigation sector in the Planning Commission in 1986, it was stressed that census of minor irrigation schemes be conducted within a period of one year. During the discussions of annual plan proposals of the States hardly any of the States give the clear picture of the development of minor irrigation in their State as a whole. Lack of a sound data base for minor irrigation sector was felt as a bare necessity at every forum of planning. It

was, therefore, necessary to conduct a Census of minor irrigation works in the country.

1.2 Definition of Minor Irrigation Schemes

The criteria for classification of minor irrigation schemes has been changing from time to time. Since April, 1978 all Ground Water Schemes and Surface Water Schemes (both flow and lift) having culturable command area upto 2000 ha. individually are considered as minor irrigation works.

1.3 Types of Minor Irrigation Works

(a) Ground water schemes comprise of dugwells, deepening of dugwells, dug-cum-borewells, borings, private shallow tubewells, filter points and deep tubewells etc. The command area of private ground water scheme varies from 1 to 5 ha. The State Governments provide assistance in installation of such schemes which confines mainly to technical guidance, custom service for boring and arrangements for credit facilities at reasonable rates of interest. The subsidies are also made available for installation of these schemes to weaker sections of farmers. The construction, operation and maintenance of these schemes are done by the farmers themselves. The deep tubewells which extend upto the depth of 200 mts or more are designed to give a discharge of 100 to 200 cubic mt. per hour. These schemes are beyond the means of individual farmers and their construction, operation and maintenance are done by the State Govt. Departments or Corporations..

(b) The surface water schemes comprise of surface flow schemes and surface lift irrigation schemes. The surface water flow schemes are the tanks, check dams, diversion channels which are sometimes temporarily built and sometimes permanent. The diversion channels are generally prevalent in hilly regions. The norms of these schemes vary from State to State. These schemes are known as Kuhl in Jammu & Kashmir and Himachal Pradesh, Guls in Uttar Pradesh and Aharas and Pynes in Bihar and low Khones and Dongs in North Eastern region. The small storage tanks are owned by Community or local bodies and generally have command areas upto 40 ha. The large storage tanks alongwith the distribution system having command area varying from 40 to 2000 ha. are constructed by State Government Departments.

1.4 Sources of Data

The main sources of minor irrigation Statistics are (1) Land Use Statistics (LUS), (2) Periodi-

cal progress reports from State Govt. Departments, (3) Annual Administrative report compiled by the State Government Departments (4) Adhoc reports prepared by various agencies from time to time on the basis of sample survey to access the performance of minor irrigation works.

1.5 Land Use Statistics

The information on area irrigated is an ancillary product from the Land Use Statistics. The net area irrigated by the Government canals, private canals, tanks, tubewells, other wells and other sources are compiled for village/tehsil/district and the State level. Similarly, irrigated areas under different crops and areas irrigated more than once under different crops are also compiled. The Directorate of Economic and Statistics, Deptt. of Agriculture, Government of India publishes regularly the national level information with time lag of about 3 to 4 years. The primary data for LUS are collected by village patwaris in prescribed forms by plot to plot enumeration in certain States and are estimated on the basis of sample surveys in other States. The basic enumeration forms are not the same in the States and the instructions for obtaining details of area under irrigation and its sources are inadequate. In a few States, no separate columns for the sources of irrigation have been provided in the Khasra forms. In certain States due to convention the sources of irrigation and cropwise entries of irrigated area are also entered without a specific column which results in classificatory errors.

1.51 Classification of sources of irrigation does not provide data on irrigated area by important sources like private tubewells, dugwells, deep tubewells, diversion schemes and surface lift irrigation schemes. The gross irrigated areas according to different sources in most of the States are also not being compiled in LUS. In case of cropped area irrigated by two different sources say canal and well it is recorded under canal only. The Patwaris who are primarily responsible for data collection generally are not able to devote enough time required for collection and compilation of statistics. The compilation of LUS data is also based on sample surveys and *ad hoc* assessments in respect of certain areas which introduces limitations in its reliability. LUS data do not give the number of minor irrigation structures.

1.6 Periodical Progress Reports

Minor Irrigation Programme in the States are dealt by different departments under different

developmental Sectors. The progress reports relating to minor irrigation programmes received from different departments at the Centre are used for compilation of minor irrigation data for the State. There has not been a single nodal department in the State to compile the minor irrigation statistics for the entire State. The structures installed by the farmers from their own efforts are generally not recorded. The irrigation potential of ground water schemes are usually reported on the basis of certain assumed yardsticks. Usually no efforts have been made at the State level to provide a scientific basis for such yardsticks. In case of State irrigation works the irrigation potential and utilisation are usually estimated on the basis of such assumed dues/water allowances. The reported figures of irrigation potential created by certain schemes during a particular period might have been reduced over a period of time but no depreciation etc. has been taken into account in reporting the figures of cumulative irrigation potential created. The figures in respect of private minor irrigation works installed totally by the efforts of the farmers are usually not based on any

positive enumeration or sample survey. However, the main source is figures indicated by States/UTs during annual plan discussions.

1.7 Annual Administrative Report

In certain States there are no field agencies in the minor irrigation department to collect data relating to minor irrigation programme for administrative reports. Further since minor irrigation programme is dealt by more than one department of the State, the administrative report of irrigation department gives the Statistics pertaining to works maintained by the department.

1.8 Adhoc Reports

The *ad-hoc* surveys are sometimes intended to throw light upon the socio-economic impact in certain areas for improving agricultural activities etc. The data collected on irrigation works under such surveys have a definite purpose and accordingly the priorities and weightage given to irrigation data for such minor irrigation statistics suffer from several deficiencies between the sets of progressive figures compiled on the basis of these statistics.