A People's Process: Post-Tsunami Self-Build Housing in Tamilnadu (2005-08)

Durganand Balsavar

Architect and Dean-Saveetha, College of Architecture and Design, Chennai, India

Abstract

This essay elucidates some of the lessons learnt from the community participatory process adopted by Artes, in the Post-Tsunami housing reconstruction project at Nagapatinam, Tamilnadu (2005-08). The program was a self-build process, respectful of gender. A pragmatic assessment of regional technologies, materials and skills was undertaken. The technological assessment was conducted by the community, in collaboration with structural engineers. Projects under consideration are in Sirkazhi Taluk and Akkaraipettai, Nagapatinam region in Tamilnadu, which had been adversely affected.

The projects were nominated as best practices by the UNDP, India (2008) for community participatory processes. It inspired a new sense of belonging and confidence in the community. Besides indigenous construction practices, the community was provided an opportunity to learn new construction skills that they desired, which were beneficial in the longer term. The new construction skill sets ensured the community was independent to build their own dwellings incrementally in later years. The community was no more at the mercy of external contractors. The design of the dwellings also enabled future incremental growth. This research highlights some of the lessons in capacity building of communities; using construction skills to enable them to rebuild their own homes, as well as be self-reliant in future extensions and additions.

Introduction

In the aftermath of the Tsunami that devastated the coasts of Tamilnadu, India on 26th December 2004, the government was swift in issuing guidelines for rebuilding. This essay highlights the potential of a 'people's process' where communities are empowered to re-build their own homes. It documents the resilience and spirit of innovation, as communities restore their habitat after a natural disaster. It refers to self-build housing projects in two locations: one in Sirkazhi Taluk and the other at Akkaraipettai, Nagapatinam. The process was formulated by architects of Artes-Human Settlements Research Collaborative, Chennai.

The communities at Sirkazhi preferred to build on their existing plots. The project was funded by Association pour le Development Économique Regional (ADER) and Instituto Sindacale Di Cooperazione Allo Sviluppo (ISCOS) with The Institute for Social Education and Development (ISED) being the local, social partner. 300 dwellings were rebuilt in this process. In Nagapatinam, the coastal community consented to shift inland. The Tata Relief Committee funded the rebuilding of 760 dwellings on a 14-acre site, along with social amenities like a health centre, community hall and Village Knowledge Centre. Several international organizations were engaged in the reconstruction process (Collins, 2006).

Several projects in the past have attempted similar processes, though in different contexts, diverse typologies with differing outcomes. The community-driven housing projects by Laurie Baker (Bhatia, 1991) and B.V. Doshi (Steele, 1998) have addressed incremental housing.

Methodology - Crafting the community participatory processes

Artes evolved a self-build, participatory process through constant dialogue with community. The architects transformed their own role from designers to facilitators. The process addressed larger, socio-cultural aspects, beyond drawing of plans and providing engineering solutions. The process started with a documentation of indigenous building practices. Simultaneously, these skills needed to be complemented with alternative technologies,

Fig. 1: Self-build dwellings, Artes-ISED-ADER-ISCOS project, Sirkazhi Taluk. Source: Balsavar

to ensure safety, durability and respond to the changing context.

Documenting Indigenous building practices

In the first stage, detailed documentation of local skills and locally available materials was undertaken and assessed. The community had carpentry and masonry skills. At each stage, women in the community led the process and displayed resilience to confront scarcity of resources. Women contributed innovative solutions to both design and construction. Based on these considerations, it was appropriate to engage in a self-build participatory community process, rather than inviting external contractors. The spirit of 'jugaad' was experienced in the face of adversity. 'Jugaad' is a popular word in Hindi that implies an innovative, improvised design solution. It reveals a localized form of lateral thinking.

Community Capacity-building Program

During the mapping of indigenous construction practices, the capacity building program in alternative technologies was initiated. Communities were introduced to rat-trap bond brickwork and filler slabs innovated by Architect Laurie Baker and The Centre of Science and Technology for Rural Development (Baker, 2014). The architects had the opportunity to interact with Laurie Baker during this stage. Engineers from Orissa Development Technocrat Front mentored this stage of masonry training program along with Artes. The program also included carpentry, roof tile laying, plumbing, stone flooring, and electrical applications.

Alternative technologies like ferro-cement and stabilised earth blocks could not be adopted given the soil quality and several other factors. Through a systematic process, the community innovated a new synergy that combined indigenous skills with newly acquired alternative technologies.

The significant lessons were the pragmatic manner in which communities adopted and appropriated new technologies whilst integrating them with indigenous construction skills. These were not merely based on engineering skills, but also on responses to a wide range of issues such as availability of local resources, concerns over durability and the cost of construction and maintenance. The Artes team focused on facilitating communities' self-reliance and subsequent independence from external contractors.

Catalysts of design: the key role of women

A wide consultation was organised over a two-month period involving intensive training in construction. As a parallel process, researcher Ms. Aneela Rao created a program for women in the community to express their aspirations and experiences of the design of the home, the organisation of rooms, amenities, outdoor spaces, notions of privacy and sanitation (Parr, 2012). These discourses enabled the creation of a broad outline for design suggestions for the dwelling and the clusters. (Parr and Zaretsky, 2011).

The learning during this stage recognized the role of women in decision making and the need for empowerment

Fig. 2: Street view, Artes Architects Impression, Nagapatinam, Source: Artes

and expression as an integral aspect of 'jugaad'. This intervention transformed the project, with due recognition to the significant role of women, in an otherwise patriarchal community. It also substantially enriched the design. Suggestions ranged from location of windows to ensure greater privacy, need for toilets in proximity to dwellings to ensure safety, suggestions on clustering dwellings, and the designation of children's play areas.

Lessons derived through a people's process

There were several significant lessons derived from the community-participatory rebuilding process. The integration and recognition of indigenous building practices, which continued to be relevant, created a strong continuity despite the drastic impact of the tsunami and the destruction of the entire settlement. Continuity was an essential aspect in restoring self-reliance. Simultaneously, the introduction of alternative technologies to reinforce indigenous construction enabled the habitat to embrace contemporary changing conditions. Judicious use of materials and thermal comfort enhanced sustainability, with building practices inspired by Laurie Baker.

The significant role of women transformed the habitat. Not only did the design contributions of women address core aspects of privacy, but they also broadened the framework to provide a deeper sense of participation and belonging. Further, the self-build process and deliberations at each stage, consolidated community resilience for dealing with possible future unpredictable situations.

Fig. 3: Street view 2018, Incremental growth, Nagapatinam. Source: Erioseto Hendratta

Conclusion

In summation, the benefits of a self-build community process far outweigh those of a contractor driven process, especially when communities have the inherent capacity and skills to build on their own. By respecting indigenous traditions of construction, a sense of continuity and belonging is instilled in the rebuilding phase after a natural disaster. The enhancement of skills through capacity building programs that integrated alternative technologies, further reinforces the resilience of communities. The Artes project was commended by UNDP for its best practices (UNDP,2008), and the capacity building program recognized the significant role of women that enriched the design of habitat. The capacity building program also reinforced and retained construction skills within the community and as a result, the self-reliance of the community increased. The innovative jugaad, which synthesized indigenous construction skills with alternative technologies resulted in a settlement form that responded to both continuity as well as change. The new construction skill sets ensured the community was independent to build their own dwellings, incrementally in later years. The community was no longer dependent or at the mercy of contractors. Significantly, the process has the potential to be scaled up in the future, to address larger and more complex issues of social housing in India.

References

Baker, L. (1988). *Laurie Baker's Brickwork*. Centre of Science and Technology for Rural Development (COSTFORD).

Bhatia, G. (1991). *Laurie Baker - Life, Work, Writings*. Penguin.

Collins, C. (2006). The YMCA response to the disaster caused by the 2004 tsunami in Asia. Ekistics, 73(436/441), 291-295. Retrieved April 29, 2020, from www.jstor.org/stable/43623747

Garimella, A. (2011). Crafting Utopias - Post-Tsunami Housing Design Process in Tamil Nadu. In R. Desai (Ed) *Domus.*

www.academia.edu /1777261/Crafting_Utopia_-_Post-Tsunami_Housing_Design_Process_in_Tamil_Nadu

Parr, A. and Zaretsky, M. (Eds) (2010), *New Directions in Sustainable Design*. Routledge Press.

Parr, Adrian (2012), Hijacking Sustainability, MIT Press.

Somvanshi, A. (2013). Rolling Back the Architect. Down To Earth. www.downtoearth.org.in/coverage/rolling-back-the-architect-40823

STEELE, James (1998), Rethinking Modernism for the Developing World: The Complete Architecture of Balkrishna Doshi, New York, Watson-Guptill

UNDP India (2008), Tsunami: Lessons for Habitat Development, New Delhi, UNDP

Keywords

community participatory housing, indigenous, tsunami, Tamilnadu, incremental housing, local construction skills, self-build, gender sensitive construction practices.