CONTENTS

ACKNOWLEDGEMENTS
PLATES
INTRODUCTION
Problems of Research, Objectives of the research, Brief review of previous works, Noteworthy contributions in the field, The study region, Methodology and sources of data, Scheme of the study

<table>
<thead>
<tr>
<th>I. CONCEPT OF WATER RESROUCE MANAGEMENT</th>
<th>01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Concept of resources, Classification of resources and place of water resource, Conservational classification, Classification based on distribution and frequency of occurrence, Ecological classification, Characteristics of water resource, Concept of water supply, Water use characteristics, Perspectives of water resource development, Planning for water resource development, Resource development and Management, Components of resource management, Specific problems of water resource management, Water cycle and environmental problems - Water cycle as disturbance propagator, Water cycle as propagator of chemical disturbances, Water cycle as propagator of climatic change; Impacts of irrigation projects.</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>II. PHYSICAL BASIS OF WATER RESOURCE MANAGEMENT</th>
<th>20</th>
</tr>
</thead>
</table>
III. DEMOGRAPHIC AND ECONOMIC PERSPECTIVES OF WATER RESOURCE MANAGEMENT
Distribution of population, Density patterns, Arithmetic Density, Nutritional Density, Growth of population, Population structure, Cultural characteristics-Literacy and education, Economic characteristics-Occupational structure: Cultivators, Cultivators and size of holdings, Agricultural Labourers, Urbanization and Industrialisation, Agricultural landuse, Factors affecting landuse, Present Landuse Pattern, Net sown Area, Intensity of cropping, Present cropping pattern, Adoption of High yielding Technology.

IV. ASSESSMENT OF WATER RESOURCES
Sources of water supply - Surface water Resource, Ground water Potentials, Structural and Occurrence of ground water, Estimation of Ground water resource, spatial distribution of ground water resource, Block-wise gross water resources, Identification of Resource- rice and Resource poor blocks.

V. DEVELOPMENT OF WATER RESOURCES
Multiple uses of water, Irrigation - Spatial variation in irrigated area, Growth of Irrigation, Means of Irrigation- Canals, Tube-wells, Wells Tanks, Other sources, Ground truth: Based on sample survey-regime of ownership, Size of operational holdings, Community and size of holdings, Average area per holding and per capita, Dependency on farming and Non-agricultural occupations, Size of holdings and Community of farmers practising irrigation, Size of holdings and sources of Irrigation, Caste structure and means of irrigation, Irrigated area by different sources, conclusions.

VI. MANAGEMENT OF SURFACE WATER RESOURCE
Scale of development of surface water, Distribution of completed irrigation schemes-Medium projects, Minor schemes, Schemes under construction, Surveyed schemes, Schemes under surveying, Medium project-characteristics and distribution system: Jarmora tank project, Gurma project, Users perception about canal irrigation. Tons Hydel Project.
VII. MANAGEMENT OF GROUND WATER RESOURCE
Groundwater survey and development, Utilisation of ground water, Distribution of irrigation wells, Distribution of pumping sets, Depth of wells, Diameter of wells, Depth and fluctuation of ground water level, Water yielding capacity of wells, Tube wells, Area suitable for dug wells and tube wells, Quality of ground water : pH value, Specific conductance, Chlorides, Total dissolved solids.

VIII. IRRIGATION & AGRICULTURAL DEVELOPMENT
Expansion of cropped area, Regional variation in growth of cropped area, Impact of irrigation on cropping pattern, Adoption of agricultural development measures-Irrigation and area under HYVs of seeds, Size of holdings and use of HYVs, Caste and use of HYV, Modern agricultural practices-Soil testing and methods of maintaining soil fertility, Caste structure and adoption of soil fertility measures, Soil testing, Crop rotation, Menuring, Use of fertilizers, Size of holdings and use of fertilizers.

IX. PROPOSALS FOR INTEGRATED WATER RESOURCES MANAGEMENT
Objectives of the water resources management, Assessment of the demand of water : Requirement for drinking and domestic purposes, Water required for irrigation, Industrial requirements, Total estimated requirements, Assessment of water potential, Demand-supply relationship, Spatial pattern of relationship between deman and supply, Status of development of water resources, Spatial variation in utilization, Planning for water resource management, Technical means to achieve balance, Inventory of data, Content of water policy, Establishment of institutions, Checking the water losses, Conjuctive use of ground and surface water.

BIBLIOGRAPHY AND REFERENCES