CONTENTS

List of Tables I-II
List of Graphs and Charts III
List of Maps IV-VI
List of Photo Plates VII

1: INTRODUCTION OF THE STUDY REGION: 1-27

1.1 Introduction
1.2 Significance of Water Projects in Agricultural Sector
1.3 Selection of The Topic and Study Region
1.4 Aims and Objectives
1.5 Hypothesis
1.6 Research Methodology: Data Base:
   Data Analysis Techniques and
   Cartographic Techniques
1.7 Review of Literature
1.8 Design of The Work
1.9 Scope of The Study

2: GEO-VIEW OF STUDY REGION: 28-45

2.1 Relief
2.2 Physiographic Divisions.
2.3: Drainage

2.4: Geology and Soil in Relation with Groundwater

2.4.1: Geology

2.4.2: Nature of Soil

2.5: Climate: Rain fall

: Temperature

3: LANDUSE AND AGRICULTURAL LAND COVER IN JALGAON DISTRICT

3.1 General Land use of Jalgaon District:

Geographical Area
Area under Forest
Area under Non Agricultural Use
Barren and Uncultivable Land
Area Other Than Fallow
Current Fallow, Other Fallow
Net Sown Area

3.2: Characteristics of Cropping Pattern:

1) Cultivated Land More Than Once

2) Cropping Pattern

3) Area under Irrigated Crops

Area under Different Irrigated Crops
4: SIGNIFICANCE OF WELL IRRIGATION IN
JALGAON DISTRICT

4.1: Concentration of Wells and Tube Wells in Jalgaon District

TEHSIL WISE DENSITY OF WELLS:

A) Proportion of wells according to total number of wells in the District
B) Density of wells considering geographical area of the respective Tehsils
C) Density of wells by considering Net sown area in respective tehsils

4.2: Spatial Distribution of HP wise Agricultural Motor Pumps

A) Spatial Distribution of Below 3 HP Motor Pumps
B) Spatial Distribution of 3 To 5 HP Motor Pumps
C) Spatial Distribution of 5 To 7.5 HP Motor Pumps
D) Spatial Distribution of 7.5 To 10 HP Motor Pumps
E) Spatial Distribution of 10 To 20 HP Motor Pumps
F) Spatial Distribution of Above 20 HP Motor Pumps

5: WATER PROJECTS IN JALGAON DISTRICT

5.1 Introduction

A) Lift Irrigation
B) Canal Irrigation
5.2: Major Water Projects

A) Girna Water Project

B) Hatnoor Water Project

C) Padalse Water Project

5.3 Medium Water Projects

5.4 Minor water projects

5.5 Tehsil wise irrigated area by the major, medium and minor water projects:

6: IDENTIFICATION OF GROUND WATER RECHARGE IN JALGAON DISTRICT

6.1: Introduction

6.2: Identification of Groundwater Level Recharged By of Water Projects

A): Identification of Sub soil Groundwater Level with the Help of Below 3 HP motor Pumps Installed on the Wells

B): Identification of Shallow Depth of Ground Water Levels with the Help of 5 HP Motor Pumps Installed on the Wells

C): Identification of Aquifer with the Help of High Hp Motor Pumps Installed on the Wells

6.3: Influence of Water Projects on Irrigated Cropping Pattern of Jalgaon District
7:  A CASE STUDY OF GROUDWATER LEVELS IN THE COMMAND AREA OF JAMDA WATER PROJECT  

7.1: Introduction to Command Area of Jamda project

7.2: Introduction to Jamda Water Project

7.3: Introduction to surveyed sample wells

7.4: Techniques used

A): Application of DGPS

B): Application GIS software

7.5: Discussion of Results

A) Depth of Rock and Groundwater

B) Spatial Distribution of Agricultural Wells

C) Density of Wells

D) Distribution of Horse Power wise Motor Pumps Installed on Wells

7.6: Identification and Demarcation of Groundwater Levels

8:  SEASONAL FLUCTUATION OF GROUNDWATER LEVEL IN THE COMMAND AREA OF JAMDA WATER PROJECT  

8.1: Groundwater Level during Pre Monsoon Period

8.2: Groundwater Level during Post Monsoon Period
8.3: Fluctuation of Groundwater Level

8.4: Groundwater Recharge and Planning

8.4.1: Sources of Groundwater Recharge

B) SUGGESTIONS AND PLANNING TO ENHANCE GROUNDWATER RECHARGE

9: IMPACT OF GROUNDWATER ON CROPPING PATTERN A CASE

STUDY OF JAMDA WATER PROJECT 150-174

9.1: General Cropping Pattern

9.2: Irrigated Cropping Pattern

Spatial Distribution of Irrigated Area

9.2.1) Spatial Distribution of Significant Irrigated Crops

9.2.2: Spatial Distribution of Insignificant Irrigated Crops

9.3: Remarks: Impact of Jamda Water Project on Cropping Pattern

10: CONCLUSION AND SUGGESTIONS. 175-186

- BIBLIOGRAPHY
- APPENDIX
- PHOTOGRAPHS