

From Database Design to Community Mobilization: PD in Sri Lanka's Energy Sector

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ABSTRACT

This paper presents work-in-progress analyzing the early stages of development of an internet-connected database for local energy research in Sri Lanka. The Energy Forum, a Colombo-based NGO, expects this database to link university and NGO researchers, government policy makers and functionaries, and government and private-sector energy providers, as well as provide an institutional voice for the nearly one-half of the island's population that is without electricity. The Energy Forum is committed to the most general goals of participatory design—better design and greater democracy—however organizational constraints force them to consider carefully the possibilities and limitations of participatory design in this specific application. In this paper, I introduce the Energy Forum and describe the context in which they work. Next, I describe the Energy Forum's larger project which the database is part of. Finally, I consider how participatory design fits within the Energy Forum's database design effort, where design is understood to include the entire development cycle from database conceptualization to implementation. The paper presented draws on field research in Sri Lanka during June and July of 2000.

Keywords

Alternative energy, energy policy, development, NGO websites

INTRODUCTION: THE ENERGY FORUM

The Energy Forum is a small, nascent non-governmental organization (NGO) situated in Sri Lanka's capital city, Colombo. The mission of the organization is to facilitate communication among decision makers and affected interests in Sri Lanka's energy community, with special emphasis on producing a policy environment conducive to the development and implementation of decentralized, renewable energy technologies. Although membership in the Energy Forum

is still relatively small—on the order of 20 organizations and individuals—this membership represents diverse interests from universities, government, the private sector, and other NGOs. The Energy Forum hopes to expand its membership significantly in the coming years in order to include more perspectives on energy policy making, as well as to strengthen the Energy Forum's institutional position in Sri Lanka's energy sector. Beyond those professionally involved in the energy sector, the Energy Forum has identified its potential membership to include Sri Lanka's energy users (i.e., normal citizens), local political representatives, advocates of alternative energy policy and alternative development approaches, as well as all types of policy and technology experts.

With such a diverse community of interests, the Energy Forum recognizes the need for participatory methods in both its organizational activities and its own organizational design. As a spin-off organization of Intermediate Technology Sri Lanka (ITSL), the Energy Forum has institutionally embedded commitments to participatory decision making. ITSL is a field office of the NGO Intermediate Technology Development Group, or ITDG, based in the United Kingdom. ITDG was founded by E.F. Schumacher to develop intermediate technology (or as it is typically called today "appropriate technology"). This technology has several features which distinguish it from dominant (consumer) technologies, including the active participation of users in problem identification, solution conceptualization, and technology design. ITDG currently has a strong culture of participatory design practice, which they call participatory technology design, or PTD. Although it is now fully independent, the Energy Forum retains close affiliation with ITSL and retains its commitment to grassroots involvement in design decision making.

In addition to its ideological commitment to participatory decision making stemming from its organizational origins, the Energy Forum also recognizes the pragmatic need for diverse participation in all important decision making regarding its organizational activities. If alternative energy projects are to succeed in Sri Lanka's volatile political climate, the

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Energy Forum knows that it must account for diverse perspectives and insights and enroll diverse community members in its day-to-day activities. If the Energy Forum is to be at all effective in the policy arena, it must be able to astutely negotiate competing political perspectives, which is best done by directly enrolling them in its decision making.

Although the Energy Forum embodies participation in its very organizational makeup and recognizes the need for participation in its decision-making processes, it could nevertheless benefit from a more explicit treatment of participatory design in activities planning and execution. The major organizational activities to date center around community-level awareness programs, where the Energy Forum informs teachers, community activists, and students about Sri Lanka's energy situation and alternative development paths. Training is carried out in workshop format, so there is limited participation in the design of these sessions. However, as the Energy Forum seeks to expand its operations, it is looking for ways to increase user participation in the structuring of new activities. The Energy Forum's next major activity is creating the Energy Information Centre.

THE ENERGY INFORMATION CENTRE

The Energy Forum is preparing to submit funding proposals for a large information compilation and dissemination project. Called the Energy Information Centre (EIC), this project is an attempt to situate the Energy Forum at the center of Sri Lanka's energy community. The EIC has many components—including surveys of the energy community and its needs, acquisition of primary energy research papers, and international networking—but the major objective of the Centre is to provide a comprehensive, centralized site for coordinating energy research activities in Sri Lanka. Since there are many dispersed and uncoordinated energy projects taking place in Sri Lanka, the Energy Forum sees an opportunity to strengthen the overall community by bringing together dispersed information into one database which the Energy Forum will design and manage.

Connecting this database to the internet is an obvious mechanism for making it broadly available to the Sri Lankan energy community, as well as to an international community of researchers, policy makers, and renewable energy advocates. Spurred by donor interest in "reducing the information gap" between developed and developing countries, a major portion of the EIC project will be the development of an internet interface to the EIC database. (The fact that this aspect of the project is donor driven has important implications that will also be explored.) Internet access of their database forces the Energy Forum to consider carefully expected uses and users of the information they intend to compile. So far, the Energy Forum has been working cooperatively with Sri Lanka's energy community to identify specific areas of emphasis for the database. The Energy Forum is also attempting to anticipate needs of users not yet identified.

PARTICIPATORY DESIGN: RESEARCH FINDINGS

While consideration of and cooperation with users are important starting points, these steps do not necessarily mean that participatory design is taking place. Participatory design requires a more active role for the users. The Energy Forum's organizational origins predispose them to be sympathetic to participatory design methodologies, however organizational constraints force them to consider carefully the possibilities and limitations of participatory design in this specific application. My research in Sri Lanka identified four areas where participatory design would strengthen the EIC and three serious problems the EIC would likely face in implementing participatory design methods.

STRENGTHENING THE EIC

The most important way participatory design could strengthen the EIC database is by providing a method for mediating and overcoming conflict. Participatory design of the EIC database provides the possibility of balancing competing expectations of the Energy Forum's diverse membership through direct interaction around a concrete project and negotiation over specific design decisions. Direct engagement of those with different perspectives and interests is a central tenet of strongly democratic decision making. The Energy Forum's organizational mission is to bring diverse perspectives on energy policy together around the same table. Mediating conflict in this context is clearly important for setting policy directions and devising implementation strategies. While less obvious—except to this audience—mediating conflict is also important in the creation of artifacts which end up impacting and structuring policy contexts. If the process that creates the EIC database can successfully mediate conflicting interests, the resulting artifact stands a greater chance of fitting into long-term social-material interactions that do the same.

Closely related to the issue of mediating conflict, the Energy Forum could use participatory design methods as a means for including into their decision making important perspectives that are currently not included, in particular those of the rural poor who are without both electricity grid access and substantial political voice. Including these people through PD would simultaneously give the design process more diverse input and create important linkages between the Energy Forum and the rural poor. The Energy Forum is committed to working directly with these groups, but currently does not have a good method for tapping their knowledge base. Participatory design would allow the rural poor to help shape the Energy Forum's decision making, and help integrate them into Energy Forum activities more generally.

In addition to helping mediate conflict and fostering greater inclusiveness, participatory design of the EIC database would promote early buy in from potential database users. Early buy in is especially important in a context where the majority of proposed projects never come to fruition due to competing commitments. The Energy Forum will require early

and ongoing support from many fronts for the EIC database to reach completion. Since a participatory design process would generate greater overall awareness and understanding of the EIC project, it is possible to generate broader support. But more importantly, participatory design would provide *earlier* awareness of the project during its initial phases, fostering support when it is most crucially needed.

The fourth and perhaps most obvious way participatory design would strengthen the EIC database is by improving the database design itself. Most simply, PD forces early consideration of the crucial issues of usability and overall responsiveness to user needs. This could significantly improve the iteration sequence leading up to the online version of the database, in addition to helping insure the database receives the reception/use anticipated and hoped for by the Energy Forum. And moving beyond the immediate database users, a strongly participatory process can indirectly influence many people. Building democratic practices directly into the EIC database makes for a better database and a stronger, better informed energy community, and perhaps ultimately a better informed citizenry.

CONSTRAINTS AND NEGATIVE CONSEQUENCES

There is little doubt that implementing participatory design would strengthen the design of the EIC database on several levels. Despite these potential desirable outcomes, the Energy Forum is sober in its recognition of the constraints and potential negative consequences of implementing participatory design methods for the proposed project.

The most pressing practical constraint is that the Energy Forum has severely limited time for highly participatory design work. In the Sri Lankan context, there is a pervasive practice of supporting other organizational initiatives *at a distance*. Development organizations, like most other organizations in the developing context, are chronically underfunded/overcommitted. A richly participatory design process would require participants commit to time consuming work that lies outside of their immediate organizational responsibilities. Rather than take part in this process, many affected interests would prefer design-as-usual, where the proposing organization create the database themselves and then present it to the larger community for evaluation and feedback. Of course, affected interests want the option of influencing the design process along the way, especially if they identify a design decision that conflicts with their own needs, but they do not necessarily want the responsibilities that come along with participatory design. While the primary constraining factor is probably time, the same argument holds for funding as well as other organizational resources.

The practical constraints to implementing participatory design of the EIC database are most pressing and most readily identifiable, however there is a deeper problem. My major research finding while in Sri Lanka was the identification of a major tension in NGO intervention strategies. On the one hand, NGOs are developing more sophisticated models

for socio-technical intervention due to 1) the failings of simple technological fixes to social and economic development problems and 2) an appreciation for more nuanced relationships between social and technological aspects of development. On the other hand, in the context of sharp financial and administrative constraints, successful organizational practice requires simple objectives, relatively clear assignments, and unambiguous assessment criteria. This creates an organizational double bind, where project managers realize simple models for intervention fail in implementation while complex models cannot be effectively coordinated and controlled. The Energy Forum recognizes the complex interplay between its organizational activities and social improvement, but such recognition actually hinders the organization in its own strategy setting. Were the Energy Forum to commit to even a moderately participatory design process, the process would quickly outpace the organization's existing managerial capacity. This is probably the most significant barrier to effective PD practice for the EIC database.

Finally, I would like to consider an important potential negative consequences of implementing a PD process for the EIC database: capture. Capture is a process whereby one organization or interest group uses its influence to steer the activities of another organization. Public and governmental bodies and other organizations whose resources are made available to a larger community are especially susceptible to capture. As with any of its activities, the Energy Forum must take care to avoid capture of its database design effort by any narrow segment of its membership. While it is entirely reasonable for particular interests to want to steer the direction of another organization's efforts, this activity should occur within a reasonably balanced partisan context. Capture is especially problematic when a group uses its economic power to drive the agenda of an organization which seeks to represent the interests of marginalized perspectives. In the case of the Energy Forum, the greatest threat of capture comes from private-sector interests, especially energy services companies, since these groups have the time and money to invest in Energy Forum activities. Not surprisingly, private-sector groups also have the most to gain by capturing the Energy Forum's activities, since NGOs have access to donor funds that are otherwise unavailable to private-sector groups. Of course, the notion of capturing a *participatory* design process directly contradicts the objectives of PD. Nevertheless, this outcome is entirely likely in this context given an imperfect (that is to say, realistic) PD implementation process.

The constraints and potential negative consequences of implementing PD processes for the EIC database need not preclude the Energy Forum continuing to pursue such activities. My research has identified these constraints and consequences so that they can be explicitly acknowledged and deliberately addressed. Before the Energy Forum can practice participatory design in a robust way, it must identify strategies for overcoming or avoiding these problems.

CONCLUSION

Looking beyond the limitations and possibilities of participatory design for Energy Forum's Energy Information Centre, this paper concludes with a reference to the multiple layers of PD, moving from participatory design of the EIC database to participatory design of Sri Lankan energy policy. Taking seriously the Energy Forum's hesitations with implementing participatory design in their database design process, I have discussed potential tensions in micro-level PD (i.e., the database) and macro-level PD (i.e., energy policy) in the Sri Lankan context.