

Intersections of Sanitation Services, Fragile Environment, and Climate Change in Alleppey Town, Kerala

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Introduction (1/2)

- In addressing global sanitation challenges, international, national and local initiatives have made strides
- Inadequacy of sanitation infrastructures persists, leading to labour-intensive sanitation services
- Climate change impacts exacerbate sanitation challenge in off-grid coastal towns
- Climate adaptation planning for towns and small cities is under-researched (Lehman et al, 2021)
- Approximately 60% of the global coastal population do not live in large cities, so, a focus needs to be on smaller settlements (Small and Nicholls, 2003)
- Adaptation actions are mainly sector-specific like water and sanitation (Singh et al., 2021)

Introduction (2/2)

- In developing countries, a labour-intensive sanitation system prevails
- Workers bridge gap between sanitation technologies and service provisioning
- Concerns about health and safety of sanitation workers
- Lack of prioritisation by the state and prevalence of informal sanitation services
- Governments often overlook the sanitation sector until crises like floods or natural hazards occur.
- Building climate resilience in water supply relies on management approaches, while sanitation emphasizes technology (Howard et al., 2010).
- The link between SDGs 6.2 and SDG 8.8 is crucial in the sanitation discourse in developing nations.

Research Question

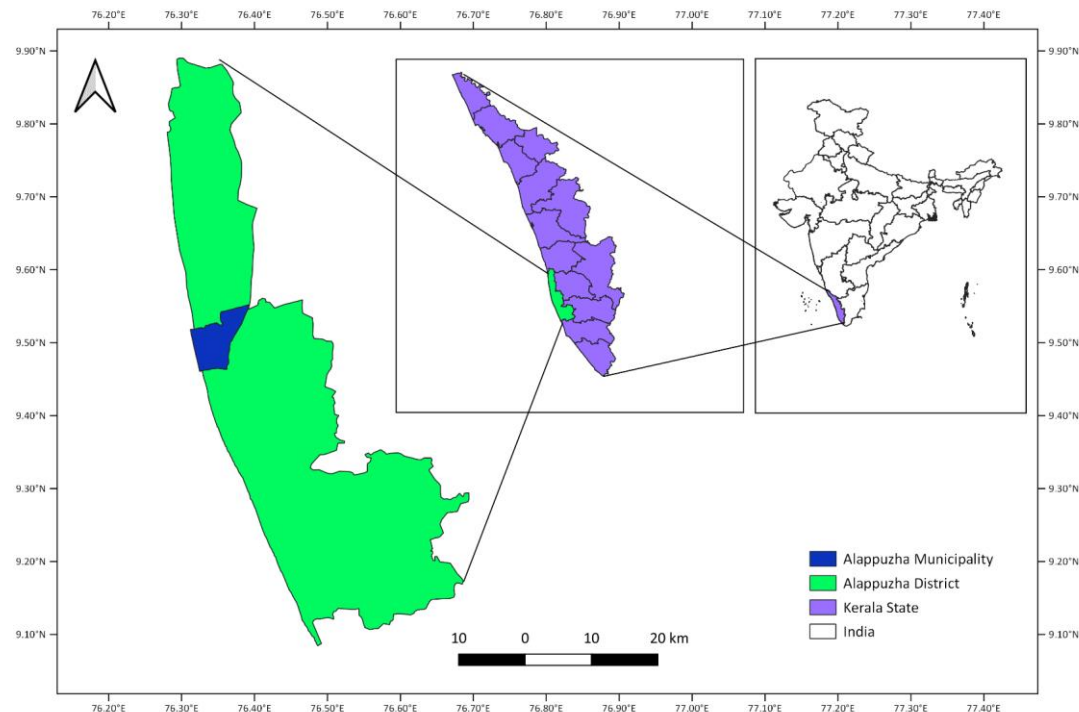
How does sanitation service provision is understood in an ecologically fragile coastal town amidst a climate change ?

Methodology

- Qualitative research methods with Alleppey as a case
- Methods : Focus Group Discussions and Key Informant Interviews

Why Alleppey ?

- Serves as a case for coastal towns in west coast and also for flood-prone urban areas
- Interplay of recurring flood events, heavy rainfall, and sanitation challenges



Basic Details

Generates 17.33 MLD of fecal sludge and treats only 0.23 % (MoUD, 2020)

High Water table of up to 0-2 metres (CGWB, 2021)

The annual average rainfall is 2965.4 mm (CGWB, 2013)

65 % of households have septic tanks and 32 % have pit (Chhajed-Picha and Narayanan, 2021)

Places like Kannur needs emptying in 10 years (Rohilla et al., 2017).

and have average emptying cycle 3.5 years (Chhajed-Picha and Narayanan, 2021)

Kerala flood-2018 and sanitation challenges in Alleppey

- Exposed lack of sanitation management – both SWM and LWM
- Absence of sanitation infrastructure, and blockage of existing drains
- Camp management – Sanitation was major concern
- Reliance on mechanised informal desludging operators and STPs of private companies
- Push for FSTPs and other technologies from the side of the state government
- Local protests across the state against treatment plants

Preliminary Insights and Discussions

- Sanitation workers note a 1.5 to 2-year gap in emptying, revealing a technological shortfall
- Selection of pit-emptiers depends on the land around the house, and inundation
- Reduced livelihood opportunities manual pit-emptiers due to change in rains
- Floods and pandemics have altered livelihood dynamics for manual emptiers
- Due to inundation, households call for mechanized emptiers, but they refuse at times
- Door-to-door solid waste collection face challenges during floods, leading to leptospirosis cases.
- OSS outlets connect to stormwater drains, causing canal and backwater pollution.
- Local governments anticipate increased financial challenges, subsequently more manpower

Conclusion

- Both manual and mechanized sanitation workers bear the brunt of changing climate
- Both groups are interdependent while having a clear competition
- Heavy rainfall and inundation, prompting household to choose mechanised pit emptiers
- After increased climate impacts, 3-4 months in a year is challenging for low-lying municipal wards
- Lack of FS treatment in water-bound Alleppey region seriously impact public health
- Emphasizes critical discussion on SDGs 6.2 and SDG 8.8, linking the challenges of climate change impacts to workers' livelihoods, advocating for decent work
- A tangible connection can be observed between escalating challenges in sanitation service delivery in coastal towns, and the evolving climate

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Thank You

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