

**A Study on Effect of Farm Pond under Water
Resource Development Programme of AKRSP(I),
Dang Gujrat.**

Synopsis for Dissertation

Submitted

for the partial fulfillment of Master of Business
Administration (MBA) Development Management

by

Kiran Shravan Ambavane (0028)

Under the Supervision and Guidance of

Dr. Himadri Sinha



The IIHMR University, Jaipur

Synopsis

Title –A Study on Effect of Farm Pond under Water Resource Development Programme of AKRSP(I), Dang Gujrat

Place and Project: *Aga Khan Rural Support Programme (India)*
At Dungari Faliya, Ekta Society
Taluka – Ahwa, District – Dangs

Supervisor's suggestion -Assessment of Water Management (farm pond) with respect to Enhancement of Crop Productivity and Farm Income.

Introduction:

Water management plays an important role in the agricultural sector, influencing farm efficiency, productivity and income levels. Efficient use of water resources is very important in a region with an agriculture dependent economy like Dang district in Gujarat. The objective of this study is to explore the impact of water management on agricultural operations in this locality. Agriculture is important to the economy of Dang district, which is a means of livelihood and contributes significantly to prosperity. Sustainable and productive agriculture depends on effective water management, critical in the context of limited water resources and erratic rainfall.

The significance of this study lies in its potential to reveal insights that could revolutionize agricultural practices in Dang District. By evaluating the impact of water management on farm efficiency, productivity and income levels, we can identify optimal strategies that match the region's unique environmental and climatic conditions. Such findings can not only benefit local farmers but also serve as a model for other regions facing similar challenges. The primary objective of this study is to comprehensively analyze the relationship between water management

and key agricultural indicators in Dang district. By assessing how different water management practices affect farm efficiency, productivity and income, we aim to provide evidence-based recommendations to local farmers, policy makers and agricultural practitioners.

Research Question:

- What is the effect of farm pond on agriculture practices of farmers and the crop productivity in the Dang district of Gujarat?

Objectives:

- To document the agriculture activities of the farmers before and after farm pond activity in Dang district.
- To assess the farm pond intervention on, water management by the farmers of Dangs
- To compare the crop pattern, diversification and productivity before and after the farm pond activities.

Hypothesis:

H₁₀: There is no difference in water availability for crop production before and after the farm pond activities [$\mu_{wb} = \mu_{wa}$]

H₁₁: There is difference in water availability for crop production before and after the farm pond activities [$\mu_{wb} \neq \mu_{wa}$]

H₂₀: There is no difference in crop production before and after the farm pond activities [$\mu_{cpb} = \mu_{cpa}$]

H₂₁: There is difference in crop production before and after the farm pond activities [$\mu_{cpb} \neq \mu_{cpa}$]

Material and Methods:

Study Design -This study utilizes observational and analytical research design.

Setting - The research will be conducted in the Taluka – Ahwa, District – Dangs, an agriculture-dependent region facing challenges related to water resources and erratic rainfall.

Study Population - The study will target a sample population within the project area, involving a total of 100 beneficiaries selected randomly from the 3674 farm pond beneficiaries in the Taluka – Ahwa, District – Dangs. The sample will be diverse, representing different socio-economic backgrounds and farming practices within the region. These multifaceted projects encompass a range of interventions, including the construction of farm ponds, sack dams, gabions, check dams, and irrigation tanks. The collaborative efforts within various AKRSP projects aim to address water scarcity challenges and promote sustainable agricultural practices in the region.

Study Tools - Annual report of AKRSP for the year 2018 to 2022 available on open sources such as the internet, literature reviews, and newspaper articles.

Duration of Study:

The study will be conducted over a period of 90 Days, from March 14, 2024, to June 13, 2024.

Sample Size – 50 beneficiaries , Farmers

Sampling Technique - Simple random sampling and clustered sampling technique will be employed.

Data Collection:

Secondary data, Baseline Survey, Intervention Implementation, discussion with farmers.

For Primary Data:

Independent Variable	Dependent variable	Moderating variable
Village	Irrigation acreage before	Soil Quality
Farmers (under the project)	Irrigation acreage after	Rainfall pattern
Farmers (outside the project)	No of crops/farmer before	Farmer experience
	No of crops/farmer after	Farm size
	Total production before	
	Total production after	

You may calculate irrigation and crop production per acre per year.

Irrigation is measured in acre inches – No of irrigation x area i.e one acre x depth of irrigation (2 inches=5 cm= 0.05 m)

Crop production/acre = $\sum$ yield /crop/acre kg/acre for each farmer

Statistical Analysis:

Utilize statistical methods, such as t-tests to compare outcomes between the treatment and control groups.

operational Definitions:

Water Management Practices: Techniques employed by farmers to control, distribute, and utilize water for agricultural purposes.

Farm Efficiency: The ability of a farm to maximize output with the available resources.

Productivity: The yield of crops or agricultural products of land or input.

Income Levels: The financial gains derived from agricultural activities.

Data Analysis Plan:

The collected data will be analyzed using statistical software (e.g., Excel, SPSS). The data analyzed will be represented in the form of tables, and graphs, with identifying differences in numbers and percentages.

1. Mean

2. Standard deviation

3. t-test

Ethical Considerations:

- ✓ Informed consent will be obtained from all participants.
- ✓ Privacy and confidentiality of participants will be strictly maintained.
- ✓ The study will be conducted in adherence to ethical guidelines.
and regulations.

Implications of Research:

This research aims to provide actionable insights for farmers, policymakers, and agricultural development agencies. By understanding the impact of water management on farm efficiency, productivity, and income, the findings can inform sustainable agricultural practices, improve livelihoods, and contribute to the overall development of the AKRSP region in Gujarat, particularly in the Dang district.

References:

<https://www.akrspindia.org.in/web/resources/publication>