**Power of Observation (presented online 27.5.2020)**

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“Answer to all complex problems are there all around. We need to acknowledge that and frame it appropriately to design solutions. We need for that power of observation, right mindset to connect the dots, and a heart to feel what is acceptable and unacceptable for larger wellbeing. Important to stay observant to understand the ground reality towards readiness for converting barriers to opportunities at the right time, in right place with right mindset.”

For a beginner in research trying to understand the societal problems to select a topic first step is to be observant. Observation is an act of noticing an event or phenomenon. The narrative of the event/phenomenon can be in first person or second, third person. But the researcher needs to decide as that will determine intentionality. So, intentionality in observation matters. However, intention can also be varied. One might intend to understand a situation, or intend to find a technological solution, one might like to imagine a future course of action given the present status. So, by typology of intention the scope, nature, method and analytics will vary. Second most important thing is to keep in mind there is a very clear distinction between a learner and researcher. While former works in a mode where it taught mind is active and researcher works in a thinking mind mode. A thinking mind asks questions, contradicts, debates and so on to challenge things as they are and looking for alternative. But it is also important to keep in mind alternative for whom? The solution centric intention might have to go beyond just disciplinary training and get into the bigger picture and team building with multiple thinking minds. It is very important for a researcher to create a clear focus in mind and ask a research question which he /she intends to answer, which can help defining the scope. The issue needs to be of interest for the larger audience. So, there are usually seven essential steps in a research.

The example which is used as a case study in the presentation is from my observations from field based research over past twenty years and which have passed through various research questions. Initially in early 2000 as an enthusiastic researcher in the field of environmental economics one local phenomenon attracted my attention due to media coverage, discussion among natural scientists. It is about plight of people living in rural West Bengal due health disaster from exposure to high concentration of arsenic naturally present in their drinking water. It made me to think “Why people are suffering from arsenic related health impacts and why do they not access arsenic safe water”? I started looking into the research done by others first to understand the phenomenon, what is known and what is unknown in the whole discourse to find out what I can try to answer which might be interesting for others. The journey started with an intention to observe and understand the hard reality of welfare loss of the suffering people in the villages of North 24 Parganas, Murshidabad and then in South 24 Parganas. In the long journey one after another questions intrigued, we published in scientific journals, books. Met many new researchers and then finally got together with in a multidisciplinary team to find solution and implement solution for the community in resource poor regions. It was not easy but we worked out both technological and social engineering simultaneously to find an elegant solution socially acceptable to rural community through building trust, enterprise and local supply chain. For details some of Major Journal papers and publications can be browsed through including coverage about the demonstration project through following links.

1. <https://www.changeframing.space/cancerfreewater.html>
2. <https://www.changeframing.space/>
3. **Roy Joyashree** (2008), Economic Benefits of from Arsenic Removal from Ground Water -:A Case Study of from West Bengal, India. *Science of the Total Environment*, (STOTEN), Vol 397/1-3 pp 1-12. https://www.sciencedirect.com/science/article/pii/S0048969708001526. <https://doi.org/10.1016/j.scitotenv.2008.02.007>
4. Gadgil, A, **Joyashree Roy,** S Addy, A Das, Sarah Miller, A Dutta, A Deb Sarkar (2012), “Addressing Arsenic Poisoning in South Asia”, *Solutions ,*Sept-Oct , Vol 3, Issue 5. <http://thesolutionsjournal.anu.edu.au/node/1156>
5. Das. A, **Joyashree Roy**, 2013. Socio-Economic Fallout of Arsenicosis in West Bengal: A Case Study in Murshidabad District . <http://isas.org.in/jisas/jsp/onlinelatestissue.jsp>. or <http://isas.org.in/jisas/jsp/volume/vol67/issue2/08%20-%20Joyashree%20Roy.pdf>

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1. Das, A., **Joyashree** Roy (2015) , “Jole Arsenic: PrasangaPaschimbanga”, Mitram, Kolkata, ISBN: 93-80036-68-x.[Arsenic in Water: Context West Bengal]
2. Das, A., **Joyashree Roy**, S, Chakraborti (2016), Socio-Economic Analysis of Arsenic Contamination of Groundwater in West Bengal, DOI 10.1007/978-981-10-0682-1, Print ISBN 978-981-10-0680-7, Online ISBN 978-981-10-0682-1, Series ISSN 2198-0012, Springer Singapore. https://link.springer.com/book/10.1007/978-981-10-0682-1
3. Amrose Susan E., Siva R.S. Bandaru, Caroline Delaire, Case M. van Genuchten,

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2. Hernandez, D., K, Boden, P, Paul., S, Bandaru, Sreeman, Mypati., A, Roy., S, Amrose., **J, Roy**, A, Gadgil (2019), Strategies for successful field deployment in a resource-poor region: Arsenic remediation technology for drinking water, *Development Engineering*. <https://doi.org/10.1016/j.deveng.2019.100045>