

## **Executive Summary of Minor Research Project**

**On**

### **Irrigation Potential and Water Resource Management in Gondia District (M.S.)**

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#### **Summary**

##### **Chapter 1: Introduction**

In this chapter, role of irrigation, concept of irrigation potential, review of research work, significance of Study, aims and objectives, Hypothesis, Research Methodology has been focused.

##### **Chapter 2: District Profile**

This chapter is related with the Physical and Cultural aspects of the District. It covers location, Physiography, climate, soil, forest under the heading physical profile. Under non-physical profile demographic structure, means of transport and land utilization has been dealt.

##### **Chapter 3: Land Utilization**

It deals with land utilization in the district. Categories of various land use and their distribution in various parts has been elaborated, depicting distribution of geographical area, area not available for cultivation, barren land and net sown area, which is important for agricultural development.

##### **Chapter 4: cropping pattern and role of irrigation in the district**

In this chapter, gross cropped area and gross irrigated area, cropping intensity, irrigation intensity, crop wise area and irrigated area has been compared. Area under various food and non food crops has been depicted showing long gap between gross area and irrigated area. For modernization of agriculture HYV seeds, input of chemical fertilizers, modern agriculture equipments are important. Therefore distribution of these inputs has been analyzed. Study reveals that modern implements and irrigation development go hand in hand specially in irrigated zone of the district.

##### **Chapter 5: Ground Water Resource of the District**

It deals with the ground water scenario of the district. It comprises Talukawise ground water resources availability, ground water development and need for ground water management, projecting recommendation for ground water recharge.

## Chapter 6: Irrigation Capacity; Potential, Actual and Utilization

It includes development of various means of irrigation through various five years plan. Growth of irrigated area season wise has been analyzed with reference to spatio temporal base. Mode of irrigation i.e. surface and underground comprising canal, tanks, wells area wise elaborated. Talukawise utilization of irrigation capacity under various major, medium and minor projects is focused. It reveals location, actual area irrigated and capacity of various irrigation projects in the district. Study reveals the gap between command areas projected under various categories and actually utilized by irrigation means.

## Chapter 7: Impact of Irrigation: A Micro Level Analysis

In this chapter analysis of various respondents inhabiting various parts of talukas were interviewed. The scheduled villages for case study represent major irrigation region covering various economic aspects of agriculture and irrigation. The study reveals various issues like water resource management, techniques applied by cultivators, awareness level regarding various government schemes and suggestions from respondents for the development of irrigation in the district.

## Chapter 8: Water Resource Management in the District

In the chapter components, water management like crop coefficient, soil water availability, precautions in saline water use, water requirement and its components, optimum irrigation regime for various crops has been focused. Catchment area development programme and command area development programme running in the district has been analyzed. Recommendation has been suggested by comparing the past and present status of the programme. At last planning and policy paper for development of agriculture and irrigation in the district has been suggested.

## Chapter 9: Findings and Recommendations

It includes brief findings of all the above chapters and suggesting recommendations for proper management of this important resource in the district. Although irrigation in the district has stimulated and accelerated growth, still there is plenty of scope for bringing additional area under irrigation. In this regard following recommendations may be made-

- Keep in view changing climate; there is a need to grow other crops than rice which is main crop.
- For attaining fully efficiency of irrigation, scientific management of soil and water conservation is needed.
- Particularly in the canal command area Warabandi system should be implemented.
- Abandoned Malgajari Tanks should be revived by regulating de-silting them.
- Future agricultural plans of the region need to be formulated keeping in view the recommendations provided.

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