

REVIEW OF RECONSTRUCTION EFFORTS IN SRI LANKA: POST-TSUNAMI PHASE

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ABSTRACT: This paper reviews the reconstruction efforts in Sri Lanka to ascertain the efficiency of post-disaster reconstruction through identifying the barriers. Even though the immediate humanitarian relief found to be more effective, long-term reconstruction was ineffective due to lack of funding, lack of knowledge to support local community, institutional constraints, and absence of coordinated management. It suggests that the reliance upon the knowledge, skills, capacities and resources of local people together with effective planning can lead the reconstruction process towards the success.

Keywords - Reconstruction, Sri Lanka, Tsunami.

1. IMPACTS OF TSUNAMI

The magnitude of the earthquake in the Indian Ocean near the west coast of Northern Sumatra triggering the tsunami was extremely high: 9.3 on the Richter scale. It was the largest earthquake of the last forty years and the fourth largest in the world since 1900. The devastation it caused was massive. The tsunami hit the coasts of Sri Lanka on 26 December at about eight o'clock in the morning local time. Thirteen out of a total of 25 districts were affected and more than two-thirds or 1,000 kms of the island's coastline (Frerks and Klem, 2005). However, the pattern varied according to local physical circumstances, including the prevalence of natural barriers such as mangroves and sand dunes. Less than 20 percent in the Galle, Matara and Hambantota Districts and up to 78 and 80 percent in the Amparai and Mullaitivu District coastal population is affected from this. Yet, also in the first mentioned districts there were pockets with severe or nearly total damage. In the affected areas itself, only a small strip of 500 metres or less was damaged, if located at elevations below 3 metres. In the northeast around Mullaitivu, however, the waves entered 2-3 kms inland. The tsunami has done damage to the environment, especially to coral reefs, the marine ecosystem and protected freshwater bodies and fishery breeding grounds that have been affected by saline water. A significant impact on flora and biodiversity is to be expected. Soil erosion, the disposal of debris and surface and ground water pollution are other environmental issues. Southwestern, southern, southeastern, eastern and northern coastal areas were affected by the tsunami. Consequently, all major population groups – Sinhalese, Tamils and Muslims – were affected, though the percentage of the population affected was the highest in the Amparai and Mullaitivu Districts, with concentrations of especially Tamils and Muslims. The Batticaloa and Amparai districts together comprise 43% of the affected population island wide. According to Frerks and Klem (2005), impact of the tsunami can be classified under key headings: human impact, physical impact, economic impact and social impact.

1.1 Human Impact

In Sri Lanka loss of life due to the tsunami has been recorded at 35,322; people still missing amount to 4,698; the number of injured stands at 15,196, while the number of displaced was

558, 287. It is estimated that about 99,000 privately owned houses are completely destroyed and about 45,000 (partially) damaged. 13 percent of the housing stock was destroyed or damaged with replacement costs calculated between US\$ 437-487 million in the affected areas. About 200, 000 people have lost their livelihood or employment. More than 5,000 village industries have been destroyed and many self employed craftsman, such as masons and carpenters, have lost their implements. Most survivors were unfamiliar with the natural phenomenon 'tsunami' and resorted to a religious explanation. Relatively more women and children died, as men were away from home at the time, while a larger proportion of them could swim and could run faster when the waves came. The most affected districts in the south and the east represent 26 percent of the island's population, but only 17.5 percent of Gross Domestic Product (GDP) and these were on average relatively poor. It is documented that within this larger spectra again especially the poorest sections of the population have been hit, such as poor fishermen's families or illegal squatters along the railway line. It was stated in World Health Organization's (WHO) Situation report of 14th February 2005 that 80 percent of the affected households lived on less than one dollar per day/person before the tsunami struck and that 30 percent of the affected population was living well below the official poverty line. In the north this proportion may be even higher.

1.2 Physical Impact

The tsunami created considerable damage to property, environment and economy. The overall damage is estimated at US\$ 1 billion, representing 4.5 percent of GDP. Replacement needs are, however, often higher than the damages recorded, not only due to the depreciation of old stocks, but also due to the need to adhere to new rules and higher ambitions. Thus through re-development flaws and drawbacks from the past can be corrected and improvements achieved compared to earlier. Apart from the loss of assets, there is also a loss of output, such as in the fisheries and tourist sectors. Total output losses in the affected area for 2005-2006 are estimated at some US\$ 330 million or 1.5% of GDP. The overall incremental financing needs amount thus to US\$ 1.5-1.6 billion. This excludes relief expenditure by the government. Compared to the losses in private assets, the damage to public infrastructure has been relatively small. The costs of destruction of power lines and transformers remained limited to about US\$ 10 million. In the field of sanitation and water supply damage amounts to about US\$ 42 million. Railways and roads have been damaged, including structures such as bridges and culverts. Total damage of transport sector amounts to US\$ 85 million.

1.3 Economic Impact

According to the estimations two-thirds of the island's fisheries sector has been wiped out leading to a loss of employment of about 100,000. About 27,000 fishermen and their family members have died and 90,000 families were displaced. Additionally, 65 percent of the fleet has been destroyed or damaged, including outboard motors, fishing gear and nets. Damage to harbours and to facilities is considerable. The total damage to the fisheries sector was approximately US\$ 97million. The damage to the assets in the tourist sector is estimated as US\$ 250 million. Unemployment in the tourist sector and tourist-related services is estimated at 27,000 jobs with another 6,000 at risk. Agricultural damage is limited to standing crops. It has damaged an area of approximately 2,300 hectares as well as 2,500 home gardens. The intrusion of seawater has lead to high levels of soil salinity making these fields unsuitable for

production for the next few years. People have lost their domestic livestock, including poultry and goats, but the numbers are fairly low. Damage to irrigation and drainage systems was limited. Overall damage to the agricultural sector is estimated at US\$ 3 million. Some 30,000 jobs have been lost, but most of these losses will be temporary. The World Bank forecasted that the economy will grow 1 percent less as a result of the tsunami, i.e. 5 instead of 6 percent in 2005. Fish production will drop from a pre tsunami level of about 300,000 tons to 200,000 tons, while tourist arrivals will drop by some 175,000 to 425,000 in 2005. In contrast, the construction sector will grow from 6 to 9 percent in 2005, while the extra demand of commodities and building materials will create an extra inflation of between 1-2 percent.

1.4 Social Impact

With regard to education, 168 public schools, 4 universities and at least 18 training or vocational centres have been destroyed or damaged, including equipment, furniture, learning tools, library facilities. Total damage to the educational capital stock is estimated at around US\$ 26 million. Likewise, in the health sector clinics, hospitals, offices and drugstores were destroyed or damaged as well as equipment and vehicles. The damage to the health sector is about US\$ 60 million. There are also less visible consequences of the catastrophe. Apart from the effects of individual and group trauma on society, people have lost crucial parts of their networks and social capital. Their coping capacities and resilience may have been seriously affected leading to increased vulnerabilities for future adversity, whether through natural hazard, conflict or political or economic pressure. It is also open to speculation how the tsunami and the resulting aid will influence gender identities, relationships and dynamics in society and within the household.

2. IMMEDIATE HUMANITARIAN RELIEF

Immediately after the tsunami struck the Sri Lankan coast, the adjoining communities, the religious institutions and the services behind the local administration came to the relief of the affected people. The temples and churches transformed themselves into local rescue and relief centres and the local schools were converted to temporary camps where those internally displaced people settled down. Inland communities supported the local administration by organising themselves to provide food and clothing to victims along the affected coast, until the state was able to secure this aspect of the relief operation. The achievement of the country's health sector in the aftermath of the tsunami was unique.

The southern railway track from Angulana near Colombo to Matara in the deep south, a length of 135 km, was completely damaged and partly destroyed. The railways department lost no time in mobilizing its staff to assess the damage and reinstate the track. With the active support of trade unions the department was able to re-lay the track and commence rail services to the final point at Matara in 57 days. The coastal roads were badly damaged by the tsunami, making road transport to the affected districts difficult if not impossible. The Road Development Authority (RDA) mobilized all foreign and local contractors working on road projects in the country to clear the debris, install emergency bridges at all locations and make the roads motor able within 72 hours of the tragedy. Thus the engineers and workers toiled day and night to achieve the target and enabled vehicles transporting food and other needs to access the villages and refugee camps where displaced persons were housed. Electricity transmission too was disrupted, as was water supply and telecommunications. It did not take

ten days and in most places much less, for electricity and water to be restored. Wire line telephony took on average three weeks to restore in some places, while wireless telephony was restored in a matter of three days at the most.

3. RECONSTRUCTION EFFORTS

Everything was restored fast except housing. Immediately following the tsunami, large numbers of International Non Governmental Organizations (INGO) found their way to Sri Lanka to offer aid and assistance. These organizations were able to amass a great deal of funds for relief and rehabilitation from compassionate organizations and individuals in the rich countries. Overawed by these enormous offers of help from INGO and NGO communities the world over, the Sri Lankan government decided to hand over the responsibility to them of constructing new houses for those who were located within the 35 metre restricted zone declared by Sri Lanka's Coast Conservation Department. Fifty-eight well known international and national NGOs came forward and solemnly pledged to construct 65,782 houses which would have enabled not only the 30,049 families of the restricted zone but even the non-entitlement bearing sub families who lived with the main householders and non-entitlement bearing encroachers and those who lived on rent in other people's houses in the restricted zone to access new houses for themselves (Fernando, 2006). It was expected therefore that the displaced families living in the 57,057 transitional shelters will live in permanent houses relatively quickly.

However, this was not to be. Of the 65,782 houses pledged by the 58 INGOs and NGOs, Memoranda of Understanding (MOUs) were signed by them only in respect of 34,686 and what is more shocking is that by November 30, 2006 only 12,207 houses were completed and another 12,897 were in different stages of construction. For example, one INGO which pledged to build 15,000 houses, signed MOUs to construct 5,534 houses but in fact completed only 526 houses one year and eleven months after the tragedy. Another INGO which had pledged to build 26,000 houses and entered into an MOU only with respect to 992 houses had actually completed only 91 houses during the same period. At the same time not all NGOs were equal failures. Many kept their word and acted with transparency while many more contributed to the overall failure of the sector in the matter of post tsunami house construction. As a result 14,961 families still continue to live in transitional temporary shelters nearly two years after the tsunami.

Frustrated by their recurring failure to perform in the matter of housing reconstruction and increasingly despondent as the second year of post tsunami reconstruction and rehabilitation rapidly draws to a close, the Reconstruction and Development Agency (RADA) has appealed to the defaulting INGOs and NGOs to give the pledged funds to the affected families themselves to construct their own houses under the supervision of the district administration. They are now in the process of supporting the construction of 1,617 houses by affected families on this basis.

For the affected families that lived outside the restricted zone, four donors namely IDA/World Bank, ADB, KFW/Germany and SDC/Switzerland, came forward with resources to enable families to repair their partially and fully damaged houses. Cash grants of SL rupees 250,000 (US\$ 2,500) for fully damaged houses and SL rupees 100,000 (US\$ 1,000) for houses partially damaged were released in installments via the national banking system through a scheme carefully monitored and supervised by the district administration. Of the 39,361 fully damaged houses, 11,513 (29%) have been fully restored and the remaining 27,818 (71%) are under repair. Of the 39,823 partly damaged houses benefiting from this scheme, 34,988 (88%) have been fully restored while the remaining 4,835 (12%) are still

under repair. Thus with regards to partially damaged houses, the scheme has been most successful. In respect of the more severely damaged houses - the fully damaged category - however, it is our experience that the grant is insufficient and progress has been hence restricted. Despite the limitations it is agreed that the scheme has been efficiently and effectively implemented and monitored by the county's district administration.

Leckie (n.d.) stated that there is a common thread running through all disasters and one that holds the key to successful reconstruction, rebuilding and regeneration is that of land, housing and property rights. He has observed that hundreds of thousands of tsunami survivors continue to live in temporary shelters or tents six months after the disaster and will be waiting for many years until all of the housing that is needed is actually in place. Thailand, India and other affected countries have restricted the right to return but Sri Lanka stands out as the tsunami affected country which has sought most dramatically to reshape its residential landscape through the reconstruction process. Since government policies now prohibit new construction within 100 metres of the mean sea level, affected families are not happy due to its serious impact on peoples' livelihoods, especially fishing families dependent on the sea and immediate access to it. Also the failure to actively involve these communities in the reconstruction effort has caused additional frustration. For example the Government of Gujarat which, in the aftermath of the 2001 earthquake, allowed local communities and local NGOs to lead the reconstruction process; survivors there achieved a return to housing far more quickly than when private sectors led the reconstruction effort.

Further, Buckle (2004) appreciated the community involvement as follows; in England disaster management planning takes little account of community knowledge, skills and capacities. This places England at greater risk from newly evolving risks which are likely to require response and management arrangements that depart from a traditional almost exclusive reliance on emergency services, if these risks are to be dealt with effectively. In contrast in Australia disaster management arrangements are more broadly based on the activities of government agencies, voluntary groups and the community itself. Thus it offers Australia a higher level of protection in a changing risk environment. Governments are rarely able to meet all the needs of affected communities immediately. In addition, the resources of government, emergency services and local government are limited. It relies, therefore, on the knowledge, skills and capacities and resources of local people. Planning makes this process more efficient. Leckie (n.d.) further pointed out seven key areas to focus on in successful reconstruction:

The right to voluntary return

All survivors should be assured of the right to voluntarily return, without discrimination, to the land on which they originally lived. If homes are still capable of repair, their rights to recover, re-possess and re-inhabit these homes should be respected.

The right to adequate housing and secure tenure

Following all disasters, all affected families and individuals should be provided with access to adequate and affordable housing. Upon return or resettlement, security of tenure should be granted.

The right to participation, consultation and non-discrimination

Special effort should be made to ensure the full participation of disaster-affected persons in the planning and management of their return, re-housing or resettlement. All affected communities should be consulted on any housing plans and encouraged to form community based organizations to represent their own interests. All reconstruction and rehabilitation efforts should take account of the needs of especially vulnerable groups.

The right to protection in temporary housing arrangements

The setting up and running of temporary settlements following disasters should be in full conformity with international human rights standards. Within all temporary camps, physical and psychological security and mental health - particularly of women and children - should be maintained and protected.

Rights to livelihoods, social security, water, health, and education

Post disaster aid efforts should not be disproportionately directed towards providing emergency assistance and establishing temporary camps. A significant amount of the resources available for reconstruction and rehabilitation should be devoted to building appropriate housing and restoring lost livelihoods, assets for social security and health, education and facilities.

Equal rights to inheritance

All inheritance whether formal or informal, that are discriminatory and may thus prevent the equitable transfer of property to survivors should be scrapped.

Women's rights

Women have traditionally been at the forefront in ensuring the survival and welfare of their communities. Therefore, in addition to safeguarding women's rights it is particularly important to support women in the relief, reconstruction and rehabilitation effort and to respect their rights to participate..

4. CONCLUSIONS

Great strides have been made by the international community over recent decades in managing the emergency response to major natural disasters with a large and growing body of global knowledge. In the case of countries, evidence shows that those particularly exposed to the impacts of natural disasters are also starved of investments, infrastructure and professional expertise. Therefore the challenges of recovery from disasters will be with us for the foreseeable future. It is found that the long-term reconstruction is ineffective due to the lack of funding, institutional constraints, gaps in communication, lack of knowledge to support local efforts and absence of coordinated management and planning compared to effective and well funded immediate humanitarian relief. This is because the long-term reconstruction primarily lies with national, sub-national and local government level and therefore planning and implementation of recovery strategies are usually very limited and often incapacitated as a result of the disaster. However, it is mandatory to reinforce the long-term reconstruction, through effective funding and well coordinated management.

5. REFERENCES

Buckle, P. (2004) *A Comparative Assessment of Community Based Recovery Management in England and Australia*, Proceedings of the Second International Conference on Post Disaster Reconstruction: Planning for Reconstruction [online], UK, April, Available from:

<http://www.corporate.coventry.ac.uk/content/1/c6/01/02/90/ASSESSMENT%20OF%20COMMUNITY%20BASED%20RECOVERY%20MANAGEMENT%20IN%20ENGLAND%20AND%20AUSTRALIA.pdf> [Accessed 14 September 2006].

- Buckle, P., Smale, S. and Marsh, G. (2004) *The concept of community in community capability and disaster management*. Proceedings of the Second International Conference on Post Disaster Reconstruction: Planning for Reconstruction [online], UK, April. Available from:
<http://www.corporate.coventry.ac.uk/content/1/c6/01/02/90/THE%20CONCEPT%20OF%20COMMUNITY%20IN%20COMMUNITY%20CAPABILITY%20AND%20DISASTER%20MANAGEMENT.pdf> [Accessed 14 September 2006].
- Fernando, S. (2006) *Post Tsunami Recovery in Sri Lanka*, The Sunday Times [Online], Available from: www.sundaytimes.lk/061224/News/n104.html [Accessed 4 January 2007].
- Hodgson, R.L.P. (2004) *Human reactions to Disaster: Their consequences for long-term reconstruction success*. Proceedings of the Second International Conference on Post Disaster Reconstruction: Planning for Reconstruction [online], UK, April. Available from:
<http://www.corporate.coventry.ac.uk/content/1/c6/01/02/90/HUMAN%20REACTIONS%20TO%20DISASTER.pdf> [Accessed 14 September 2006].
- Jayasuriya, S., Steele, P. and Weerakoon, D. (2005) *Post-Tsunami Recovery: Issues and challenges in Sri Lanka* [Online], Available from:
www.abdi.org/daper/2005/11/10/1491-tsunami.srilanka/ [Accessed 4 January 2007].
- Klem, B. and Frerks, G. (2005) *Tsunami response in Sri Lanka: Report on a field visit* [Online], Available from:
www.tsunami-evaluation.org/.../0/Wageningen_tsunami_response_in_srilanka_20050314.pdf [Accessed 4 January 2007].
- Leckie, S. (n.d.) *The great land theft* [Online], Available from:
www.cohre.org/get-attachment.php?attachment-id [Accessed 4 January 2007].
- Nikhileswarananda, S. (2004) *Post disaster reconstruction work in Gujarat on behalf of Ramakisharra mission*. Proceedings of the Second International Conference on Post Disaster Reconstruction: Planning for Reconstruction [online], UK, April. Available from:
<http://www.corporate.coventry.ac.uk/content/1/c6/01/02/90/POST%20DISASTER%20RECONSTRUCTION%20WORK%20IN%20GUJARAT%20ON%20BEHALF%20OF%20RAMAKRISHNA%20MISSION.pdf> [Accessed 14 September 2006].
- Lloyd-Jones, T. (2006) *Mind the gap! Post-disaster reconstruction and the transition from humanitarian relief* [Online], RICS, London, June. Available from:
http://www.rics.org/NR/rdonlyres/BC7D92EE-9002-4C41-BD68-B10D644DDDB5/0/RICS_DMR_p1_51.pdf [Accessed 14 September 2006].