

Exploring the Land Reclamation Practice for Sustainable Agricultural Development (A Case Study of Sai River Near Village Jabrela Of Unnao District, Uttar Pradesh)

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ABSTRACT

Land Reclamation Practice is the process of converting water bodies, such as rivers and lakes, into usable land for various Human Activities like Agriculture, Urbanization, and Industrial Use. This Research Paper focuses on the Land Reclamation efforts around the Sai River near Jabrela Village, Unnao, Uttar Pradesh. The study explores the reasons behind reclamation, methods used, environmental impacts, and the socio-economic consequences for the local community. Through fieldwork and secondary data analysis, the research evaluates the effectiveness of these reclamation efforts and suggests improvements.

Keywords: Land Reclamation, Sai River, Jabrela Village, Unnao, Uttar Pradesh, Flood Control, Sustainable Agriculture, Environment and Others

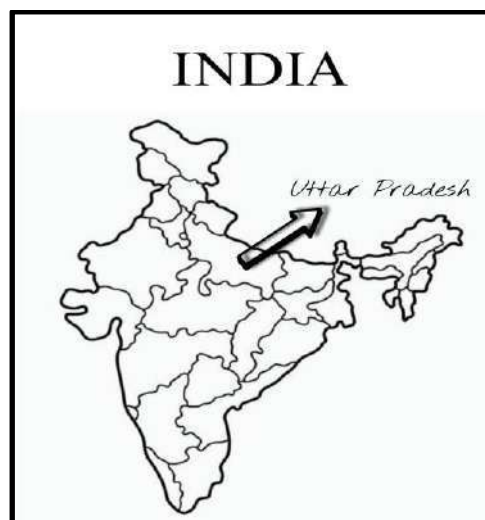
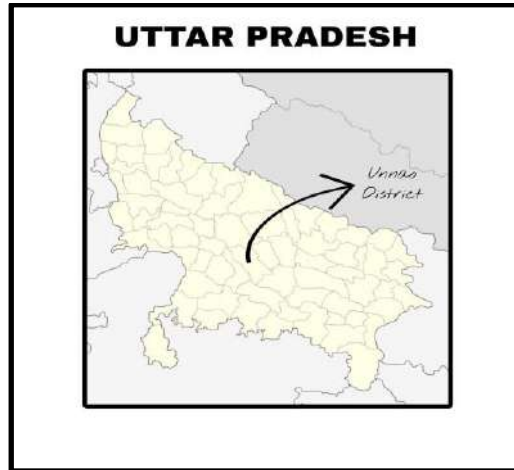
INTRODUCTION

Land Reclamation is an essential practice for expanding habitable and cultivable areas, especially in regions prone to flooding or waterlogging. In India, where seasonal floods often devastate crops and communities, reclaiming land from rivers is an essential strategy for agricultural stability and development. This paper investigates the land reclamation efforts near the Sai River, a tributary of the Ganges, which flows through Jabrela Village in Unnao, Uttar Pradesh. These reclamation efforts are aimed at Mitigating Flooding and enhancing Sustainable Agricultural Development. The Reclamation of Land has emerged as a crucial solution to support Sustainable Agricultural Development, particularly in areas impacted by soil degradation, flooding, and changing water dynamics. The study area of this research faces several challenges related to Agricultural Productivity, including Seasonal Flooding, Soil Erosion, and Salinization. These issues have hampered the region's Agricultural Potential, leading to a need for effective reclamation strategies to enhance Soil Fertility and ensure Long-Term Agricultural Sustainability. By

evaluating the conditions of the land surrounding the River Sai, the study investigates various reclamation methods, such as drainage systems, soil management, and irrigation techniques, to combat flooding and enhance soil health. Furthermore, the paper seeks to identify sustainable approaches that align with environmental conservation and the socio-economic well-being of local communities. The outcomes of this study are expected to offer practical recommendations for policymakers and farmers to enhance agricultural productivity, ensuring food security and economic stability in the region. The successful implementation of land reclamation techniques could serve as a model for similar regions facing comparable agricultural challenges.

Relevant conflicts of interest/financial disclosures: The authors declare that the research was conducted in the absence of any commercial or financial relationships that could be construed as a potential conflict of interest.

STUDY AREA:



→Unnao is a District located in the state of Uttar Pradesh, India. It is part of the Kanpur Division and is situated in the Central Region of the state. The Physiography of Unnao District can be described in terms of its Landscape, Topography, and Major Geographical Features.

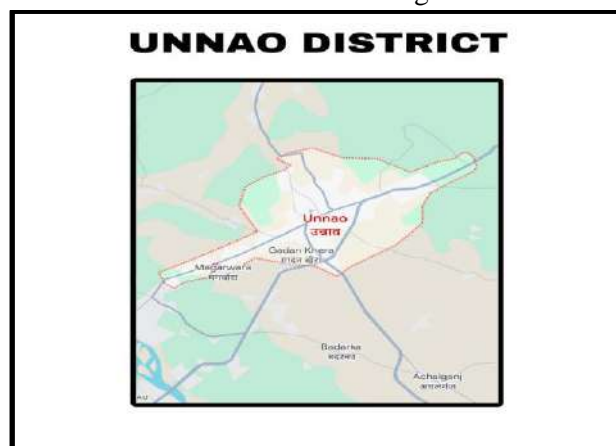
Geographical Location:

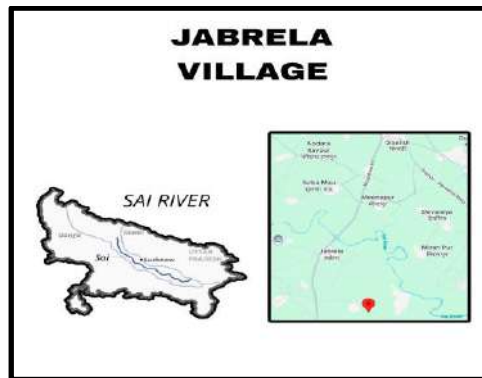
Unnao lies between the Latitudes 26° 15' and 27° 15' North and the Longitudes 80° 30' and 81° 15' East.

It is bordered by the Districts of Lucknow to the East, Kanpur to the South, RaeBareli to the South-East, and Sitapur to the North.

Topography:

The district has a predominantly plain topography, typical of the Gangetic Plain. It is part of the Doab Region, formed by the confluence of the Ganga and Yamuna Rivers. The land is largely flat and fertile, making it suitable for Agriculture.





Jabrela Village is located in Unnao District, Uttar Pradesh, and is susceptible to Seasonal Flooding due to the Sai River's Fluctuating Water Levels. The river's natural course frequently causes Waterlogging, Soil Erosion, and Crop Destruction. These challenges have led the government and local authorities to Implement Land Reclamation Projects to safeguard Agricultural Land and enhance Productivity.

AIMS AND OBJECTIVES:

The Prime Aim of the Research is to Explore the Land Reclamation Practice for the Sustainable Agricultural Development around the River Sai in the Unnao District of Uttar Pradesh. The Specific Objectives Include-

- To explore the land reclamation methods implemented near the Sai River in Jabrela Village.
- To assess the environmental and socio-economic impacts of these reclamation efforts.
- To provide recommendations for improving land reclamation strategies for sustainable development.

METHODOLOGY:

The methodology adopted for this study includes a combination of Primary and Secondary Data Collection Techniques:

- Field Visits:** Direct Observation of the Reclaimed Land and Riverbank.
- Interviews:** Engaging with Local Farmers, Villagers, and Government Officials to gather information about the Reclamation Efforts.
- Literature Review:** Examining Reports, Articles, and Case Studies related to Land Reclamation in the same Region.

LAND RECLAMATION PROCESS:

The Reclamation Of Land Around the River Sai, near theVillage of Unnao District involves different processes and techniques -

→**Embankment Construction:** Building Barriers along the river to prevent floodwaters from overflowing onto Agricultural Fields.

→**Water Diversion:** Altering the Natural flow of the river by creating Diversion Channels that reduce the water pressure on Agricultural Lands.

→**Soil Fertility Restoration:** Replenishing Soil Fertility using the silt deposited by the river, which is essential for Crop Growth.

→**Terracing and Drainage Systems:** Developing Drainage Systems to prevent Waterlogging and improve Soil Aeration for better Agricultural Output.

IMPACT OF LAND RECLAMATION:

→ **Environmental Impact-** Land Reclamation Practice have had both positive and negative effects on the local environment.

- Positive Impact

The construction of embankments has significantly reduced the risk of flooding, protecting crops and infrastructure.

- Negative Impact

Altering the river's natural flow has disturbed local aquatic ecosystems, leading to a decline in biodiversity. The removal of vegetation along the riverbanks has also contributed to soil erosion in some areas.

→ **Socio-Economic Impact-** The Socio-Economic Consequences in the Village Jabrela are significant.

- Increased Agricultural Productivity: With the reduction in flooding, farmers have been able to cultivate crops more consistently, leading to higher crop yields and improved food security.

- Improved Livelihoods: The reclamation has allowed farmers to expand their arable land, leading to increased incomes and economic stability.

- Displacement of Communities: Some local families, particularly those living along the riverbanks, have been displaced due to the

construction of embankments, leading to social challenges and resentment.

- Change in Land Ownership: As reclaimed land becomes more valuable, land ownership dynamics in the area have shifted, sometimes causing disputes over land rights.

FINDINGS:

Findings indicate that the reclamation efforts have successfully stabilized riverbanks, reducing the frequency and intensity of floods. This has resulted in an increase in the available agricultural land, providing farmers with more fertile soil for crop cultivation.

Other Findings of the Research are as follows-

- Soil Erosion Control and Flood Management: One of the primary objectives of the reclamation efforts was to reduce the impact of soil erosion and flooding in the region. The construction of embankments and check dams has proven to be successful in stabilizing the riverbanks.
- Agricultural Benefits: The land reclamation initiatives have also had a direct positive impact on agriculture. By controlling erosion and improving water retention, the reclaimed land has become more suitable for farming.





DISCUSSION AND RESULTS:

The reclamation process near the Sai River has contributed to the stabilization of agricultural activities in Jabrela Village, reducing the economic losses caused by flooding. However, the environmental costs associated with altering the river's natural flow and the displacement of local communities cannot be ignored. For reclamation to be truly sustainable, a balance must be struck between agricultural expansion and the protection of natural ecosystems. While the current reclamation strategies have provided short-term benefits, there is a need for long-term planning that integrates environmental preservation with agricultural productivity. For example, integrating floodplain restoration techniques and the use of organic farming practices could help mitigate the negative impacts on soil and water quality.

CONCLUSION:

Land reclamation near the Sai River in Jabrela Village has played a crucial role in improving agricultural productivity and reducing flood risks. However, the environmental and social impacts of these efforts highlight the need for more sustainable reclamation practices. Future reclamation projects should focus on minimizing ecological damage and ensuring that displaced communities are compensated and rehabilitated effectively. By adopting integrated and sustainable reclamation techniques, the long-term success of land reclamation in this region can be assured.

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HOW TO CITE: Siddharth Singh*, Dr. Pawan Kumar Singh, Exploring the Land Reclamation Practice for Sustainable Agricultural Development (A Case Study of Sai River Near Village Jabrela Of Unnao District, Uttar Pradesh), *Int. J. Sci. R. Tech.*, 2025, 2 (2), 209-214. <https://doi.org/10.5281/zenodo.14927006>