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Reimagining Ancient River Water Trade Route Systems in India: A Case Study of the Sabarmati River in Ahmedabad

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Abstract:

This research investigates the ancient river water trade route systems of India with a focused case study on the Sabarmati River in Ahmedabad. By exploring the historical significance, contemporary challenges, and the potential for sustainable riverfront development, this paper aims to assess how ancient trade practices can be revitalized for modern economic, social, and ecological benefits.

Keywords: Sabarmati River, Ahmedabad, ancient trade routes, riverfront development, sustainable urban planning, eco-friendly interventions, Miyawaki technique.

Introduction

India's rich riverine network has historically served as a backbone for trade and transport. Ancient Indian civilizations effectively utilized rivers for economic, cultural, and religious purposes. Cities like Pataliputra and Varanasi thrived due to their strategic locations along rivers. This paper explores how these practices can be re-integrated, focusing on Ahmedabad and the Sabarmati River.

Background and Context

Rivers like the Ganga, Yamuna, and Narmada formed crucial inland trade routes in ancient India. The Sabarmati River, although less prominent historically, has played a significant role in Ahmedabad's development since its foundation in 1411. The river supported livelihoods, cultural activities, and informal economies before environmental degradation took a toll.

Aim:

To study the ancient river water trade route system in India with a focus on the Sabarmati River in Ahmedabad.

Objectives:

- To analyze ancient Indian river trade systems.
- To study the Sabarmati River's role in Ahmedabad's trade.
- To identify issues and propose mitigation strategies through case studies.
- To propose scalable trade route integration.
- To assess current river conditions and stakeholder roles.
- To suggest sustainable interventions.

Scope and Limitations

The research is limited to the Sabarmati River within Ahmedabad. The findings aim to inform sustainable river-based trade development.

Introduction to the Sabarmati River

Historically central to Ahmedabad, the Sabarmati River supported water supply, agriculture, and informal markets. Urbanization led to pollution, habitat loss, and riverbank encroachment. Since the 1960s, efforts have been made to restore the riverfront. The Sabarmati Riverfront Development Project, initiated in 1998, sought to transform the river into an urban asset.

Need for the Study

- To address environmental degradation.
- To promote sustainable development.
- To manage water resources effectively.
- To generate socioeconomic benefits.
- To encourage stakeholder engagement.
- To inform policy and planning.
- To bridge knowledge gaps.

Sustainable Parameters

- Water quality: pH, oxygen levels, pollutants.
- Biodiversity conservation.
- Community participation.
- Economic viability.
- Environmental and urban sustainability.

Sustainable Development Strategies

- Highlight historical significance.
- Enhance leisure and cultural activities.
- Promote environmental repair.
- Improve accessibility and aesthetics.
- Implement eco-friendly materials.

Riverfront Development Goals

- Ecological restoration.
- Flood prevention.
- Cultural and economic rejuvenation.
- Recreation and citizen engagement.

Eco-Friendly Interventions

- Trails and promenades.
- Biodiversity and bird parks.
- Natural water filtration (e.g., nature pools).
- Use of sustainable materials.
- Miyawaki urban forests.

Economic and Social Interventions

- River markets and museums.

- Recreational activities.
- Walkways and community spaces.

Case Study Analysis: Sabarmati Riverfront Environmental Impact:

- Pollution from sewage and industry.
- Altered pH and oxygen levels.
- Habitat loss and ecological imbalance.

SWOT Analysis:

Strengths: Aesthetic appeal, public engagement, existing infrastructure.

Weaknesses: Pollution, underutilization, poor waste management.

Opportunities: Tourism growth, public space development.

Threats: Flooding, encroachment, pollution.

Proposal: Trade Route Integration

- Identify 11 strategic points for micro trade routes at major bridges.
- Utilize gravity and water flow for transport.
- Develop a scalable model extending from local to international trade.

Economic, Environmental, and Social Impacts Economic:

- Income generation.
- Reduced fuel usage.
- Boost to national and international trade.

Environmental:

- Revitalization of water channels.
- Improved biodiversity.
- Enhanced water cycles.

Social:

- Employment opportunities.
- Social interaction spaces.
- Cultural revitalization.

Conclusion

Reviving ancient water trade routes on the Sabarmati River offers a holistic approach to sustainable urban development. Through environmental restoration, economic innovation, and community participation, this model can be replicated across India's riverine cities to reconnect urban life with natural ecosystems and historical heritage.

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