Research Proposal

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Study Title: Socio-economic impact of Indigenous Sanitation Intervention in Rural Odisha

Context & Significance of Proposal:

The United Nations report (2018) indicates that around 4 billion people across the globe lack access to basic sanitation services and India continues to be one of the most affected countries. In India, there are more that 250 million people who still defecate in the open. Reports suggest that building toilet is not the challenge but getting people to use them is the tricky part. The lack of any stigma attached to use of toilet is the primary factor contributing to the prevalence of open defecation. People continue to believe that defecating in public is cleaner practice compared to using toilets. Besides, there were religious beliefs that toilets were impure, polluting and would be disrespectful to the shrine inside the house.

In this background, a leading charitable organisation[1] from India undertook an ambitious project of providing sanitation intervention to rural households across the country in 2014. This project also aims at empowering the rural women by providing them training and other necessary financial support in building toilets. The Bhio Sahi village in Odisha was one of the first village where this project was implemented by providing vocational training 20 local women in building indigenous toilets. These women become agents of change and an inspiration for the community, as they completed building fully functional toilets not only for their own homes but for all the households in the village. These group of trained women continued their work by training and building sanitation solution in nearby villages. This study proposes to evaluate the socio-economic benefits of this indigenous sanitation intervention, both for the individual households and the community, provided by the non-governmental organisations. The study will also explore the possibility of scaling up such sanitation related activity as sustainable business model for rural communities.

Research Question to be addressed:

Traditional approaches to sanitation development have majorly focused on subsidy driven programmes. However, experiences show that most of these programmes are ineffective, inefficient, unsustainable, and non-scalable (Frias and Mukherjee, 2005). Consequently, the focus of policy and research, over the last decade, has shifted towards the creation of demand for sanitation (Evans, 2005; Jenkins and Sugden, 2006). Prahalad's (2005) seminal work on the spending potential of the world's poor as consumers further substantiated the focus on demand creation for sanitation.

[1] Mata Amritanandamayi Math initiated the sanitation program as part of its Village Adoption programme.

The demand-driven approach focuses on the comfort, convenience, dignity, and perceived health benefits demanded by the users. As a result, people stick to the behaviour of using toilets—a change that is organic. Whereas a forced change through the supply-driven approach would only make people hostile to safe sanitation practices (Hutton, Haller and Bartram, 2007). The demand-side approaches focus on health education, social marketing and community actions supporting household behaviour change which also support small scale entrepreneurial initiatives with state as facilitator (Evans, 2005; Jenkins and Scott, 2007; Peal et. al., 2010). Recent studies have also found that privacy and safety for women appear as a recurring theme for building toilets across regions (Jenkins and Curtis, 2005; O'Reilly, 2016). Studies on open defecation in India suggest that cultural factors including caste and purity (Routray et al., 2015); gendered psychosocial stress (Hirve et al., 2015; Sahoo et al., 2015); gender norms (Khanna and Das, 2015; O'Reilly, 2010) preference for open defecation (Coffey et al., 2017); and natural resource governance, especially water (O'Reilly and Louis, 2014) are important factors that drive toilet building and usage. In fact, these factors are more important that the perceived public health benefits.

Existing studies also indicate that the cost of building toilet is the most significant constraint that results in continuance of open defecation (Jenkins and Scott, 2007) and this has also led to the assertions that subsidies increase toilet building (Guiteras et al., 2015). Hutton, Haller and Bartram (2007) show that there is a strong economic case for investing in improved water supply and sanitation services as it results in at least US$5 in economic benefit per US$1 invested. Populations also appreciate time savings in the form of benefits of more time spent at school for children, less journey time for finding places to defecate, or more leisure time. These non-health and non-financial benefits are important aspects of social welfare that provide a strong argument for investment in improved sanitation.

Evaluating the role of non-governmental organisation and the involvement of local women in provided improved sanitation intervention would be a valuable addition to the existing body of knowledge.

Research Objectives

The major objective of the study is to estimate the economic benefits and costs of the individual households and the local village associated with indigenous sanitary intervention provided by non-governmental organisation.

The specific research objectives are as follows:

- To estimate the direct and indirect cost of building and maintaining toilets.
- To estimate the health benefits and other indirect socio-economic benefits associated with the toilet usage.
- To identify critical factors that impact the toilet adaptation and usage among households.
- To critically evaluate the role of non-governmental organisation in bringing about a social transformation.
- To formulate a sustainable business model for indigenous sanitation solutions for rural community.

Framework:

The study would focus on the estimation of costs and benefits of sanitation interventions both for the individual household and the village. Input data on costs and benefits would be collected from the field and associated agencies to estimate the costs, benefits, and benefit-cost ratios.

The cost analysis will be an incremental cost analysis, which will consider all resources required to put in place and maintaining the interventions, as well as other costs associated with the intervention such as the training the local women. The benefits would include direct economic benefits of avoiding disease related to sanitation; indirect economic benefits related to health improvement; and non-health benefits related to time saving and its productive utilisation. The study will also use ethnographic methods to get an in depth understanding about the household's willingness to change their sanitation behaviours and constraints faced in making those changes.

Methodology:

The following data will be collected from the sample households through structured surveys:
Household information which would include demographic and socio-economic information about each household from study location.
Institutional information such No of schools, No of primary health centres, Length of metalled and un-metalled road, Central and state transfer of funds to the village Panchayats will be collected from official sources.
Focus group methodology will be used to evaluate the potential effectiveness of sanitation interventions and the possibility of commercialisation of the activities.

Expected Outcome and Value Addition:

One of the primary objectives of the Swachh Bharat Mission, launched by the government of India in 2014, is to eliminate open defecation through the construction of household and community-based toilets. The campaign has brought about significant change in the general awareness about sanitation and its linkages with public and environmental health amongst communities and institutions. However, there is lot more to be done to bring a sustained behavioural change in adopting healthy sanitation practices. Global experiences suggest that most of the supply driven subsidised sanitation interventions are ineffective, inefficient, unsustainable, and non-scalable (Frias and Mukherjee, 2005) and as an alternation providing sanitary services can be a viable business opportunity which has the potential to provide multiple benefits to the poor.

In this context, the study would help in identifying the socio-economic benefits associated with sanitation and build sustainable solutions. The study will also provide insights about the roles of Non-governmental organisations in augmenting the efforts of the rural households and the government along with creating sustainable business solution. Therefore, the finding from the study will help in formulating and redesigning government policies related to sanitation and waste management both at the national and local level.

Selected Reference:

Hutton, G., Haller, L., & Bartram, J. (2007). Global cost-benefit analysis of water supply and sanitation interventions. *Journal of water and health*, *5*(4), 481-502.

O'reilly, K., & Louis, E. (2014). The toilet tripod: Understanding successful sanitation in rural India. *Health & place*, *29*, 43-51.

Coffey, D., Gupta, A., Hathi, P., Spears, D., Srivastav, N., & Vyas, S. (2017). Understanding open defecation in rural India: Untouchability, pollution, and latrine pits. *Economic & Political Weekly*, *52*(1), 59-66.

BUDGET

Item Description	**Amount (in INR)**
Data Collection	
Field Investigator/s	25,000
Travel/Logistics/Boarding, etc. (for all research staff inclusive)	40,000
Study Materials, Printing Material, and Stationary	25,000
Institutional Overhead	5,000
Contingency	5,000
Total	**1,00,000**