

Information Sharing and the Roles of Pioneer Adopters in Disaster Preparedness

○Subhajyoti SAMADDAR, Hirokazu TATANO

This study examines the characteristics of pioneers or early adopters and their roles in a dissemination process of rainwater harvesting technology in coastal communities in Bangladesh suffering from drinking water risks due to arsenic contamination of groundwater and water salinity problem. Millions of people in coastal Bangladesh are at risk because of drinking water pollution by water salinity and arsenic contamination. The situation is predicted to be exacerbated because of climate change induced natural calamities such as storm surge, coastal flooding and sea level rise and anthropogenic factors including like artificial salter water intrusion in upland areas for shrimp cultivation. An alternative, safe and affordable drinking water system is an urgent need to save million lives in coastal Bangladeshi. Considering the drinking water crisis in the region, several innovative technologies and practices, such as rainwater harvesting systems and pond sand filter (PSF)

wells, have been introduced, but their successful implementation and dissemination largely remains elusive. Local communities get confused with which technology to adopt, as they receive suggestions regarding such from numerous sources including NGOs, the local government, private companies, civic communities, and social acquaintances. Unfortunately, studies that systematically examine the social impediments of rainwater harvesting in the region and how best we can communicate with the potential beneficiaries are lacking.

This study examined a potentially successful rainwater harvesting movement from the social network perspective to get a compressive account of the dissemination. We particularly focus on identifying and characterizing pioneers or early adopters to comprehend their critical role in risk preventive technology dissemination. The dissemination of disaster prevention technologies through household or

individual adoption is vital for building community resiliency. However, the dissemination of such innovative prevention technologies often gets delayed because so many uncertainties are involved for potential adopters to make adoption decisions. Innovation, by its own definition, characterizes something “new” to the community. It therefore signifies that the potential adopters do not have enough knowledge about the actual merits and demerits including functions, durability, cost, and so on about the innovative technology, as the item is new to that very community.

Pioneers play very critical roles in the dissemination process of disaster preparedness movements because they take the initiative to adopt a very new, innovative idea or technology or practice when no one in the community has enough knowledge or firsthand experience regarding the innovation. Moreover, depending on their obtained knowledge, other members of the community can make a subjective decision whether or not to adopt the innovation. Unlike in past studies that were

limited only to an individual’s cognitive aspect of preparedness, in this study, we explored further a comprehensive social account of risk preparedness by characterizing the pioneers and their social networks in the diffusion of an innovation process.

We argue that there are macro and micro dimensions of pioneers and the micro level pioneers are more influential in the diffusion of rainwater tank technology. We also argue that external influence, education, etc. contribute to characterizing pioneers rather than their income and risk awareness. In this study, first, we will provide a comprehensive account of drinking water risks due to arsenic contamination and water salinity in coastal Bangladesh. Then we will discuss who pioneers are by describing their characteristics and what potential role they can play in the diffusion of disaster preparedness movements.