

## BUILDING NUMBERS: THE CASE OF POST TSUNAMI HOUSING IN SRI LANKA

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### Abstract:

Top-down approach used to build housing for the Tsunami victims in Sri Lanka evolved around the number of houses destroyed. The selection of land and the number of units to be built were donor-biased decisions. This *Building-Numbers* may have satisfied the donors and builders for quantification of their achievements but not necessarily the recipients for various reasons. Many recipients have left those houses and some never occupied theirs. Enlarging schism between man, society and place, and further displacing the settler as a result are defined here as the research

problem. We have studied a few housing projects in the Southern Province, using a multidisciplinary approach framed by socio-cultural based settlement planning and morphologically oriented house types. We used qualitative research methods to collect field data. Our findings suggest that building of settlements that are beyond mere collections of numbers could have had more success in term of resurrecting the lost villages.

*Keywords:* human-settlements, social-space, place-making, and Sri Lanka

### Background

Tsunami was an unknown term to Sri Lanka until December 26<sup>th</sup> 2004. Sri Lankans did not pay any attention to the news of rising sea water as this was usual during the season of high tides. The unprecedented destruction was known within hours. A quick snuffing of around 40,000 lives, over 80,000 houses, and hundreds of villages and towns changed the

history of Sri Lanka. In planning the resurrection of the destroyed living settlements, state agencies, NGOs, and professional bodies all considered building of 80,000 houses within a year to resettle the displaced, in a country where 6000 houses are built annually, as a daunting task.<sup>1</sup>

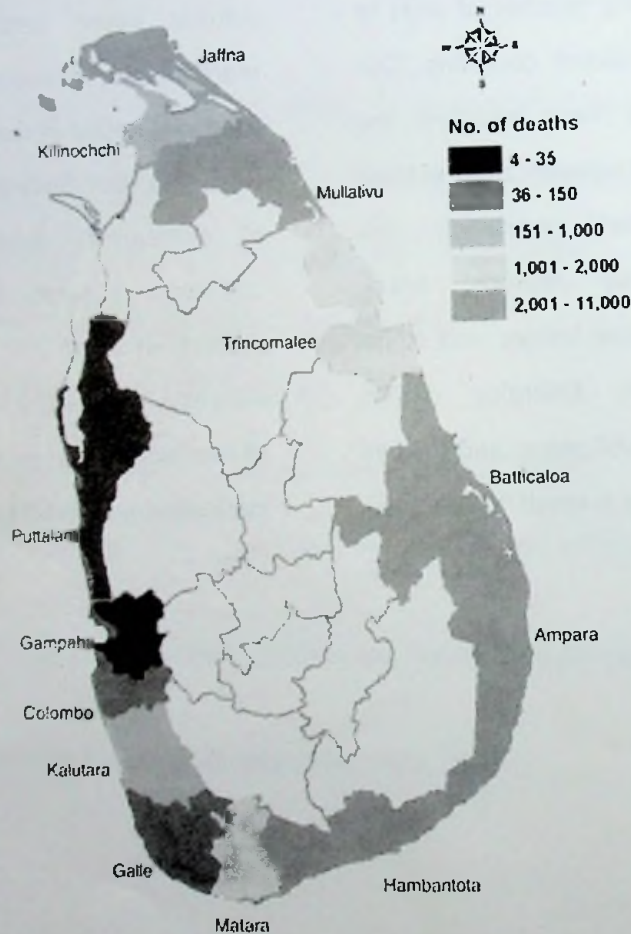


Fig. 1- Tsunami-affected areas in Southern Sri Lanka

The government of Sri Lanka, commissioning local and foreign experts to plan the post-Tsunami reconstruction, emphasised the need of raising living standards and instigating economic development in the devastated coast, where fishing and tourism play the most vital role in socio-economics. Since a substantial portion of the victims were less-affluent fishing families who squatted in reservations, providing them with houses, means of survival and infrastructure facilities in more habitable locations was essential. This was hence seen as a *blessing in a disguise* to instigate regional development by trading off uninhabited lands with those reservations and valuable urban lands where there were squatter settlements. Therefore, each new housing village with its own diversified socio-economic parameters was planned to instigate national development. The difficulty of securing habitable land that is beyond reservations and the importance of integrating new communities in the national or regional economic grid forced building mass housing.<sup>ii</sup> Yet, all decisions evolved around the number of houses lost rather than how those new housing sites would become partners of development by restoring the psychological state of the displaced, facilitating the formation of new societies, and sustaining the environmental qualities of locations. As such, the new housing villages paid less attention to man, society and environment but more on the numbers that could be built. The donors appreciated this approach to *building numbers* for easy

disbursement of funds and quantification of achieved targets.

Uneven distribution of houses, building on unknown locations that were often far from their places of work, and failure to facilitate the qualitative aspects of a human habitat, which is the basic spatial unit where dwelling takes place, led to the further displacement of Tsunami victims.<sup>iii</sup> Accommodating people with diverse and sometimes contrasting socio-cultural backgrounds in more dense built environments has triggered the creation of non-society in most of the *extensive* housing villages. The recipients are rather unsettled as the type-plan houses provide less potential for self expression and identity, and no possibilities what-so-ever for future expansions. The failure to note the existence within a particular social context has turned their occupying a house a mere temporary one. As a result, some occupants have already left their new houses and some never occupied them. Those, who came to settle down there do not dwell the place but just occupy only.<sup>iv</sup> As a whole, most of the *extensive* housing schemes have not been successful habitats.

We, having observed the problems in the post-Tsunami settlements, studied the existing situation in a few key housing schemes to contribute towards the development of a more comprehensive understanding of human settlement planning in a context of post-disaster.<sup>v</sup> By testing the strength of a participatory approach

supported by a typo-morphological approach for designing the living units, we hope to contribute towards the knowledge on post-disaster housing designing.

### Minor Vernacular of the Coastal Village

Tsunami mostly destroyed fisheries villages.<sup>vi</sup> Those small hamlets of tens of houses were vibrant and heterogeneous though they looked casual, arbitrary, or random. The fisher folks had perfected their own behavioural patterns, values and ways of life with reference to the type of occupation and the particular location where they lived. Their community was structured on kinship, caste, clan, or family, and the villages were interdependent as each sub-society providing

a specialized service of the fishing industry. It is noteworthy that those sub-societies were placed in a hierarchical order within the community, depending on the significance of their particular role played in the fishing industry. A closer scrutiny of the layout of the village and the use of public space clearly showed the uniqueness of each village, especially depending on the location and its relationship to their religious centre. The villagers were closely connected to the church or the chapel nearby, and the communities had a close rapport with each other. The humble temporary-looking houses looked alike and arranged in a row whereas the countryside hamlets were organised around a central public space.<sup>vii</sup>

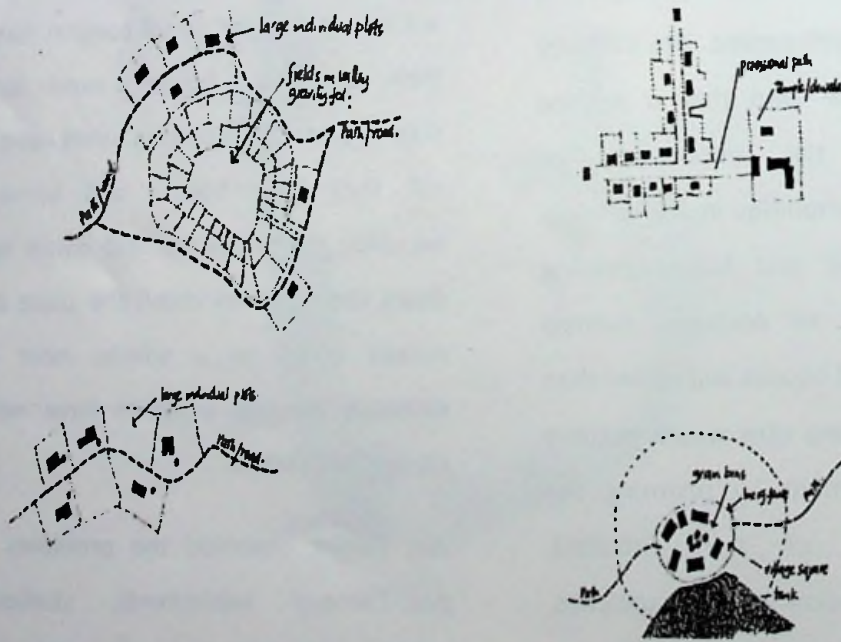


Fig 2: Rural Minor Vernacular: Village types in Pre-colonial Sri Lanka (source: De Vos, 1987)

The fisher folks had their way of demarcating public and private realm. One could see the

celebration of public space and proclaiming a living space in a diverse pattern, and one

could also see how the beach had become their common living room cum village square. Their houses were units of one spatial whole, or rather habitable rooms of one big house, expressing the co-existence as one family while expressing the self. Humble dwellings were organised with the best links to the common space- the beach, that was used as the auction grounds for their products and also for attending to common activities such as processing and preserving the extra stocks, storing and repairing the fishing gear. The beach was a busy place during the evenings as the fishermen were gathering to depart for their occupation.

Costal villages emerged in Sri Lanka long before the establishment of the harbour-based trade affairs boosted by the arrival of Arabs.<sup>viii</sup> Mahawamsa, the chronicle of Sinhalese describes the existence of coastal villages.<sup>ix</sup> Arabian navigator Ibn Batuta has recorded the existence of port towns and coastal villages already in the 12<sup>th</sup> century. The arrival of Portuguese in 1505 evicted the locals out of the port towns but not necessarily from the coast. The Dutch wrested the coastal belt from the Portuguese in 1640 and adopted a less hostile attitude towards the locals in order to procure Cinnamon and other spices. Thus the coastal villages reincarnated. People may have come from different places but their society soon formed into a new *Gemeinschaft* as they were all from one caste group or a clan that engaged in spice trade, especially in Cinnamon processing. Some converted to be rewarded

with land and social status. The more diversified society imitated the spatial logic of the Dutch city, expressing their new-accumulated wealth. The settlements were open landscapes, evolved around a Main Street that replicated their familiar social space- village square or street. This along with the necessity to use the beach as the village square may have laid foundations to form the coastal villages of linear form.<sup>x</sup>

The Portuguese evolved an innovative house form in the coastal belt by superimposing the Sri Lankan vernacular on an urban setting. The flexible simple built form with a gable roof was augmented by the Portuguese by adding an open column-fronted veranda and an upper level, thus turning it into a modest two story structure. Most of them being unmarried soldiers spent a lot of time in the veranda, turning the street into a community space. In Sri Lanka's urban history, the street became a public space flanked by such column-fronted verandas for the first time.<sup>xi</sup> The Portuguese veranda was an extension to the activities of the street. The Dutch repeated the house form, but enlarged it into a more elegant single-storey structure evolved around a central courtyard. The well-demarcated veranda became a filter to the street or the public life. The fortified city of the Dutch was exclusively reserved for Europeans and an open landscape. The locals' settlements in the Maritime Province followed the house type and city layout but in a less dignified scale.<sup>xii</sup> The British, who replaced the Dutch, did not live in those

congested urban centres and allowed the locals to settle down in the urban centres. This made the coastal centres even more vibrant and diversified.

The fisheries villages started evolving in and around natural harbours and bays along with the colonial society. They, repeating the humble structures and absorbing all socio-cultural changes took place in the Maritime Province, established a community adding an innovative settlement pattern to country's landscape. Most of the fisher folks had then become Roman Catholics or Christians. The settlements were organized cluster patterns orientated to the beach as the main public space. The village was one big home and the

humble temporary-looking buildings were just habitable rooms mostly used to retire in the night. Their houses, expressing individual needs of privacy, identity and territoriality as well as social interdependence, expressed the most intimate spatial experience thus without compartmentalising a settlement. There was no land ownership or demarcation of one's territory. The most significant feature of the fisheries villages and their housing units was the expression of socio-cultural diversity and the celebration of public space. Our inquiry is how this type of living is accommodated in designed settlements, which usually starts with a survey plan to divide plots without the dwellers.

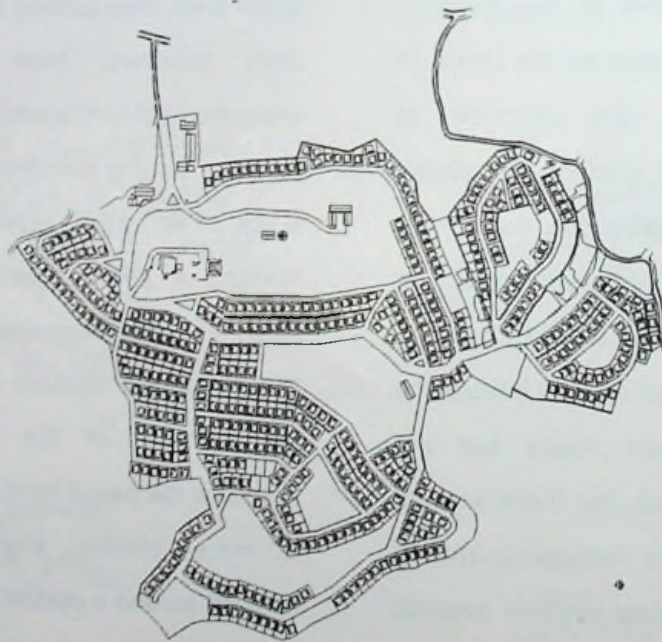


Fig 3: Turkish Village in Matara District- One of the largest Post-Tsunami villages (credit to SMAL)

### Construction of New Settlements

There had been many attempts to build housing during the post-independence era. The first was land colonisation in the East in order to boost agricultural production in late

1940s. The government built village settlements and town centres, and provided services as schools, shopping, employment, etc. The settlers came from different

backgrounds, and never formed a solid society nor were they absorbed into the existing societies. Their moving into the colony was single-aimed: to obtain agricultural land. This fragmented society leads a temporary life there to date still relegated to an *alien* community. The failure to facilitate community development has pushed many of the later generations out of those villages too.

Every successive government built several types of housing for middle and lower middle classes, most of which were built around Colombo to relieve the shortage of housing created by urbanisation. Some were housing blocks built for the state employees. Sri Lankans thus started living in small living spaces above ground for the first time in late 1960s. The flats blossomed into healthy settlements as the residents were of similar social classes and hence were able to develop secondary and tertiary relationships. Arrangement of the blocks around an extensive courtyard also helped evolving social life. The blocks of functionalism-modernism provided flexibility of personal spatial likings, and those locations have fostered continuous occupation. At the same time, the government built a few housing blocks for fisher communities just on the opposite side of the beach. The fisher folks were never at home, being above ground without a common space or having to cross a busy traffic spine to go to their known common space. The blocks were soon sold

out and the fishermen moved back to their squatter settlements.

The government that came to power in 1977 first built hundred thousand houses and then one million houses both in the form of housing schemes. The theme *shelter for poor* made the government placing priorities with the poverty-stricken thus providing them with a basic shelter free. Later, it was spreading in to the construction of houses for middle class segments in the outskirts of Colombo. The understanding was that they had the strength to travel to work, and thus would live in the fringe if provided with the necessary infrastructure facilities. The schemes were a mere collection of houses rather than housing villages, and almost all the dwellers have to come to the city in the morning, thus aggravating the inward traffic and consumption of resources. The houses that were given free are mostly abandoned by the recipients due to the lack of facilities and poor accessibility. It is also true that some of the locations were not habitable. It has been accepted by many that the housing schemes were not settlements. Type plans used for houses and the rigid positioning of house units did not strengthen the container quality of the place. Above all, the builders again failed to comprehend the need for public spaces and facilitating social life as their intention was to achieve numbers.

Reconstruction of villages for the flood victims of 2003 with the involvement of the postgraduate students of the Faculty of

Architecture, University of Moratuwa in a one-on-one design clinic with villagers was an exceptional attempt to design post-disaster housing. In this case, houses were designed for the same locations where their previous house stood. Sri Lanka Institute of Architects (SLIA) and the Faculty managed to convince the authorities that the age-old type plans would not provide the necessary psychological strengths to the displaced.<sup>xiii</sup> The approach was to design a *generic form* at a price as low as Rs.100000 that could be improved according to the needs and the strengths of the occupant. This was highly successful in rebuilding the diversity of the rural setting once compared with the village-reawakening programme of 1980s.<sup>xiv</sup> Paying due attention to the *qualitative aspects* of housing, and involving users in the rebuilding process could be considered as designing and building *beyond-formal-house*.

There was no generalisation of decision-making, nor repeating of regular house forms,

but a user-oriented designing of houses: similar to consultative planning. The solutions were far better than type plans, being low cost and time effective. The only lapse of this effort was taking the reinforcing of community spirit of the village for granted as the failure to understand the essential civic qualities of individual houses in a rural village. Awareness of village as its own setting and village house as a self-sufficient unit may have caused the creation of individual houses. Yet, the particular locale of each village absorbed these mistakes, and today we see a rejuvenated community and a living house form. Socio-economics did not change much but the social empowerment through new house form assist the dwelling of communities.

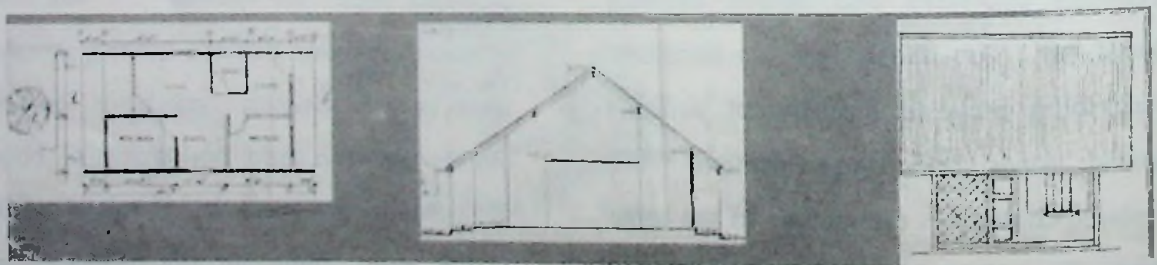


Fig 4: One of the core houses designed by the PG students of University (Credit to Prasanna Kulatilake)

### Post Tsunami reconstruction

Tsunami mounted a daunting task, in which developing a responsive house form around a legible reference point was more than essential in order to instigate the community

spirit among the new settlers. They had basically lost everything and been highly traumatized. As such, resurrecting destroyed villages certainly demanded far diversified



architectural solutions. On one hand, the scale of new constructions and on the other, the diversity of user communities emphasized the need for an initiative similar to consultative planning, in which public participation plays a vital role. Public participation could be exploited to create an awareness of natural disasters and post-disaster management and could have given some confidence to the victims of the disaster and to minimise possible rejection of new comers by the existing villages. As such exposing architects into new parameters in settlement designing, this exercise could have marked a turning point in the built environments that were mere *tabula rasa*.<sup>xv</sup> Political authorities as well as the Sri Lankan professionals were aware of the difficulties of congregating massive numbers of houses in one land. A bottom-up consultative approach could have grafted new housing villages as a catalyst to the development of the rural society and economy. However, as it is the case of many donor-driven exercises, public participation was not sought and it is a fact that most of the designers/planners never met the prospective recipients of those houses. It was clear that both donors and professionals handled these projects from far.

The failure to comprehend the nature of the villages lost along with their social order and social organization, building typologies and place-morphological understandings, further contributed to the making of non user-responsive housing. It is a fact that most of

the donors as well as designers were based in Colombo, and had hardly seen the lands where the villages were to be built. This is why some housing villages have been built at the expense of the natural terrain thus creating problems of surface water drainage. Some fisher folks are accommodated in flats where there is no provision for them to attend to the daily mending of their fishing gear. On the other hand, these flats are too far for them to carry these fishing gears and they are not provided with spaces to store the fishing gear.<sup>xvi</sup> The families who had used on-ground kitchens now have to use small upper floor kitchens fitted with tiny utility balconies, refuse chutes, etc, but without the knowledge to use them. No facilities are provided to have a chat or exchange food with the neighbour: and in many cases the neighbours are total strangers too. The activities such as cooking that were performed in semi-public spaces have now been withdrawn in to purely private places. As such the said social co-existence is not facilitated at all. There had been no attempts to note these community qualities with which villagers had conceived their place of dwelling. The focus of the authorities has been compensating the number of houses lost and adding more houses in order to be popular among their vote bases. In addition, giving a physical order that looks pretty on drawing board, without facilitating society formation may perfect in a new locale. The new character would eventually turn these 'built-numbers' in to a human zoo.



Fig 5: Turkish Village in Matara District (credit to Dinesha Hewawasam)

The households were chosen through a lottery. The dwellers often complained that the houses and rooms were too small and planned without the knowledge of their way of life. For example, they noted the amalgamation of the shower and squaring pan in to one room. Once confronted with the idea that their lost housing units were even smaller, shabbier with fewer rooms or no rooms, they all responded equally: *but we had the beach*. Today, they are far from the beach and there is no replication of such a communal space in the housing villages to cultivate a sense of brotherhood and interdependence. In addition, their neighbours in most cases are strangers. Therefore, house has become the only space for them- and that tiny space forces them to change their life style. es. It is a fact that more than 68% do not know their new neighbours as they came from different locations and more than 52% of them are from different sub-casts that engage in different trades c

fishing. It is also true that more than 54% will have to use public transport to get to their fishing harbours. Yet, the most disturbing in the housing village in Matara district is accommodating government servants, school teachers, etc within the fishing community without paying any attention to their social status. As such, it will take a long time for them to settle down and form communities- that is only if proper common facilities are provided with to compensate. One may argue that the time would heal the gaps, but the layout planning has not trapped spaces to facilitate public realm and the distribution of houses among contrasting social groups would result in a non-society. Therefore, those who occupy the new houses tend to develop an introverted living pattern, which is not easy in a rather modest built space and not healthy in a post-disaster settlement situation that demands the security of social interdependence.



Fig. 5 Failure to express one's self, failure to orientate within the context and identify his/her social role always leads to the displacement of the settlers.

As the houses are not clustered around a central communal space, the chances for community forming are slim. Most of the housing villages do not have adequate public spaces, but do have a central shopping mali, which in a way imitates the village fair where rural villagers buy their household groceries. The fishing village of pre-Tsunami never had such a village fair where many activities take place in addition to buying and selling. The villagers, who do not have the habit of doing their grocery shopping weekly in a shopping mall and do not have the facility to store even if they have the strength to buy the weekly needs, find it rather difficult to visit the shopping mall daily. This is certainly design failure due to the lack of awareness of the spatial logic of the fishing village.



Fig.10. Housing village built in Hambantota

With the failure to facilitate intricate relationships between users, compartmentalisation of the housing estates is inevitable. The possible solution would have been adopting a system of clustering the village, with each cluster depicting a small hamlet they are used to. Each cluster, on the other hand, could have been assigned to one caste group or a clan or an extended family, thus promoting their familiar outdoor living in outdoor spaces. We find the entire problem emerging from *straight jacket* Master Planning of the villages rather than its detailing or house types. However, it is important to emphasize that the architects could have designed a 'core' house rather than a detailed house type. At a glance, these detailed types turn the new villages into a character-less setting.

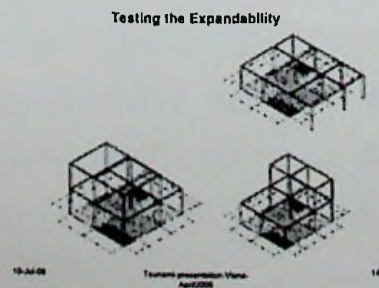


Fig. 11 Housing Village in Hambantota District is built in an appropriate scale though its composition fails to provide for facilitating of small scale communal spaces.

Among the other major problems in Post-Tsunami construction is the poor construction and architects' failure to face challenge of building many within the availability of certain resources. It is predictable that since the households are incapable of maintaining the structures, these villages would eventually become concrete slums.<sup>xvii</sup> The attempts to try out new technology and materials also were not successful as the construction sector did not respond positively. As a whole, we see a lot of shabbily constructed built forms called houses and occupants finding it difficult to maintain the houses. It is also fact some housing schemes never got completed due to poor construction detailing.<sup>xviii</sup>

As a whole, the post-Tsunami housing in the Southern Province has further displaced the Tsunami victims. Among the major problems are the failure to comprehend the meaning of village, failure to comprehend the types of social groups and ways of grouping in rural settings. Ignorance of responding to the social

and cultural needs in a settlement such as communal spaces, restrictions on the expansions of families or the villages, links between place of work and place of living, and the lack of provisions to diversified living has cost the opportunities for developing post-disaster housing base as well as for region-base national development. It is clear that the building of new housing villages have failed to thrive as true human settlements due to the failure to respond to the unique relationship between man, society and environment. As a whole, the designers and the builders have not protected the nature where the village was built, have not contained the man who came to live in the village and have not facilitated the society formation.



### Towards Meaningful Architecture

The way of thinking that only the city is culturally diversified whereas the village is more homogeneous may have led to turning the new villages in to so called housing schemes, in which the villager is made in to a mere number. The streets of the housing village of Matara even bear Turkish names that are hard for the villagers to remember, thus challenging their basic psychic conditions for dwelling: orientation and identity. The failure to create a settlement that would eventually foster a community makes it difficult for them to orientate themselves within their own village. The type plan houses, built along the arbitrarily laid road network that often contradicts with the natural contours thus creating sever hardships of surface water drainage during monsoon make no provision for the one's identity. They hardly support the facilitating of a group identity either as the master plan fails to cluster village pockets. The failure to express an identity and comprehend an orientation gives birth to the said schism between man, society and environment. This leads to the conversion of dwellers into inhabitants.

One may find this as an identical story of donor-driven housing that focuses on *numbers* rather than the qualitative aspects of community design in terms of identity and sense of belonging, especially in a case of post-disaster settlement planning. Architects

promote themselves as the responsible professionals who play a key role in developing design solutions that are more responsive to the place and the issues related to the particular social context. For example, the said scheme in Matara District could have comprehended the three hillocks that fall within the site to cluster the villages through a properly worked out street network to carve out a geographically defined physical space that is available for the community meaningfully. If this were connected with common open spaces and other facilities, each cluster could have become true places of living. Also, designing a core house thus allowing the households to develop these into their own abode could have provided them with developing an identity while contributing to the creation of a diversified village.

Initiatives such as consultative planning and the communicative turn always prepare the grounds for more user-friendly settlement patterns. This does not mean that the architects shall let the dwellers design their dwellings. The architect shall understand the inner need of the dweller through developing a closer communication with the dweller, facilitating those needs in the house forms. However, it is the architect, who gathers data, processes and then builds solutions upon them. This means s/he will have a good control over the overall project without losing the touch of users.



Fig 14: An architect's attempt to work on a user-driven solution  
(Photo credit to Archt. I.D. Kuruppu)

Our research project *Building Numbers* resulted from the identification of a problem manifest by the lack of innovative approach to plan the resettlement of the displaced. We specifically looked into the undue attention paid on quantitative issues and ignorance of qualitative aspects such as social and cultural values in these donor-driven housing. Among the serious issues is the failure of the designers to conceive the extensive housing villages as human settlements and thus planning a *human zoo*. This discourse of Tsunami reconstruction in Sri Lanka has a little connection with the current critical studies of settlement planning, especially its architectural aspects, present day evolution patterns of the local society, and the desirable level of socio-economic development. We have been able to achieve our task of drawing re-housing issues into an open discussion via an analytical study of the discourse.

We examined the institutional work, social dynamics and ideological presumptions linked

to the definition and production of human settlement within their impact on architecture. This goal, pursued as a multidisciplinary research, assuming the form of individual yet interconnected interventions in different aspects of social construction and uses. We also assessed the role played by the International NGOs rushed to the re-housing of Tsunami victims. As architects/ urban designers, we did not prepare checklists to measure the new settlements in terms of their impact on biodiversity, respect/response for users, energy conservation, minimum use of new resources, and holism. We believe that this exercise helped us emphasizing on 'environmentally-sustainable' design principles: man, society and the environment, minimizing the impact of built environment on nature, enhancing social relevance, and improving the quality of life and economic well being. In future, we shall facilitate a critical multidisciplinary approach to resettlement planning, bringing all actors together to analysing and cataloguing several aspects of human settlements to enlarge the awareness of disaster management, and test potential alternative socio-economic bases for new villages in order to resurrect a displaced.

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<sup>i</sup>. The floods in May 2003 resulted in a similar disaster, in which about 15000 houses were damaged. Re-building them was not less challenging as a better portion was an able community living on their own land.

<sup>ii</sup>. A regulation that banned construction within the first 100m from sea in the Coast Conservation Act was given 'undue' priority in the post-Tsunami reconstruction.

<sup>iii</sup>. Some fishermen have to travel over 35 km to get to their harbours.

<sup>iv</sup>. Refer to the concept of dwelling defined by Heidegger (1971)

<sup>v</sup>. In selecting these cases, we paid attention on housing schemes in which more than 200 houses have been built because we find more complex situations in such villages.

<sup>vi</sup>. Some ventured into the sea while others were either service providers or fish mongers though they all belong to one caste.

<sup>vii</sup>. However, it is possible to note that the fishing hut is an evolution of the minor vernacular of Sri Lanka.

<sup>viii</sup>. There are arguments that Sri Lanka had a sea-fare culture before the pre-historic times.

<sup>ix</sup>. There are suggestions that there was one caste called Na- meaning naval affairs, who occupied the estuaries, bays and gulfs.

<sup>x</sup>. The city of Kandy built after colonial advent has also adopted this linear form.

<sup>xi</sup>. See Munasinghe (1998) for a detailed survey of the evolution of these built forms.

<sup>xii</sup>. Galle port of the Dutch and its local outer urban district in Southern Sri Lanka are the most instructive cases to understand the urbanization and settlement patterns of Sri Lanka during the Dutch rule.

- <sup>xiii</sup>. The author acknowledges the efforts of the postgraduate students, their teachers, Architects Vidura Sri Nammuni and Prasanna Kulathilake of the University of Moratuwa, Sri Lanka, and the then President Sri Lanka Institute of Architects, Architect Lalith De Silva in making this effort success.
- <sup>xiv</sup>. The generic form was used to develop about 5000 user-responsive and location-oriented houses.
- <sup>xv</sup>. One settlement in South, which has nearly 500 houses, amalgamates tens of destroyed villages. This means an undesirable resettlement too.
- <sup>xvi</sup>. A housing village in Kataluwa, Galle was originally designed with such facilities. Yet, the location of this being too far from the beach, the fishermen are not in a position to use this community space.
- <sup>xvii</sup>. Once the type houses are not provided with necessary cooking facilities, with which the households are familiar, these become slums too.
- <sup>xviii</sup>. Housing village in Kataluwa, Galle was never completed with much anticipated community spirits as the poor construction detailing and poor construction led to the removal of the entire upper floor. The loss of tens of millions of rupees as well as the lost time reflects the grim picture of the construction sector.