

## Designing for the underserved: My reflections

***Uttaran Dutta***

The phrase “design for all” is simply fascinating, as it is inclusive as well as empowering. If we try to understand the word “all” (at least in the context of the human race), it talks about more than 7 billion people across the globe, including nearly 50% of whom are living under 2.50 USD per head per day (Titus and Chapple, 2013). So far, except for a few design interventions, the economically underserved populations were mostly forgotten and their everyday needs remained largely unaddressed in design research. Therefore, it is a need of this hour to pay more attention to the lives and the issues of the marginalized towards bringing about societal equity and justice. In the context of India, it is urgent more than ever, as approximately one third of the global poor live in this country (Olinto, Beegle, Sobrado and Uematsu, 2013).

This article briefly talks about some of my thoughts and experiences, which I learned over the years while doing field-research in various parts of rural India. Since 2010, I have conducted communication design research for several purposes, including designing interface for illiterate (and semiliterate) people, designing communication avenues to address various social issues, designing appropriate infrastructure (e.g., mini-hospital, library-cum-museum) using local materials/resources. All the aforementioned interventions were meant for rural and indigenous people, who reside in remote geographical locations such as coastal, Himalayan and jungle regions of India.

Every communication design intervention faces unique and specific challenges, which are shaped by (i) the contextual realities and barriers (e.g., local

resources and needs), (ii) the nature of the design problem(s) and (iii) the design approaches and frameworks. First, the contextual realities; I experienced several barriers while working with the underserved populations, including (i) literacy and linguistic barriers (i.e., many of the cultural participants didn't know mainstream Indian languages), (ii) attitudinal barriers and power differences (and overall skepticism to interact with a researcher who is an outsider and/or unknown at least initially), (iii) unavailability of previously researched/authentic data (i.e., as the populations are under-researched, I experienced a scarcity of authentic information about local people, their knowledge and practices).

In order to address the aforementioned design problems and barriers, I embraced a critical, participatory and ethnographic approach of conducting research. Such an approach was not only inclusive, but also bottom-up and dialogic in nature, which aimed at creating avenues for meaningful social change. To elaborate some facets of my approach, I will discuss four aspects of my design approach here; they are (i) participation at every stage of research, (ii) co-learning and co-creating, (iii) in-situ design practice, and (iv) exploring alternate possibilities of knowledge creation.

**Participation at every stage of research:** While participation is an important theoretical and methodological construct, it is crucial to ensure participation at every stage of a design intervention. In reality, many researches follow a few participatory practices, that too at the initial stages of interventions; later the researchers use the collected responses of participants to unilaterally design the solutions, and present them to the participants for their feedback. Such an approach is reductionist in nature, as the participants have to choose from the limited options presented to them. Instead of situating and/or conceptualizing

local people as passive recipients, it is necessary to include cultural participants in all the stages of research starting from data-gathering, ideation, option generation, finalizing the solutions, implementation to post-implementation and evaluation stages. Moreover, it is essential to include local community members in the design team and seek their active solicitations to ensure meaningful participation. I believe, it is important to understand (and create solutions for) local issues using local-centric/ community-centric lens, particularly when the power differences are high and the voices of the underserved are historically erased in the spaces of decision-making. In addition, participation at every stage also helps building and enhancing the trust; in the long-run, it ensures sustainability of designed solutions, as the participants assume their ownership in the entire design process.



Fig.01: Community level discussion session with villagers in Purulia

**Co-learning and co-creating:** As a privileged person, who is educated (sometime in premier institutes) and learned the principles of design, we often consider ourselves as experts when we solve design problems. The notion of expert is somewhat inappropriate (if not fatal) particularly when we design for communities, whose age-old cultural and material practices are under-researched and less-known. In other words, rapidly studied and prescribed form of design solutions might fall short to address issues of the marginalized in a culturally appropriate way. Therefore, it is important to conceptualize the relationship between community members and designers in a more humane way, where local knowledgeable people can take the central role (e.g., become our teachers), as they have experiential wisdom and thoughts in effectively handling local problem in the local way using local resources. Our educational knowledge and experiences can be shared (as equal participants) with the local people, where we will learn from each other at each stage of designing and implementing; thereby we could create a democratic level playing ground to co-generate designerly solutions. This is particularly helpful in underserved spaces, particularly where the deference effects (Bernard, 2006) are very high (i.e., people at the margins, who are often shy and polite, try to please us by saying the words which would not offend us, the researchers). Moreover, engaged research interactions with local participants help us to grow as a sensitive designer as we get the opportunity to learn alternative ontology and/or epistemologies of designing, which are usually not taught in a standard academic environment. For instance, in my work, I learned new aesthetic vocabularies and also noticed how local values and culture guide the design processes and final outcomes.



Fig.01: Co-learning session by master craftswoman, village of Purulia



Fig.02: Co-designing session organized in a Himalayan village

**In-situ design practice:** To design for communities reside in geographically isolated regions, particularly when we have little prior knowledge about the people and the places, in situ design practice is helpful. On one hand, such a practice, aid us gaining first-hand experiences of the locale, which is one of the



foundation stones for creating a meaningful design solution. On the other hand, in low-resource contexts like rural/indigenous India, we experience a variety of unforeseen barriers or challenges; addressing those unforeseen parameters is often effective if we design in-situ. For example, to design an interface in remote villages where telecommunication signals are weak (2G environment) and infrequent, and electric supply is severely irregular, it is important for a designer to learn how to optimize her/his outputs by considering real constraints, so that local people can use the solutions sustainably in their real lives. In addition, in-situ designing also facilitates participation at every stage of the research, as cultural participants look at and provide their feedback at every phase of development of a solution. As the local people feel welcome to discuss and debate in every stage of development, the end-users acquire more control over the research processes. Thereby, the deference effect reduced and more dialogue happen; consequently, the quality of the design solution enhanced and become meaningful for the local communities.



Fig.02: Villagers working on visual elements  
in an Indigenous library cum museum

**Exploring alternate possibilities of knowledge creation:** Historically, Eurocentric knowledge production, especially in the academic spaces, teaches us singular and/or reductionist way of understanding the reality. Such an approach essentially instructs us to read indigenous socio-cultural processes as inferior and pseudoscientific, and thereby encourages us to reject alternate knowledge and discourses situated in marginalized spaces. A sensitive designer needs to be careful about such misleading and erroneous understanding about underserved spaces and practices. We should not forget that rural/ indigenous people of India are sustaining their social, technological and cultural heritages for the last few thousand years. They are not only successful survivors, but also authentic sources of valuable knowledge and wisdom, which is the key to alternate designing, theorizing, and knowledge production. As an engaged researcher, we not only require learning the forgotten/unknown epistemologies, but also need to foreground them in order to create possibilities for future knowledge production where dominant and underserved discourse can dialogue and co-create newer languages of science, technology and design.

In this short article, I tried to briefly address some of the key approaches for designing solutions in underserved contexts (especially for geographically remote rural indigenous spaces). In this unequal world, where the disparities are rapidly increasing between haves and have-nots; the designers need to take proactive roles for co-creating avenues for meaningful social change to ensure equity and justice. The aforementioned four approaches are not an exhaustive list, rather a few discussion pointers, which might ignite future debates on 'design for social change in underserved contexts'.

## References

- Bernard HR (2006) *Research methods in Anthropology. Qualitative and quantitative approaches*. Rowman Altamira.
- Titus MB & Chapple K (2013) Planning and Poverty: An Uneasy Relationship. In: Carmon N and Fainstein SS (eds) *Policy, Planning, and People: Promoting Justice in Urban Development*. Philadelphia: University of Pennsylvania Press, pp. 205-222.
- Olinto P, Beegle K, Sobrado C & Uematsu H (2013). The state of the poor: Where are the poor, where is extreme poverty harder to end, and what is the current profile of the world's poor?. *World Bank-Economic Premise*, vol. 125, pp.1-8.



**Uttaran Dutta** is an assistant professor in the Hugh Downs School of Human Communication, Arizona State University, USA. He received a Ph.D. in communication studies from the Purdue University, USA and got a master degree in design studies from the Industrial Design Centre (IDC), Indian Institute of Technology (IIT)-Bombay, India. He has published several articles and chapters in academic journals and books, and presented in various international conferences.

*Uttaran Dutta studies creative ways to address development, health and social disparity issues. His research focuses on sustainable development and social change in marginalized communities, analyzing the importance of culture, communication, design and innovation in transforming the lives of people who are socially, politically and economically poor. In all his work, local participants are the key forces in identifying and developing cost-effective solutions using local resources. For example, he is developing computer application for illiterate people in rural India to access useful information for them, or collaborating to construct mini-hospital, library-cum-museum, protection wall in remote areas. Additionally, He researches the folk-culture and indigenous knowledge of the underserved to document and understand alternate ways of viewing the world.*