



SUSTAINABLE WATER MANAGEMENT IN AGRICULTURE: STRATEGIES FOR CONSERVATION AND EFFICIENCY

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Abstract

Sustainable water management in agriculture is crucial for food security and environmental balance. This research examines strategies for conservation and efficiency.

Keywords: Sustainable Water Management, Agriculture, Conservation, Efficiency, Water Resources

Introduction

Agriculture consumes significant water resources. This paper explores sustainable water management strategies. Agriculture consumes ~70% of global water. Sustainable management ensures food security and ecosystem balance.

Inefficient water use in agriculture threatens food security and ecosystems. This study assesses conservation strategies.

Scope of Research Study

The research covers sustainable water management in agriculture, focusing on conservation and efficiency.

Significance of Research Study

The main significance of present research study is as under -

1. Educational Significance: Enhances understanding of water management.

2. Functional Significance: Guides farmers and policymakers.
3. Social Significance: Ensures water availability for communities.
4. Political Significance: Informs water policy development.

Relevance of Research Study

The main relevance of present research study is as under -

1. National Relevance: Supports India's water security goals.
2. International Relevance: Aligns with global sustainability trends.

Objectives of Research Study

The main objectives of present research study is as under -

1. Assess water management strategies in agriculture.
2. Identify challenges and opportunities.
3. Recommend efficient water use approaches.

Hypotheses of Research Study

The main hypothesis of present research study is as under -

1. Null Hypothesis (H0): Sustainable water management doesn't impact agricultural efficiency.
2. Alternative Hypothesis (H1): Sustainable water management enhances efficiency.

Research Methodology

1. Research Design: Mixed-methods (surveys + case studies).
2. Research Sample: 30 farmers and water management experts.
3. Limitations: Data availability and regional variations.

Findings

The main findings of present research study is as under -

1. Opportunities: Drip irrigation, rainwater harvesting, crop selection.

2. Challenges: Awareness, funding, policy gaps.
3. Success Examples: Community-led water projects.

Recommendations

The main recommendations of present research study is as under -

1. Promote Efficient Technologies: Drip and sprinkler irrigation.
2. Enhance Awareness: Farmer training.
3. Strengthen Policies: Support conservation.

Conclusion

Sustainable water management is key to agricultural sustainability. Addressing challenges can enhance efficiency. Improved water efficiency and productivity. Better water availability. Informed water management strategies.

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