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Post-Tsunami Recovery: Issues and Challenges in Sri Lanka

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Post-Tsunami Recovery: Issues and Challenges in Sri Lanka

Sisira Jayasuriya, Paul Steele and Dushni Weerakoon
in collaboration with
Malathy Knight-John and Nisha Arunatilake

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ABSTRACT

This is one of the first analytical reports on the major lessons learned from Sri Lanka's experience of the tsunami and the response in the rebuilding phase.

- Promised external assistance appeared at first to be more than adequate to cover reconstruction costs in full. But problems soon emerged with relief payments, providing credit facilities, distribution of funds, coordination of reconstruction activities, and mismanagement of funds.
- Progress has been slow, uneven, and concentrated in certain areas, while missing other regions.
- Poor coordination among domestic and external agencies has emerged as a serious problem, together with the sensitive issue of balancing political considerations and humanitarian assistance to the needy.
- Some international NGOs' reluctance to cooperate with government institutions, and competitive behavior towards other agencies have hampered coordination and implementation.
- The modalities of aid spending, including procedures and mechanisms need to be reviewed to improve quick and effective responses. Problems with aid utilization and accountability must be urgently addressed.

Practical policy recommendations made in this report include: livelihood related cash payments to households; assistance for rebuilding houses; titles to new houses; buffer zone rules; early warning and disaster management systems; coordination of donor assisted activities and macroeconomic policy issues.

Doubtless other tsunami-affected countries could benefit from a similar study by local scholars to reconfirm applicable lessons and to identify homegrown solutions so that something of lasting positive value may yet come out of this appalling tragedy.

TABLE OF CONTENTS

<i>Acknowledgements</i>	II
<i>Abstract</i>	III
<i>Table of Contents</i>	IV
Executive Summary	1
1. Introduction	4
2. Background	6
3. Tsunami: Immediate Impact and Response	8
3.1 Immediate Relief Effort: A Success	10
4. Impact Assessment	11
4.1 Impact on GDP	13
4.2 Expectations and Expenditure Responses	13
5. Damage and Recovery: A Review	14
5.1 International Assistance for the Recovery Effort	15
5.2 Aid Coordination and Distribution	15
5.3 Aid Coordination with Donor Agencies and NGOs	16
5.4 Aid Coordination in LTTE Held Territory	17
5.5 Livelihood Issues	18
5.5.1 Fisheries	21
5.5.2 Tourism	23
5.5.3 Cash Grants	24
5.5.4 Micro-enterprises and Microfinance	26
6. Rebuilding Capital Assets and Infrastructure	29
6.1 Residential Housing	29
6.2 Housing and the Buffer Zone	29
6.3 Housing Programme Progress	33
7. Emerging Issues	36
7.1 Aid: Pledges and Realization	36
7.2 Aid Utilization	37
7.3 Adequacy of Funding and Cost Escalation	38

8.	Aid, Cost Inflation and ‘Dutch Disease’: Effects and Implications	40
8.1	Exchange Rate and Capital Asset Replacement	42
8.2	Financing the Emerging Funding Gap	43
8.3	Fiscal and Monetary Policy	44
9.	Some Lessons and Recommendations	46
9.1	Review Livelihood-related Cash Grants for Tsunami Affected Households	46
9.2	Review Cash Grants for House Repairs/Rebuilding	47
9.3	Selection of Housing Beneficiaries and Titles to New Houses	47
9.4	Buffer Zone Rules	48
9.5	Early Warning Systems and Disaster Management Systems	48
9.6	Aid Coordination	52
9.7	Transparency and Accountability in Aid Disbursement	52
9.8	Macroeconomic Policies	53
	References	54

Tables and Figures (in body of text)

Table 1.	Selected Macroeconomic Indicators: 2000–2005	7
Table 2.	Estimates of Losses and Needs Assessment on Reconstruction and Rebuilding (US\$ million)	12
Table 3.	Donor Assistance for Post-Tsunami Reconstruction Activities	15
Table 4.	Donor Built Housing: Current Status (September 2005)	34
Table 5.	Assistance to Owner Build Housing: Status (November 2005)	35
Table 6.	Cost Escalation: Housing Construction	39
Table 7.	Selected Indicators of Public Finance	45
Figure 1.	Number of Reported Deaths Due to Tsunami	9
Figure 2.	Nominal Exchange Rate (US\$ per Rs.)	14

Annexes

Table A-1.	Recommended Set Back Standard	56
Table A-2.	Foreign Aid Commitments, Disbursement and Utilization by Type	57
Table A-3.	Prices of Major Building Materials	57
Figure A-1.	Inflation and Interest Rates	58

Executive Summary

1. The tsunami of December 26, 2004 left Sri Lanka with over 30,000 people dead, almost a million displaced and an estimated 150,000 people lost their primary source of livelihood. There was massive damage to infrastructure and capital assets; estimated at around US\$1 billion (4.5 per cent of GDP), particularly in tourism and fisheries sectors. The medium-term financing needs were estimated to be around US\$1.5–1.6 billion (7.5 per cent of GDP). It is expected to reduce 2005 GDP by around 0.5–1.0%.
2. With no previous history of such disasters Sri Lanka was quite unprepared for the tsunami. But with a massive community response followed by government and international action, it was able to implement an initial relief effort that, in the circumstances can be termed a success.
3. Promised external assistance—a total of US\$2.2 billion over the next 2–3 years—appeared to be more than adequate to cover reconstruction costs in full. But problems have emerged with relief payments, providing credit facilities, distribution of funds, coordination of reconstruction activities, and mismanagement of funds. Clearly the reconstruction phase poses complex and difficult challenges.
4. Housing is the households' main concern. Reconstruction and repairs have been hampered by the 'no-build' coastal buffer zone, cuts to relief payments and cost increases. Progress has been slow, uneven, and concentrated in the south and southeast, though the worst affected areas are in the east and northeast.
5. Reconstruction spending produces a particular type of 'Dutch Disease' reflected in construction cost increases which have escalated rapidly (by 40–60% in some instances). Overall inflation, caused primarily by policy and exogenous factors, is rising, and may accelerate with election cycle spending, high oil prices and recently promised increases in government expenditures. *This implies a major increase in funds required to fully meet construction targets in the private housing sector and in public infrastructure, implying a major funding gap.* The government has limited options to address the funding short fall. Poorer households and public infrastructure reconstruction could be severely affected.
6. The report raise issues in the following areas and presents several related policy recommendations: livelihood related cash payments to households; assistance for rebuilding houses; titles to new houses; buffer zone rules; early warning and disaster management systems; coordination of donor assisted activities and macroeconomic policy issues.
7. A Rs.5,000 (US\$50) monthly grant—a modest sum that falls short of poverty line incomes for a household—was expected to be provided for about six months to all affected households. But this has been scaled back to four months and its scope reduced by tightening eligibility rules. This is inequitable and counterproductive. The grant

should be paid to all affected households for six months using donor funds earmarked for livelihood assistance.

8. The cash grants for house rebuilding and repairs are manifestly inadequate given cost escalations. We recommend an upward revision of the grant, at least for the poorer households, using designated donor funds.

9. Eligibility for new houses should be determined on clear criteria in a transparent manner. Freehold title should be granted jointly to the husband and wife unless it is a single parent family, changing existing legislation as necessary. Any time restrictions on sales to non-family members should be limited to minimise market inefficiencies and illegal transactions.

10. A buffer zone to achieve coastal environmental protection and to minimize impact of natural hazards in the future has intrinsic merit, and the basic concept should be retained. However, limits should be set through a transparent and consultative process, clarifying the underlying scientific and economic rationale for zone limits, and regulations must be combined with incentive-based systems drawing on international experience.

11. Livelihood recovery must focus on upgrading key affected sectors such as fisheries, tourism and small and medium scale entrepreneurs to achieve pro-poor growth. At the local level, economic recovery plans must be implemented led by poor households with local government and inputs from NGOs. To achieve national upgrading and local level economic recovery requires a broad approach learning from and building upon past experience of poverty alleviation in Sri Lanka and placing livelihood recovery in a broader political, economic, social and economic context. Funds are less of a constraint than institutional challenges in overcoming mistrust and negative perceptions among key stakeholders, using improved knowledge of demand and supply of livelihood activities, providing much greater voice for affected households, strengthening the capacity of local government, affected households, NGOs and CBOs to plan, implement and monitor livelihood recovery programmes and improving the use of micro-finance as a tool for poverty reduction.

12. The tsunami experience, the more recent Pakistan-Indian earthquake, climate change, and scientific opinions highlight the need for greater preparedness to cope with natural disasters. Building on the Sri Lanka Disaster Management Act (presented to Parliament in February 2005), a scientifically sound and financially feasible disaster management system geared to coping with the multiple hazards must be formulated. Sri Lanka cannot afford a multiplicity of specialised warning systems based on low probability events. Options to meet financing issues arising from catastrophic risks, including purchase of insurance and setting aside reserves to meet unexpected disasters should be explored.

13. Poor coordination among domestic and external agencies have emerged as serious problems, together with the sensitive issue of balancing political considerations and humanitarian assistance to the needy. Some international NGOs' reluctance to cooperate with government institutions, and competitive behaviour towards other agencies have hampered coordination and implementation. The modalities of aid spending, including procedures and mechanisms should be reviewed to improve quick and effective responses.

14. Problems with aid utilisation and accountability highlighted by the Auditor General's Department must be urgently addressed. But, despite these weaknesses and inefficiencies, the strengths and positive contributions of government institutions must also be recognised. Attempts to bypass government institutions by relying primarily on NGOs can be counterproductive, complicating coordination of reconstruction efforts. A balanced approach must be adopted to improve coordination among donor, government and community groups.

15. Overall macroeconomic management circumstances and policies are critical to the success of reconstruction. The tsunami hit at a time of serious macroeconomic imbalances, and paradoxically helped to mask them for a time. But they are re-emerging now, fuelling inflation, lowering the real value of aid funds, constraining government's fiscal capacity, and adversely affecting reconstruction. Pressure on the currency generates temptations to prop up the currency using tsunami aid related foreign reserves by delaying reconstruction activities. This would achieve short-term stability at the expense of reconstruction, growth and equity, while aggravating macro imbalances in the longer term. Wider macroeconomic imbalances should be addressed directly targeting their sources; tsunami aid funds should be utilised for reconstruction purposes.

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1. Introduction

On 26 December 2004 Sri Lanka was hit by the tsunami caused by a massive off shore earthquake some 1,500 km away near northern Sumatra. The earthquake, measuring 9.0 on the Richter scale, was one of the largest ever recorded in the sea, and was produced by movements in tectonic plates at the interface between the India and Burma plates.¹ Over 1,000 km of the earth's crust snapped, moving the Burma plate approximately 13 metres over the under-thrusting Indian plate. The thrusting rapidly raised the sea floor, and the 1,500 km of open and deep ocean in the bay of Bengal enabled the ocean waves to build up momentum, forming a massive wall of high water on the coastlines as the sea bottom shallowed.

The earthquake occurred on 26th December at 6:58 am Sri Lanka time. The first large wave hit the east coast at 8:35 am. Soon after waves several meters high battered many other parts of the coast. Within a very short time over 30,000 people were dead, and several hundred thousand had been displaced. In addition massive damage had been inflicted on thousands of houses and other buildings, railways, bridges, communication networks and other infrastructure and capital assets.

Sri Lanka was completely unprepared for the tsunami. It experiences periodic droughts, floods, landslides and the occasional cyclone. But the nation had never experienced a tsunami, or indeed any other type of natural disaster of this scale and magnitude in recorded history. Even the tsunami generated by the Krakatoa volcanic eruption of 1883 had lost much of its power by the time it reached Sri Lanka, and it only had a barely discernible impact on the east coast with no recorded casualties. While minor earth tremors are not uncommon, no serious earthquake has occurred for three centuries.² Sri Lanka had no effective domestic hazard warning system, and had not felt

¹ "Shallow undersea earthquakes are responsible for most tsunamis though at times landslides triggered by smaller seismic events can also generate potentially lethal waves. Strong earthquakes cause a displacement of the crust. When they occur underwater, this crustal movement disturbs a large volume of water like a giant paddle and ripples spread out in all directions at speeds of 600–800 kilometers per hour, comparable to commercial aircraft. In the open ocean, they go unnoticed but once they reach shallower waters they slow down and begin to crest. The resulting waves are known as "tsunamis". They are scientifically described as a series of very long wavelength ocean waves caused by the sudden displacement of water by earthquakes, landslides, or submarine slumps and are mostly caused by earthquakes of magnitude 7.5 or greater." (<http://asc-india.org/menu/waves.htm>)

² Historical records indicate that a major earthquake in 1615 had inflicted serious damage with large numbers of casualties. (<http://www.lankalibrary.com/geo/portu/earthquake.htm>)

the need to be part of international early warning systems, such as the Tsunami Warning System (TWS) in the Pacific (with 26 member countries).

The death and devastation that accompanied the tsunami were a huge shock to the country. In the immediate aftermath of the tsunami, Sri Lankans responded not only with shock, grief and horror but also with a massive outpouring of courage and humanity that transcend barriers of race and creed. In the days that followed, with support also arriving from international organizations, they were able to successfully ensure that survivors were fed, clothed and sheltered, the injured provided with medical attention, and thousands of bodies were cremated or buried. Despite the understandable confusion and even chaos that accompanied this effort at times, there can be little doubt that Sri Lanka can be proud of how it responded to the immediate challenges of the tsunami impact.

The widespread devastation caused by the tsunami in Sri Lanka as well as other parts of Asia caught the world's attention and generated a wave of sympathy and support. It was perhaps fortuitous that many of the coastal areas were well known tourist destinations. Global media attention was perhaps intensified by the fact that many western tourists were caught up in the tragedy, and the international media coverage was unprecedented for a natural disaster that primarily affected a group of developing countries. The level of governmental and non-governmental assistance—both immediate and promises for the future—was unprecedented. For Sri Lanka, as for other affected countries that have been ready to accept external assistance, the promised external assistance has appeared to be more than adequate to cover the full costs of both immediate relief and reconstruction, and produced, for a while, an almost euphoric national mood. However, as the months go by, it is becoming clear that moving from the immediate relief effort to addressing the massive reconstruction tasks poses a different and, in many ways more complex, set of challenges.

The trauma, grief and suffering associated with deaths of family members, relatives and friends, destruction of houses, displacement, loss of livelihoods, savings and valued belongings are unquantifiable. The task of rebuilding shattered lives is a difficult and arduous task that requires both material and non-material assistance requiring a multi-faceted and multi-pronged strategy. The focus here, however, is primarily on the economic issues related to post-tsunami reconstruction and recovery, reflecting constraints imposed by time, resources and our disciplinary expertise. This report is based on a series of studies conducted by the Institute of Policy Studies of Sri Lanka, in collaboration with the Asian Economics Centre at the University of Melbourne, with generous financial assistance from the Asian Development Bank Institute (ADBI). We hope that it will contribute to the discussions and debates on appropriate policies for the medium term reconstruction effort by providing an analysis of some of the priority issues from a Sri Lankan perspective.³

³ Athukorala and Resosudarmo (2005) present an early discussion of some of policy issues related to tsunami reconstruction in Indonesia and Sri Lanka.

2. Background

The tsunami struck at a time when the Sri Lankan macro economy was already under pressure on several fronts, reigniting fears of a slide into the kind of crisis that was seen in 2001 when the economy contracted by 1.5 per cent (Table 1). Some of the same problems that produced the 2001 crisis were re-emerging.

The 2001 crisis was driven primarily by a rapidly deteriorating domestic policy and political environment in the context of accumulated macroeconomic imbalances, aggravated by lower exports due to depressed global economic conditions and lower agricultural output due to adverse weather. The situation was turned around then by a series of political and economic policy initiatives. The initiation of a ceasefire agreement (CFA) with the Liberation Tigers of Tamil Ealam (LTTE) was seen as a first step towards solving the country's long standing ethnic conflict. The prospect of a lasting peace and a substantive set of economic reforms—including the floating of the currency—succeeded to some extent in garnering donor support and renewing investor confidence. GDP growth resumed at an annual rate of 6 per cent in 2003, fiscal consolidation efforts saw the budget deficit reduced progressively to 8 per cent from 10.8 per cent in 2001 while inflation moderated to 6.3 per cent from 14.2 per cent in 2003. There was considerable unease within the business and investor community about the direction of policy under the new government elected in April 2004. Its programme, with the stated goal of 'growth with equity', and a strong emphasis on rural economic development, was viewed as being populist and interventionist.

Economic growth began to slow from the second quarter of 2004 and ended the year with a growth rate of 5.4 per cent. Whilst the election related uncertainties and the ensuing policy vacuum no doubt contributed to the slowdown in economic activity, some policy weaknesses and the slow pace of reforms contributed to the lacklustre performance. The most visible, and potentially the most destabilizing manifestation of weakening macroeconomic management in 2004 was a persistent build up of inflationary pressure from mid-year onwards. Inflationary pressure was fuelled on multiple fronts, not least by the conduct of government fiscal policy. A budget deficit of 8.2 per cent of GDP in 2004 far exceeded the set target; current expenditures (with 85 per cent taken up in equal proportions by payments on wages and salaries, interest payments, and transfers and subsidies) saw a sharp increase as a direct result of policy intervention. Transfers and subsidies increased from 4 per cent of GDP in 2003 to 5.2 per cent 2004 as subsidy costs rose. Though the fiscal deficit was reined in by cutting back on capital expenditure, the large government borrowing required to finance the deficit kept credit growth high, and credit to the government grew at 20 per cent in 2004.

A ballooning oil import bill saw the current account deficit on the balance of payments (BOP) widening to over 3.3 per cent of GDP from 0.4 per cent in 2003. This was accompanied by a deceleration of capital inflows, with long-term inflows to the government (consisting primarily of foreign concessional loans) declining by US\$130 million in 2004. Foreign borrowings by the commercial banking sector increased significantly in 2004 raising the country's foreign private debt exposure. The currency depreciated by 8.5 per cent against the US dollar despite efforts to bolster the exchange rate which contributed to the decline in Sri Lanka's gross official reserves from US\$2.3 billion at the beginning of 2004 to US\$1.9 billion by November.

Table 1. Selected Macroeconomic Indicators: 2000–2005

NATIONAL ACCOUNTS		2000	2001	2002	2003	2004	2005 ^a
GDP	US\$ billion	15.7	15.1	16.4	18.2	19.4	n.a.
GDP growth	%	6.0	–1.5	4.0	6.0	5.4	5.6
Agriculture	%	1.8	–3.4	2.5	1.6	–0.7	0.0
Manufacturing	%	7.5	–2.1	1.0	5.5	5.2	6.8
Services	%	7.0	–0.5	6.1	7.9	7.6	6.9
Investment	% of GDP	28.0	22.0	21.2	22.1	25.0	27.0
Savings	% of GDP	17.4	15.8	14.4	15.9	15.9	n.a.
EXTERNAL SECTOR							
Exports	US\$ million	5522	4817	4699	5133	5757	6375
Imports	US\$ million	7320	5974	6105	6672	8000	9174
Trade balance	% of GDP	–10.7	–7.3	–8.5	–8.4	–11.2	–11.9
Current a/c balance	% of GDP	–6.4	–1.4	–1.4	–0.4	–3.3	–4.3
FDI	% of GDP	1.0	0.5	1.1	0.9	1.1	
Total official reserves	US\$ million	1049	1338	1700	2329	2196	2404
Tourist arrivals	'000 persons	400414	336794	393174	500642	566202	n.a.
FISCAL VARIABLES							
Govt. expenditure	% of GDP	26.7	27.5	25.4	23.7	23.5	24.9
Govt. revenue	% of GDP	16.8	16.7	16.5	15.7	15.4	16.4
Fiscal balance	% of GDP	–9.9	–10.8	–8.9	–8.0	–8.2	–8.5
Govt. debt	% of GDP	96.9	103.2	105.4	105.8	105.5	n.a.
PRICES AND MONEY							
Rate of inflation	%	6.2	14.2	9.6	6.3	7.6	n.a.
Interest rate ^b	%	9.89	10.78	7.47	5.27	5.31	n.a.
Broad money (M2)	% change	12.9	13.6	13.4	15.3	19.6	15.0
Exchange rate	Rs./US\$	80.06	93.16	96.73	96.74	104.61	n.a.
ASPI ^c	1985=100	447.6	621.0	815.1	1062.1	1506.9	n.a.

Notes: a. Provisional.
b. Commercial banks' weighted average deposit rate.
c. All share price index.

Source: Central Bank of Sri Lanka, *Annual Report*, various issues; and GOSL (2005), "Budget 2006: Statement under the Fiscal Management [Responsibility] Act No. 3 of 2003", November 2005 (for 2005 provisional estimates).

These domestic and external developments led to an acceleration of inflation from mid-2004, and real interest rates turned negative. Symptoms of a bubble economy began to emerge: a sharp increase in credit growth to the private sector in excess of 20 per cent, with an estimated 40 per cent of the increase for consumption spending; and a boom in the Colombo stock market unsupported by major indicators of economic fundamentals. The peace process appeared to have stalled, and with privatization initiatives shelved concerns over the government's ability to reduce the fiscal deficit began to increase. Markets started to get jittery with the growing realization that fundamental imbalances in the economy were intensifying. Though the external payments situation improved marginally in December 2004 the rupee depreciation again

gathered pace. On 17 December 2004 the currency fell to a historical low of Rs.105 against the US dollar.

Thus, the tsunami came at a time of bleak economic news. If there was no effective policy response, a slide into crisis became a serious possibility. The tsunami diverted attention away from these imbalances but did not eliminate them. As we look at the post-tsunami recovery issues and the policy scenarios, it is important to emphasize that the successful post-tsunami recovery is inextricably tied to the resolution of these fundamental structural imbalances.

3. Tsunami: Immediate Impact and Response

The immediate impact of the tsunami was unprecedented. The death toll is estimated at over 36,000 (30,957 people listed as dead with an additional 5644 listed as missing) according to the latest figures available (DCS, 2005). The majority of victims were women and children. An estimated total of 800,000 people were displaced. In terms of the dead and missing numbers, Sri Lanka's toll was second only to Indonesia (126,804, missing 93,458, displaced 474,619), and greater than India (10,749; missing: 5,640; injured: 6,913), and Thailand (over 5,000 dead and 3,000 missing).⁴ Tens of thousands of houses were damaged or destroyed (including large numbers of fishermen's houses). Twenty-five beach hotels were severely damaged, and another 6 were completely washed away. More than 240 schools were destroyed or sustained serious damage. Several hospitals, telecommunication networks, coastal railway network, etc., were also damaged.

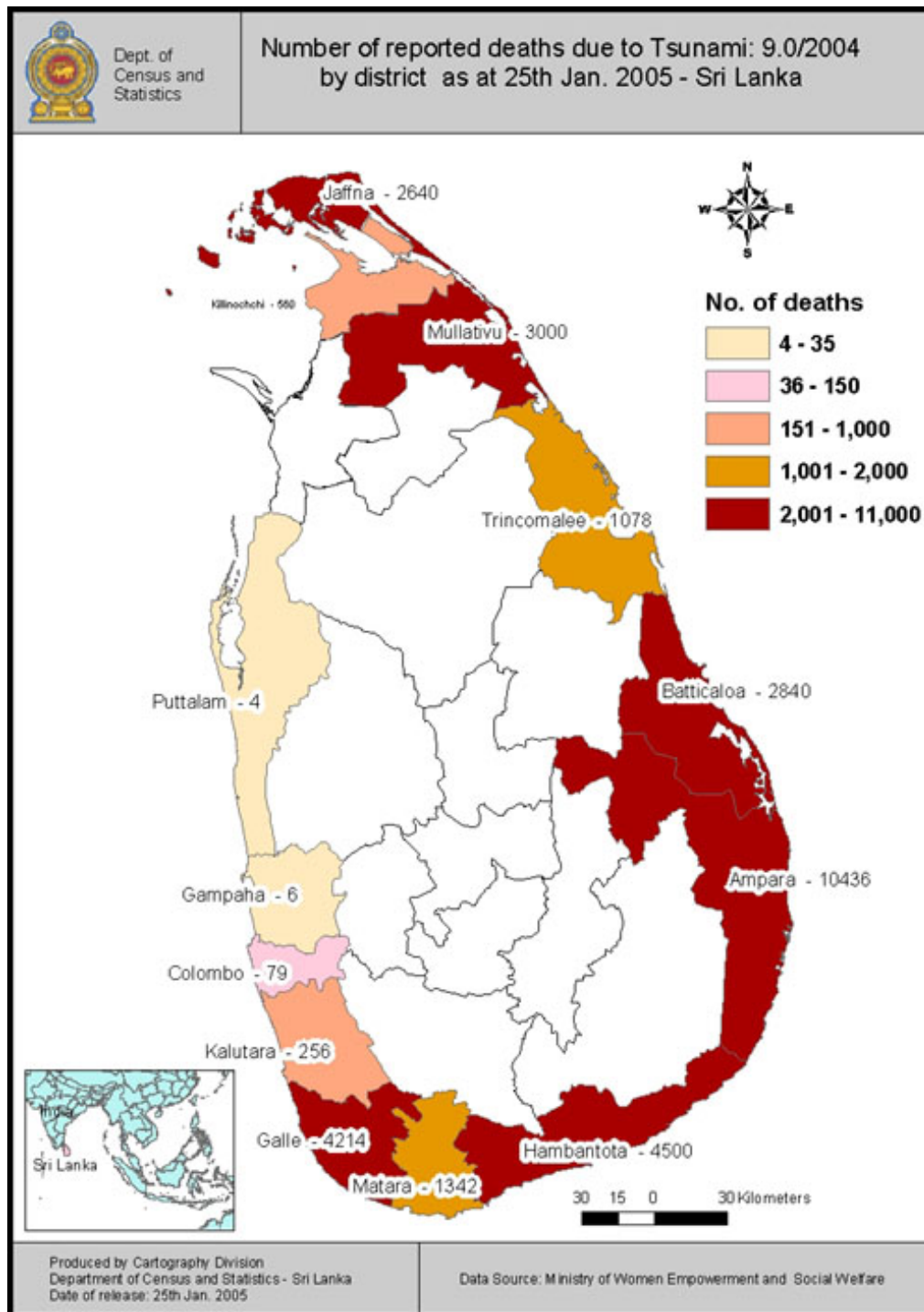
The geographic impact of the tsunami was uneven. Much of the coastal belt of the Northern, Eastern and Southern Provinces and some parts of the Western Province were severely damaged. The Northern and Eastern Provinces were particularly hard hit accounting for two-thirds of deaths and almost 60 per cent of the displacement (Figure 1). The severity of the tsunami disaster in the Northern and Eastern Provinces compounded problems arising from the two decades of conflict: the majority of the 360,000 internally displaced people live in these two provinces.⁵

The tsunami hit on a public holiday—a Sunday after the Christmas day, which also happened to be a Full Moon day (a day of religious observance for the majority Buddhist community). Most government offices were shut or had only a skeleton staff. The initial and immediate response came from community groups. This was soon followed by government initiatives organized by the Prime Minister—whose own constituency, Hambantota, suffered significant damage. The President, who was in London on holidays, soon returned to Sri Lanka and assumed overall leadership of the government's tsunami response. Subsequently, other Ministers in charge of key sectors hit by the tsunami (fisheries, tourism) also returned from overseas visits and took charge of their respective ministerial responsibilities.

⁴ ADB (http://www.adb.org/media/Articles/2005/6618_tsunami_impact_Indonesia, accessed 10/09/05); figures for Thailand are from IMF sources.

⁵ In the Northern and Eastern Provinces, average infant mortality is more than double that of the rest of the country, maternal mortality is three times as high, and almost 50 per cent of children are under-weight.

Figure 1. Number of Reported Deaths Due to Tsunami



Source: Department of Census and Statistics (www.statistics.gov.lk)

In the immediate aftermath of the tsunami, the Ministry of Public Security, Law and Order set up an operations centre, Centre for National Operations (CNO), to handle the response, and the Secretary to the Ministry was appointed as the Commissioner General of Essential Services to oversee coordination of government agencies involved in rescue and relief. Three Task Forces were set up—Task Force for Rescue and Relief (TAFRER), Task Force for Logistics, Law and Order (TAFLOL), and Task Force for Rebuilding the Nation (TAFREN) to address specific aspects of the relief effort. From the very early stages there were concerns about how assistance could be channelled to LTTE controlled areas. However, it appears that basic relief supplies did manage to get through to affected people during the early phases of the relief effort.

3.1 Immediate Relief Effort: A Success

While there were hiccups and some amount of confusion in organizing relief, for a country that had not previously experienced such a disaster, Sri Lankan institutions responded reasonably well. Essential medical aid, emergency food and other relief supplies were mobilized within a day. Temporary shelter was provided to the displaced in schools, other public and religious buildings, and tents. Communities and groups cooperated across barriers that had divided them for decades. Public and private sector organizations cooperated and organized relief efforts at many levels. Sri Lanka's past investments in public health paid off in this emergency: the broad-based public health system and community awareness of basic sanitary and hygienic practices ensured that there were no disease outbreaks.

Once the immediate relief and rehabilitation measures for provision of food, shelter, clothing, clean water, and sanitary and medical facilities to affected families had been provided, it was necessary to address community needs to cope with the trauma and start rebuilding their lives. A high priority was to restore at least basic education facilities to affected children. By mid-year 85 per cent of the children in tsunami-affected areas were back in school. Relief efforts included provision of finances to meet immediate needs. Compensation of Rs.15,000 (US\$150) was offered for victims towards funeral expenses; livelihood support schemes included payment of Rs.375 (US\$3.75) in cash and rations for each member of a family unit per week, a payment of Rs.2,500 (US\$25) towards kitchen utensils. These initial measures were largely successful, though there were some problems with lack of coordination.⁶

In the circumstances, the following assessment of the *initial* response to the tsunami, presented to the donor meetings held in Sri Lanka in May 2005, seems an accurate description of the situation:

“In the months following the disaster, much has been accomplished. The general consensus is that emergency relief was singularly successful in meeting the immediate needs of the affected people. The unprecedented

⁶ For example, while food rations were generally available, there were problems with availability of adequate varieties and quality in some locations; complaints emerged about application of different rules for the distribution of rations and cash grants from area to area (Sida, DFID and GTZ, 2005).

outpouring of private and institutional generosity meant that families were provided with a place to stay, food was distributed, medical assistance was made available, orphaned children were taken into care. Basic public services such as education, electricity and security were soon restored to close to pre-tsunami levels.

As a result, the epidemics and deaths that many feared following the disaster never happened. This rapid stabilization of a traumatized population has allowed attention to thus quickly be turned towards the, in many ways, more difficult and complex challenge of assisting the affected areas to return to normalcy and the affected families to begin to rebuild their lives.”⁷

However, tackling the next phase of reconstruction and recovery is likely to be both more complex and difficult. These challenges are discussed in the following sections.

4. Impact Assessment

In order to develop a strategy for reconstruction it is necessary to have an assessment of damage. In this respect, Sri Lanka was fortunate to get an early assessment done by end-January 2005 through a joint effort of the Asian Development Bank (ADB), the Japan Bank for International Cooperation (JBIC), and the World Bank (WB): “Sri Lanka 2005 Post-Tsunami Recovery Program—Preliminary Damage and Needs Assessment.”⁸ This report provided a picture of the asset damage and economic losses in each affected sector and provided an estimate of the overall incremental financing needs.

The ADB-JBIC-WB assessment estimated that Sri Lanka had suffered asset damages of around US\$1 billion (4.5 per cent of GDP), and estimated that the medium-term financing needs (including immediate relief) would be around at US\$1.5–1.6 billion (7.5 per cent of GDP). The largest financing needs were in the housing sector.⁹ The destruction of private assets was substantial (US\$700 million), in addition to public infrastructure and other assets. Loss of current output in the fisheries and tourism sectors—which were severely affected—were estimated at US\$200 million and US\$130 million, respectively. Key industrial, agricultural and metropolitan centers were relatively unaffected and the damage to capital assets was primarily to tourism and fisheries sectors, each of which contributes only around 1.5–2 per cent of GDP.

These aggregate figure for financing needs were quite close to the government’s own estimate of US\$1.8 billion presented in February 2005 though there were some important differences at the sector level damage estimates (GOSL, 2005a).¹⁰

⁷ <http://www.erd.gov.lk/devforum/Executive%20summary%20final.htm>

⁸ This is available on: <http://www.adb.org/Tsunami/sri-lanka-assessment.asp>

⁹ The significant differences between total recovery needs and damages in some sectors are due to the fact that recovery strategy for those sectors focuses on long term development targets rather than merely on restoration.

¹⁰ GOSL (2005), “Post Tsunami Recovery and Reconstruction Strategy”, May 2005.

The Government of Sri Lanka (GOSL) subsequently (May 2005) firmed up the country's total investment needs to be US\$2 billion (GOSL, 2005b) (Table 2). The differences between these estimates reflect the government's more ambitious longer-term plans while the donor assessment was largely geared to restoring the pre-tsunami situation.

Table 2. Estimates of Losses and Needs Assessment on Reconstruction and Rebuilding (US\$ million)

Sector	ADB/JBIC/WB*		GOSL**
	Losses	Needs	
Housing	306–341	437–487	400
Roads	60	200	210
Water and Sanitation	42	117	190
Railways	15	130	77
Education	26	45	90
Health	60	84	100
Agriculture	3	4	10
Fishery	97	118	250
Tourism	250	130	58
Power	10	67–77	–
Environment	10	18	30
Social Welfare	–	30	20
Excluded Items	90	150	
Telecommunication (Fishing and rural)	–	–	60
Port Development	–	–	32
Industrial Development	–	–	34
Enterprise Development	–	–	55
Regulatory and Admin Infrastructure	–	–	38
Microfinance/SME credit	–	–	150
Total	970–1000	1500–1600	1769

Source: *ADB, JBIC, World Bank (2005); ** GOSL (2005b).

4.1 Impact on GDP

The impact of the tsunami on the country's immediate output as measured by the GDP figure is expected to be fairly limited—estimates range from 0.5–1.0 per cent reduction in 2005 GDP at the time of writing (September, 2005). This relatively small impact on GDP appears somewhat surprising given the extent of the asset and human losses. This is partly because only a relatively small sector of the economy was affected. It is also because the impact on current GDP measures only the loss of services from destroyed capital assets and human resources *during the current year*. The overall impact of the tsunami on national income is of course much larger, being the *cumulative sum of such annual losses incurred in future* due to the absence of the destroyed assets. The overall impact on national income over time will depend on how quickly asset replacement or rehabilitation will occur.

Further, spending on relief efforts will have an immediate positive effect on current GDP. Affected households have benefited from informal transfers by families, friends, community organizations, etc., to meet their immediate basic needs, lowering the extent to which their overall spending would fall. In fact, a significant proportion of foreign capital inflows in early 2005 reflected private transfers to tsunami affected households and regions by Sri Lankans domiciled abroad as well as funds generated through private donations. Further, some of the affected households would 'smooth' their consumption expenditures if they had savings or access to credit markets. The overall effect of these spending responses induced by the tsunami is to mitigate the fall in aggregate household expenditures.¹¹

4.2 Expectations and Expenditure Responses

When discussing the immediate economic impact of the tsunami, and likely spending effects, it is important to factor in changes in community *expectations*. Spending and savings decisions are strongly influenced by expectations held about future incomes and spending needs. A large natural catastrophe that destroys capital assets and consumer durables can sharply lower expectations of all future income flows. In other words, there is a reduction of the overall wealth available for consumption over their lifetime. When people experience a reduction in their wealth position, a common response is to cut down on spending to adjust to their lower wealth position. On the other hand, if the fall in current income is not expected to be 'permanent', then people will dig into savings or borrow, in order to maintain consumption levels.¹²

In Sri Lanka's case people's expectations were dramatically affected by the immediate response of the international community which promised massive assistance to tsunami affected communities and countries in the form of aid flows and debt relief. The impact of these promises on the Sri Lankan community was immediate and tangible.

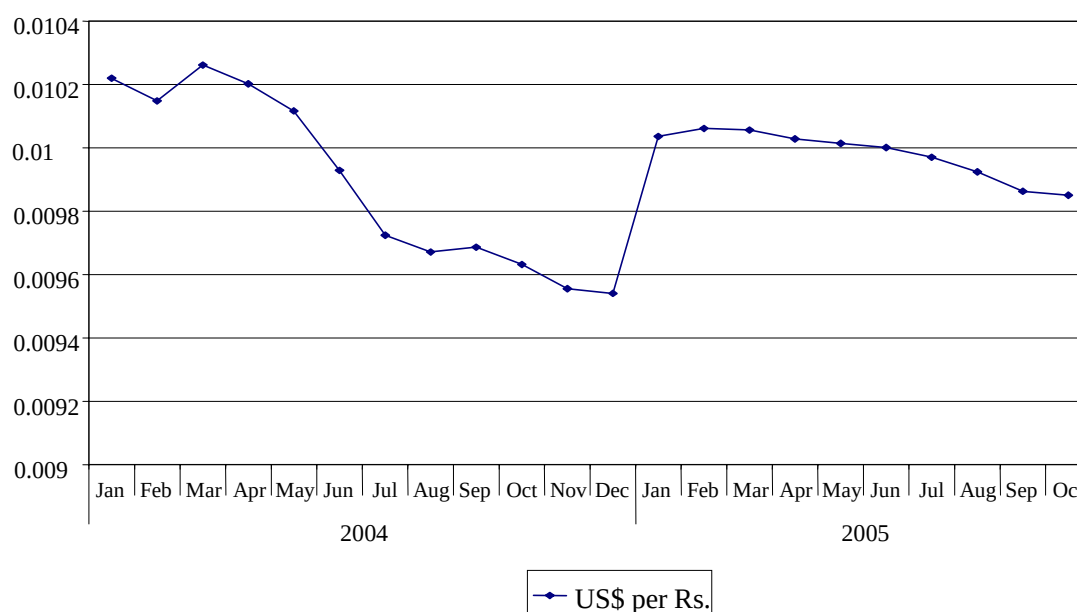
¹¹ Indeed, it is not impossible—at least in principle—for short term GDP to even increase in the wake of a major catastrophe.

¹² This type of behavior is known as 'consumption smoothing' and is implied by the 'permanent income hypothesis' of consumer behavior.

There was a discernible lifting of spirits and a surge of optimism about the future. This optimism was further strengthened by hopes of an enduring peace in the country based on the cross-ethnic community solidarity shown in the immediate aftermath of the tsunami.

The most visible sign of this almost euphoric mood of optimism following the tsunami was in foreign exchange markets (and subsequently in the Colombo stock market). The rupee reversed its long and sustained depreciation and sharply appreciated (Figure 2)—a reaction seemingly so perverse and unexpected, but understandable in the context of the change in expectations. In fact, in the absence of Central Bank intervention, the appreciation may have been even more pronounced. This issue will be taken up in more detail later.

Figure 2. Nominal Exchange Rate (US\$ per Rs.)



Source: Central Bank of Sri Lanka, *Monthly Economic Indicators*, various issues.

5. Damage and Recovery: A Review

The task of medium term recovery involves the rehabilitation and reconstruction of capital assets (both private and public) as well as the provision of the material and institutional assistance necessary for households to engage in gainful economic activities to rebuild their livelihoods. This involves not only the reconstruction of physical infrastructure and replacement of assets, but also the re-establishment of market and social networks. As indicated, domestic and international assistance enabled the country to cope successfully with the immediate relief tasks. Replacement of damaged assets essential for full recovery was estimated to require assistance close to US\$2 billion, a massive sum for Sri Lanka, though relatively minor when compared

with the levels of assistance given to victims of natural disasters in developed economies.

5.1 International Assistance for the Recovery Effort

The response to Sri Lanka's request for assistance met with an overwhelming response at a meeting of international donors held in Sri Lanka in May, 2005. A total of US\$2.2 billion was pledged over the next 2–3 years—around US\$700 million per year. US\$853 million was promised by NGO and other private sector organizations, and the remainder by multilateral donors and governments (for details, see Table 3). In fact, this promised external assistance—to meet both continuing relief needs and reconstruction activities—was in excess of what the government had requested. The task before Sri Lankan authorities seemed to be one of how to manage the funds that would flow in for the recovery effort, rather than how to raise the necessary funds. Funding constraints on the recovery effort seemed to have disappeared.

Table 3. Donor Assistance for Post-Tsunami Reconstruction Activities

Donor	Expected Assistance (US\$ million)
Bilateral Donors	745
Multilateral Agencies	631
NGO/Private Sector	853
Total	2229

Source: Cooray (2005)

5.2 Aid Coordination and Distribution

A key issue has been the coordination of the relief and reconstruction effort. In Sri Lanka the coordination is required across three groups. First, activities among the various components of the government require coordination—both across sectors and between central and local government. Second, the activities of various agencies and NGOs—with the heavy post-tsunami influx some 180 have been operating in Sri Lanka—require coordination. Third, coordination is required with the LTTE which controls part of the country that was heavily affected by the tsunami.

As mentioned earlier, as part of its immediate response to the tsunami the government established the Centre for National Operations (CNO) in Colombo to handle relief efforts, and three task forces to address specific aspects of the relief effort. After one month, with the conclusion of immediate relief operations TAFRER and TAFLOL were amalgamated to a single entity—the Task Force for Relief (TAFOR)—to implement all relief measures and operations of the CNO were scaled down. In February, the CNO was dissolved and officials returned to line ministries. Two Special Task Forces, namely TAFOR (Task Force for Relief) and TAFREN took over CNO's

responsibilities. In early March, the Centre for Non-Governmental Sector (CNGS) was set up by the Ministry of Finance and Planning to coordinate NGO activities. With transitional housing largely completed, TAFOR is expected to wind up and its responsibilities passed to the line Ministries.

At the local level, the key role in disaster relief was played by the District Secretaries (also known by their colonial nomenclature as the “Government Agent”) and below them the Divisional Secretary (or “Assistant Government Agent”) and *grama niladhari*. In many affected Districts, various coordinating Committees were set up covering key areas—initially on relief issues and later on regarding reconstruction issues such as housing and livelihoods. However the exact relationship between central and local levels was often unclear—with constraints on the ability of the local authorities to make meaningful decisions. At the local level, the elected bodies such as Provincial Councils and *pradeshya sabhas* played a very limited role during the first year—which may now cause complications given their legal responsibility for some important areas such as local utilities required for the new housing sites.

At the centre, TAFREN had the lead role in overseeing the rebuilding of infrastructure in key areas with overall responsibility for implementation of the post-tsunami recovery programme. While an overarching authority such as TAFREN is a sensible option to coordinate post-disaster reconstruction, TAFREN itself lacked links to line ministries in its representation (dominated as it is by private sector representation), which hampered its ability to efficiently coordinate activities among government agencies. The division of reconstruction into sectors—such as housing and water and sanitation—in turn raises coordination issues to ensure, for example, that housing units constructed get access to the necessary water, sanitation and electricity provisions. TAFREN was seen to be increasingly attempting to monitor the line agencies and be a ‘one-stop-shop’ but its role and ability to achieve this goal remained somewhat unclear. With the election of a new President in November 2005, a decision was taken to amalgamate TAFREN, TAFOR and TAFLOL to institute an Authority of Reconstruction and Development in early December 2005. This is to be enacted by an Act of Parliament.

5.3 Aid Coordination with Donor Agencies and NGOs

The second group whose activities need coordination involves the NGOs. Sri Lanka has long experience working with major donor agencies and several International NGOs (INGOs) have long established operations in the country. Sri Lanka had seen some welcome moves towards donor coordination even prior to the tsunami in the context of its conflict-related donor reconstruction programmes. The World Bank, ADB and the JBIC had already established a partnership that enabled the basis for the very useful needs assessment to be done immediately after the tsunami. However, coordination with donor agencies and NGOs became a vastly more complicated issue due to the numbers and practices of the numerous international NGOs (not counting large numbers of individuals and small groups) who came in after the tsunami.

Some of the NGOs—both INGOs and domestic NGOs who receive external funds—control significant funds. With their own funding secure, they face few incentives to improve coordination. In fact, some are openly hostile to any government

action that seems to place ‘controls’ on their independence. NGOs vary widely in experience, skills and operating styles. Many NGOs lack experience and local knowledge, and in their haste to spend monies disregard local circumstances and community needs.

Further, the presence of large numbers of donors/NGOs has at times led to competitive behavior. Deep mistrust has developed in several locations between local NGOs (who have often been working in the area for many years) and some INGOs and agencies who have come for tsunami assistance. Sri Lankan NGOs claim to have been ‘crowded out’ by some of the better financially endowed larger INGOs, who have ‘poached’ staff and resources. Certainly some INGOs and agencies have greater expertise in large scale disaster relief (such as provision of transitional shelters and other relief measures), but domestic NGOs (and INGOs that have operated in Sri Lanka for a long period) usually have a much greater appreciation of local conditions and sensitivities. Greater interaction, engagement and coordination between them would benefit the overall relief and reconstruction effort. Field observations suggest that lack of coordination has led to considerable mal-distribution of aid. In recent months, mechanisms have been set in place to better coordinate donor activities, including NGOs, at regional and local levels through regular meetings and consultations held by regional administrative officers. It is too early to judge their overall effectiveness.

5.4 Aid Coordination in LTTE Held Territory

The third group with whom activities need to be coordinated is the LTTE. This has been the most difficult and contentious issue. Discussions to establish a mechanism for aid sharing have been going on since soon after the tsunami. The spontaneous solidarity that united communities immediately after tsunami rekindled hopes that the ethnic divisions that have cost the country so dearly in recent years may finally be waning. However, a mutually acceptable arrangement for aid sharing to enable assistance to flow into the LTTE controlled areas has proved elusive.

On the one hand, sections within the government and many majority community groups have been opposed to any deal that appears to provide *de facto* recognition to the LTTE as the administrative power in regions controlled by them. On the other hand, the LTTE has been unwilling to accept an arrangement that dilutes their powers. After long drawn out negotiations, a MOU setting out an aid-sharing deal between the GOSL and the LTTE, the Post Tsunami Operation Management Structure (P-TOMS), was signed in June 2005. This was designed as a mechanism to distribute aid in LTTE-controlled areas in the Northern and Eastern Provinces of the country. The P-TOMS agreement envisaged the setting up of a Regional Fund to allow donors to channel tsunami funds directly to the Northern and Eastern Provinces. A multilateral agency (anticipated to be the World Bank) was to be appointed as the custodian.

However, this agreement promptly ran into opposition from within the majority Sinhalese community. Challenged in the courts through a fundamental rights petition, the Supreme Court ruled in July 2005 that it was constitutional but certain elements were put on hold by the Supreme Court pending clarification, specifically the Regional Fund and the location of the regional committee in the rebel held Kilinochchi. In addition, many of the major donors who had supported the idea of a joint mechanism for

aid distribution between the GOSL and the LTTE declined to channel aid directly to the Regional Fund once the MOU was signed claiming that the LTTE remains a ‘proscribed terrorist organization’ in their countries. The signing of the P-TOMS agreement led to the government losing its majority in Parliament when one of the constituent parties of the government, the Janatha Vimukthi Peramuna (JVP), left the government ranks. After the presidential election in November, with the election of a new President who has publicly opposed the agreement the agreement, P-TOMS is no longer on the policy agenda.

5.5 Livelihood Issues

The loss of lives and infrastructure (livelihood related assets, residential houses, social and capital infrastructure) along two-thirds of the coastline—with many districts which have poverty levels higher than the national average—has plunged large numbers of people into poverty. For the affected districts in the North and East, the resulting stresses worsened the already heavy burden of pre-existing marginalization as a result of two decades of conflict. An estimated 150,000 people lost their main source of income due to the tsunami. A majority of these have after one year returned to some form of livelihood, but:

- Incomes are generally lower than pre-tsunami
- Many people were already poor pre-tsunami
- Some people will fall through the cracks—for example over 20,000 people are estimated to be sick and injured after the tsunami. There are also those who are too traumatized to work or who need to care for others.

There has been an unprecedented response to the tsunami with large sums of money from many sources available for livelihood recovery. While this money has enabled a rapid allocation of lost assets, it has also inevitably created conflict. There is a danger that while physical capital is being rapidly replaced, it is being done in ways that reduces the social capital of an area exacerbating existing tensions and rivalries. So “building back better” is a difficult concept and by no means guaranteed. Indeed some initial evidence suggests that the huge influx of aid has exacerbated tensions in many areas and is in some cases in danger of creating more harm than good. There are seven key recommendations to address some of these challenges:

- i. *Learn from and build upon past experience of poverty alleviation in Sri Lanka:* Since independence the government and other stakeholders have tried various programmes to address poverty in Sri Lanka. But there is a “paradox of poverty reduction in Sri Lanka” that despite relatively good social indicators, still about one quarter of the total Sri Lankan population remains below the national poverty line. Existing poverty programmes need to be understood and assessed to improve post tsunami livelihood interventions, avoid repeating old mistakes and build on what works.

- ii. Place livelihood recovery in a broader political, economic, social and economic context: In order to build back better, an improved understanding is needed of what kept people poor before the tsunami. There is also a need to understand the local situation in order for interventions not to exacerbate existing tensions and conflict. Micro interventions also need to be placed in the context of broader economic changes and other tsunami recovery challenges. Some of these issues can be addressed by at least some of the stakeholders, and it is important for all to understand the broader context to avoid interventions that are overly ambitious, unsuccessful or in the worst case make things worse than the pre-tsunami situation. One simple example is that the increase in the supply of sewing machines and in some cases boats has in some areas potentially made these activities less profitable than pre-tsunami.
- iii. Overcome mistrust and negative perceptions among key stakeholders: The challenge of the post tsunami recovery is typically not lack of money overall, but too much money which can create institutional complications, rivalries and corruption. Much distrust and negative perceptions exist by the different stakeholders about other key players—international NGOs, Sri Lankan NGOs, community based organizations, civil society. This can only be overcome by trying to understand the perceptions of others and how negative perceptions can be overcome. It is important not to overly dwell on past failings—for example trying to pin point who bribed who—but to move forward by involving all stakeholders in a common learning process.
- iv. Use improved knowledge of demand and supply of livelihood activities, and provide much greater voice for affected households: It is important to collect and use better information at local and central level. Information is needed to identify beneficiaries and what has been given, to plan and to monitor progress. Local level information is needed to develop local recovery plans and at central level to track progress across the country and allow interventions to be planned. It is vital to verify macro level livelihood recovery data with micro data—in some cases the macro picture seems more positive than the ground situation suggests is warranted.
- v. Seize once in a generation opportunity to upgrade key tsunami affected sectors: With all the funds flowing into tsunami reconstruction, there is a need at national level to develop and implement strategies to upgrade the key affected sectors of fishing, tourism and small and medium scale enterprises. The tourism and fishing sectors have developed such strategies, but their implementation is only now beginning. There is a need to keep focused on the long term vision, without getting bogged down into ad hoc crisis responses.
- vi. Key stakeholders to implement joint plans for economic development of all households in tsunami affected Districts: The tsunami response phase is now entering its third phase with regard to livelihoods and incomes. First there was emergency assistance (cash grants, cash for work etc.), then replacement of lost assets and now the third phase of economic recovery. This also provides an

opportunity to move from the rhetoric of coordination to actual joint planning and implementation. There have been many complaints about poor coordination in livelihoods, but the record of implementation remains mixed. There are regular livelihood meetings now starting at District and Divisional secretary level—but attendance is patchy (sometimes by government, sometimes by NGOs) and it amounts largely to information sharing. The challenge is to go further as the next phase begins to actual joint planning and implementation. This also allows the opportunity to move beyond a narrow focus purely on the tsunami affected households to the District as a whole including other poor households. The targeting on tsunami affected households often required due to funding constraints, inevitably created conflicts with other unaffected but still poor households in the area. With the move from replacing lost assets, to training, micro-credit, entrepreneur development and provision of improved infrastructure there is a need to open them up to all the residents of tsunami affected Districts. This will not only ensure that poverty as a whole is reduced, but limit the tensions and conflicts that have developed as a result of the narrow focus on replacing lost assets in many areas.

- vii. Strengthen capacity of local government, affected households, NGOs and community based organizations to plan, implement and monitor livelihood recovery programmes: Divisional secretaries are now starting to take a more active role in livelihood planning and implementation and this is likely to increase as economic recovery gets underway. There is a need to support capacity within divisional secretaries and the elected bodies such as pradeshya sabhas. Divisional Secretary offices will now be equipped with graduates and livelihood focal points. There is also a need to support the capacity of community based organizations such as fishery cooperative societies. While these have suffered some political interference and elite capture, their main problem has been lack of activism and basic management skills in book keeping etc.

Many women are trapped in relatively lower paid work as compared to men. NGO programmes may be helping women generate some income based on what are traditionally seen as women's occupations. But there is a need to assist women to break gender stereotypes and create more and new opportunities for women to generate income and improve their income situation vis-à-vis men.

Two thirds of the tsunami deaths and 60% of the initial displacement occurred in the north and east of the country. Attempts to restore livelihoods in the north and east must overcome not just the impacts of the tsunami, but also the legacy of the conflict. Infrastructure (roads and harbors) is less developed in the north and east, micro credit facilities and the banking sector are more limited and incomes are generally lower. A long term investment package is needed to overcome these structural inequalities.

In the focus on livelihoods, it must not be forgotten that many remain who are unable to work due to illness or have other responsibilities as carers for others. There is a need to provide social protection measures for these people.

In trying to address poverty, it is important to understand what is motivating the more powerful and wealthier groups who dominate some livelihood activities. What is their stake and what livelihood improvements will they accept and what will they resist? There is an important advocacy role to draw attention to some of these issues. For example the largest beneficiaries from the low paid coir workers are some of the large blue chip export companies. While the private sector has been active in the relief phase of livelihood restoration, there is a need to extend this by engaging corporate social responsibility in longer term livelihood recovery.

The following sections survey developments in the main affected sectors as well as the main livelihood assistance programmes put in place.

5.5.1 Fisheries

The tsunami impact was most severe in the fisheries sector. It is estimated that at least 4,870 fishermen died while one-third of the affected households were engaged in fishing or fishing-related activities (103,000 people in the fisheries sector were displaced and 16,500 of their houses were destroyed, and 13,300 were damaged). In some areas this figure is much higher. For example, in the northern Jaffna district the figure is close to 90 per cent. An estimated 24,192 boats and one million nets were damaged or destroyed. As at June 2005, the number of boats repaired or replaced stood at 21,656 (TAFREN, 2005).¹³

The problems that have emerged in the fisheries sector highlight some of the complex problems in providing livelihood assistance to match community needs in difficult post-disaster conditions. The term 'fishing community' has limited value for addressing livelihoods. Fishing households are highly stratified, both horizontally and vertically. There are also those engaged in local and regional wholesale trading, local retail traders and fish processors. Fishing also demands a number of ancillary support services notably individuals who engage in repair work and provisioning. Finally different geographical localities and cultural groups are engaged in fishing.

Assistance to replace damaged boats has been forthcoming from many donors who recognized their capacity to generate an immediate income and the number of boats is already close to pre-tsunami levels. However, because the fishing industry uses a wide range of vessels, fishing techniques and practices, including the use of a wide variety of nets, fishing vessels that have been provided do not always match community requirements. This reflects inadequate dialogue with the affected fishermen and poor coordination among donor agencies in procurement and distribution of vessels and equipment. Some fish workers and others have gained by now receiving boats, but others who owned boats pre-tsunami have yet to receive them. In other cases the boats are inappropriate for the type of fishing and are lying unused. Some boat repairs are also substandard due to the rush and there are also continuing shortages of nets and engines.

The uncoordinated replacement of fishing vessels in some locations has resulted in a larger number of smaller vessels than before the tsunami, potentially leading to over-fishing. Typically, the smaller boats have been repaired and replaced

¹³ TAFREN (2005), "Rebuilding Sri Lanka: Post-tsunami Reconstruction and Rehabilitation" June 2005.

fastest with over 80 per cent restored countrywide compared to the more expensive multi-day and 3.5 ton boats which indicate a replacement of between 60–70 per cent. However, replacement has been quite uneven. In the southern areas such as Kalutara, Hambantota and Galle, as well as Trincomalee in the east, the number of traditional craft already exceeds the pre-tsunami levels. Data also shows that many NGOs are planning to continue providing boats which in some places could lead to a doubling of pre-tsunami fishing effort, especially in the near shore coastal areas which were already subject to over-fishing prior to the tsunami. As a result, efforts are underway to encourage a reduction in the distribution of small craft. Some NGOs have been responsive; Sewa Lanka, an NGO, cancelled an order for 2000 traditional canoes.

However, access to engines and nets are still a problem. While the replacement of boats has been generally rapid, only an estimated 50 per cent are being used due to lack of engines and nets. It is estimated that about 1,700 engines have been repaired. While another 6,000 engines have been ordered, by end June 2005 only 450 had actually been delivered. In terms of nets, an order has been issued for 46,000 nets—mostly from international suppliers—but the suppliers can only provide half the order due to the post tsunami surge in demand.

Domestic demand for fish has revived after plummeting after tsunami—consumers were reluctant to eat fish that they suspected may have fed on human bodies that were swept out to the sea—and market channels appear to be reviving robustly.¹⁴ Despite the considerable loss of life, signs are that fisheries output will regain (if not exceed) pre-tsunami levels once equipment is replaced, and damages to small fishing ports and harbors are repaired. The pace at which the fisheries sector infrastructure will be restored is obviously critical to sustained recovery of the sector.

The longer term challenge is to address many of the pre-tsunami shortcomings of the industry in order to really “build back better”. Past prioritization of fisher views indicated that priorities varied widely. However some common issues stand out:

- *Fishery infrastructure and fishing hardware*

- Lack of investment for fishing infrastructure (e.g., harbors, ice storage) in the east and north compared to the south
- Improve design of multi-day boats
- Post harvest losses and lack of proper storage facilities on boats

- *Fishery management*

- Particular restrictions related to the conflict in the north and east with restrictions on engine power
- Incursion of foreign vessels are particularly important for the larger boat owners. This is a serious concern as contrary to some popular perceptions, Sri Lanka, along with most tropical coastlines, has a relatively unproductive

¹⁴ Consumer rejection of fish immediately after the tsunami has also been observed in other tsunami-affected locations such as Indonesia.

fishery compared to more temperate regions where greater water mixing increases fish productivity.

- Problems of illegal fishing gear
- Over-fishing as a priority in the near shore south and west (in the north and east this is much less of an issue)

- *Other institutional short-comings*

- Institutional weaknesses of fishery cooperative societies
- Improve labor conditions for fish workers
- Involve other more powerful stakeholders in fishery management (e.g., fish buyers)
- More support by NGOs for Ministry of Fisheries attempts at regulating and managing the fishery

- *Access to non-fishing opportunities*

- Lack of education and vocational training opportunities particularly for the youth

The Ministry of Fisheries has developed a strategic plan for the industry that will address many of these issues. But as so often there is a need for funds, and competent political, administrative and NGO groups to ensure that plans are properly implemented.

5.5.2 *Tourism*

The tsunami dealt yet another blow to Sri Lanka's volatile tourist industry just as it was beginning to enjoy a revival in the wake of the ceasefire agreement. About a half of the 105 large and medium scale hotels in the affected areas—which are the heart of 'beach tourism'—were partially damaged and 8 hotels were fully damaged. About a quarter (52 of the 242 registered hotels) in the country were affected. In terms of rooms, about 3,500 out of a total of 13,000 rooms in medium to large scale hotels were out of service in late February 2005.

Most larger and medium scale tourist enterprises had insurance cover for natural catastrophes including earthquakes, and this was interpreted as providing tsunami liability. An estimated US\$150 million was paid out on claims after tsunami, the bulk going to the hotel industry. This suggests that some hotels would at least partially cover their reconstruction costs. However, most hoteliers did not have cover for the consequential impacts of the disasters such as cancellations, etc., and have had to bear these costs in full. Since the tsunami, insurance companies are including tsunami cover as part of their natural catastrophe cover. However, this has led to about a one-third increase in the cost of insurance, rising from 0.1 per cent of the value of assets to about 0.13 per cent. For a medium sized hotel worth about US\$3 million, this would be an increase in premiums of about US\$900 while for a large hotel worth about US\$15

million the increase in premium would be US\$4,500. While significant, they do not appear to place an overly high cost burden.

The tsunami may have more significant medium-term impacts on future tourist arrivals and occupancy rates. In 2004 the tourism sector had a record season with arrivals topping 566,000. Tourist arrivals were expected to reach 600,000 in 2005 with 150,000 arrivals during the first 3 months of the year. This estimate has now been revised downwards to 425,000 arrivals in 2005 and 575,000 in 2006—although there are suggestions that this may be too optimistic. Around 40 per cent of the foreign guest night stays in Sri Lanka are spent along the beaches of the island's southern and eastern coasts. For some of the undamaged hotels in the affected regions occupancies are currently high as tourists are replaced with aid workers, etc., at least on a temporary basis, while in other undamaged coastal hotels the occupancy rate is under 10 per cent. Hotels in the interior are also registering lower occupancies due to the drastic downturn in tourist arrivals, but Colombo hotels are full with regular business travelers and tsunami related visitors.

For the coastal beach industry the tsunami could provide an opportunity, as with the fisheries industry, to rebuild the industry in a more sustainable fashion. Most hotels have already started reconstruction work. The Ministry of Tourism is assisting the tourism sector with a major 'Bounce Back Sri Lanka' campaign which combines public relations with assistance to develop 'world class' coastal tourist facilities. The industry is also receiving duty free import privileges for necessary equipment for reconstruction, and the Central Bank has a loan facility for small and medium scale enterprises (SMEs) which covers the tourism industry. Long term confidence in the industry is indicated by continuing work on a number of luxury hotels. The Tourist Board has taken steps to offer new Tourist Zones where land and other infrastructure will be provided. The Tourist Board aims to develop 15 tourist zones at a cost of US\$12 million each with donor funding.

However, for many affected people who gained their incomes directly or indirectly from the tourism industry there are pressing livelihood issues. If the tsunami proves to have a depressing effect on tourist arrivals, even with rapid reconstruction, recovery in the tourism sector can be delayed. Many hotel employees, though they may get their employment back once hotels are reconstructed, have no immediate alternative income sources. The situation is similar or even worse for many small enterprises that catered to tourists (e.g., handicrafts such as lace making).

5.5.3 Cash Grants

For families, particularly poorer families who have lost family members, homes, other assets and employment, immediate cash relief is vital. Hence the Rs.5,000 (US\$50) per month cash grant and the Rs.375 (US\$3.75) cash and food ration were a welcome part of the assistance package. By end June 2005, almost all the eligible 880,000 beneficiaries were reportedly receiving the Rs.375 (US\$3.75) cash and food ration (TAFREN, 2005).¹⁵ In the case of the Rs.5,000 monthly grant, all households identified

¹⁵ TAFREN (2005), "Rebuilding Sri Lanka: Post-tsunami Reconstruction and Rehabilitation" June 2005.

as affected appear to have received the initial two payments, either in January and February or sometime after. Where the reach of the state banks was limited, such as the Northern Province, alternative arrangements had been made. The grant scheme seems to have proved very effective in reaching most of the affected population, assisting people with little engagement in the formal financial sector even to start deposits (which were mandatory to receive funds).

However, after the first two payments the Ministry of Finance ordered Divisional Secretaries to revise the lists of eligible beneficiaries, and reduce the number of families receiving payments. Eligibility criteria have changed from time to time, different circulars have been sent, and full information has not been placed in the public domain. Most tsunami affected families are not fully aware of the new criteria. The government circulars announcing the revised criteria seem very broad, offering significant discretion to local government officers leading to wide variations in interpretation, delays and long back-logs of appeals. Interviews with relevant stakeholders, including both affected families and government officials, suggest that households having access to 'regular income' are no longer eligible. It has taken several months to draw up new lists of those eligible to receive the grant based on changing government circulars. This has created added confusion, uncertainty and anger among the tsunami-affected households.

The current situation with regard to this payment is somewhat unclear. According to TAFREN, payments were being made to 234,000 eligible beneficiaries by the end of June 2005 (TAFREN, 2005).¹⁶ According to Department of Census and Statistics figures the first payment was made to 250,844 families, the second payment to 131,752 families and the third to only 165,000 families. Its distribution is being audited for both financial management and to ensure money is reaching genuine tsunami victims. The World Bank expects that this programme will be extended for a further two months—for a total of four months—before it is phased out.

While it may seem equitable to narrow the scope of the grant so that it targets the 'truly needy', in practice the costs of such narrow targeting may well exceed benefits. In assessing the changes to this programme, it should be noted that even households with a 'regular' post tsunami income have suffered a major loss of wealth in terms of property and possessions and are cash strapped. The chances of them slipping into the pitfalls of high interest informal sector borrowings to meet many pressing needs are high. Perhaps most critically, any decision to take recipients with a regular income off the list after only two monthly payments generates perverse incentives, effectively penalizing not only those who have held on to previous jobs, but perhaps even more importantly, those who have managed to obtain regular employment after the tsunami. If donor assistance is available for this programme—and it is hard to see why funds are not available going by the May 2005 pledges are being honored—given the obvious need to provide affected households with some income, cutbacks are hard to justify. Moreover, since bank accounts have been opened for the cash grant transfer, the system is extremely cost effective compared to the high transactions costs of many other

¹⁶ TAFREN (2005), "Rebuilding Sri Lanka: Post-tsunami Reconstruction and Rehabilitation" June 2005.

tsunami livelihood projects which often incur as much as 30 per cent administrative overhead costs.

In a number of locations, the larger international NGOs in particular have introduced cash for work programmes such as clearing of rubble and rebuilding of transitional shelters. Typically, the daily wage rate offered is Rs.300–350 (US\$3–3.50) for men and women; this is close to the average daily wage rate that has prevailed until recently for men, but is higher than the usual wage rate for women (though with inflation, wages and these rates may soon become unattractive). The advantages of this cash for work is that it enables affected people to obtain employment while addressing the shortage of labor to clear debris and put up transitional shelters. However, this approach has some limitations. In practice, cash for work largely benefits able bodied people, primarily men. The old, young, sick and disabled and carers (typically females who find it difficult to leave their dependants) find it difficult to benefit from such arrangements. It has also faced some resistance from local NGOs, who feel it undermines the voluntary approach to community action through *shramadana* ('gift of labor'), and may also lack the funds to pay these wage rates.

5.5.4 *Micro-enterprises and Microfinance*

Many tsunami affected households were engaged in micro-enterprises with as many as 25,000 micro-enterprises estimated to have been damaged. In addition, there are an estimated 15,000 tsunami survivors involved in self-employment and informal sector activities such as food processing, coir manufacture, carpentry, toddy tapping and tailoring. Many of these workers urgently need funds to replace lost or destroyed assets such as equipment and stocks. While fisheries have been relatively well served by the relief effort, it is clear that many other livelihood activities have received less attention. Often activities such as coir and lace making are more important for women so their slower recovery may impact more on female headed households (who comprise about a sixth of affected households). In some places, tension has grown between fishers and other livelihood groups because the latter feel that the fishing industry has received greater attention.

After one year many micro entrepreneurs have in some cases got back lost equipment, and skilled construction workers are benefiting from the building boom. But self employed women (e.g., coir, sewing, rope, weaving etc.) are in some areas facing excessive production and competition driving down incomes below pre-tsunami levels. Shops in the buffer zone cannot be built and cannot access credit from existing government schemes. Perhaps the largest challenge is how to "build back better". Many micro-entrepreneurs—making products (e.g., coir, rope, carpets, reed mats, food preparation) or selling in small shops etc. were poor before the tsunami. The challenge is to help them escape poverty. However simply widely redistributing assets (e.g., sewing machines, coir machines) can make things worse than before.¹⁷ There is an

¹⁷ This section is largely based on the paper presented at the workshop by Kaml Kapadia on "Reviving livelihoods after the tsunami: identifying gaps in existing programmes."

urgent need to shift from supply side production focus to a demand led market driven approach:

- Identify and develop economic activities that are labor intensive and which cater to demand in the local market and/or can compete in the international market e.g., some promising examples of community based tourism have begun
- Increase value added from current low value activities—for example by providing assistance and training to improve product design quality
- Organize informal sector to develop producer organizations to negotiate with middlemen or cartels to earn a larger share of the final retail price, and other benefits (e.g., micro credit) and support advocacy efforts. For example, an NGO in Galle has organized street vendors into a federation to lobby authorities for a permanent place to locate their stalls and they have started a micro-credit scheme; while others have organized coir marketing cooperatives.
- Link up with local and international private sector and improve market research. For example, some NGOs are working with garment industry buyers to sell clothes produced by tsunami affected households.

While boats, nets and other equipment (supplied through the relief agencies) are central to recovery of fishing activities, credit is the critical input for many micro-enterprises. The problems faced by poorer communities in accessing formal sector credit are well known. Despite the wide penetration of micro finance, most pre-tsunami schemes focus on providing small loans, which help reduce vulnerability, but have mixed success in really lifting people out of poverty. Many tsunami households were in debt before the tsunami. Such difficulties are exacerbated when communities are affected by natural disasters which damage the few assets they may have had to offer as collateral, reduce the number of people who can act as guarantors, while sharply increasing the need for credit. Recovery of many micro-enterprises then depends on the availability of microfinance.¹⁸

A careful balance is needed to be kept between the value of a repayment “culture” while being realistic about the need for low interest loans. However the key constraint seems to be less the interest rate per se, than the inability to quickly and easily access funds when they are required. In the longer term, there are discussions underway regarding a greater role for government oversight of micro-credit and possible legislation to regulate the micro credit industry.

A host of programmes to address this post tsunami need for microfinance is in the process of implementation. Prior to the tsunami, Sri Lanka had a relatively well served microfinance sector including commercial and rural banks serving smaller customers (e.g., Cooperative Rural Banks and Regional Development Banks), and organizations adopting a grassroots approach to microfinance where a group will

¹⁸ The potential role of microfinance in such situations is documented in a growing literature. See, for example, Mathison (2003) and ILO (2005).

operate a revolving credit fund (e.g., *Sanasa*, *Sarvodya* SEEDs). To support a strong repayment culture, most microfinance organizations are encouraged not to switch to grants. Where grants are necessary, for example for housing and food, they are best provided not by microfinance organizations but alternative institutional mechanisms.

While there is much interest in providing new loans a pressing issue is how to handle old loans. In general, individual banks and microfinance institutions are being left to negotiate this on a case-by-case basis because they have the best knowledge of a client's needs and ability to repay. Typically, microfinance organizations only forgive loans in the event of death or permanent disability, but many recognize that the tsunami situation is not one of willful defaulting. However, there are concerns that borrowers face many unforeseen risks such as drought, floods or political volatility and risk. In this context, some microfinance organizations prefer to avoid using the tsunami to create a precedence for loan forgiveness. Instead, the preference is for loan rescheduling allowing the client time to return to a normal positive cash flow. Loans can even be provided to replace lost assets and increase future earnings. This can often be in the long-term interest of the client because loan defaults will make it harder to access future credit.

The Central Bank has been implementing a microfinance scheme (*Susahana*) through the two state-owned commercial banks. The *Susahana* loan is provided with no repayment required for the first year and interest at a fixed rate of 6 per cent thereafter. The National Development Trust Fund (NDTF) is also offering similar terms through its partner organizations. By end June 2005, 4,154 applicants had received Rs.1,940 million (US\$19 million) through the *Susahana* scheme of the state banks and another 4,437 people had received Rs.158 million (US\$1.58 million) through the NDTF scheme. By November, 14,000 applicants had received grants from *Susahana* and NDTF schemes totalling Rs.3.7 billion (US\$37 million).

Despite claims to the contrary and its stated intention to also reach micro-entrepreneurs, the *Susahana* lending schemes have been set up in a way that makes it very difficult for small tsunami affected micro-entrepreneurs to obtain access to the scheme. The conditions for access were onerous. There were initial constraints in passing on information to those in the camps and helping with application forms. Guarantors are required who have a permanent income above a certain threshold level. Collateral is required, for which land within the buffer zone is not acceptable; it is not yet clear how this may change given changes to buffer zone building rules recently announced. Loans will only be given for businesses registered before the tsunami, which rules out many smaller unregistered businesses—many small enterprises were not registered—and stops people taking up new livelihoods in response to their changed post-tsunami circumstances, such as the death of the main earner, disability or new responsibilities to care for some family members. The terms of the *Susahana* need to be urgently reviewed to ensure that they can start to reach the poorer micro-entrepreneurs.¹⁹

¹⁹ There are also non-financial services required to help the poor develop new skills and access markets so that they can put microfinance to good use. There may also be problems accessing credit for those who are not already members of revolving credit societies.

The ADB has supported a major microfinance scheme for Sri Lanka which works through grassroots organizations. In principle this scheme has the ability to address the limitations of the *Susahana* programme. It announced in February 2005 that US\$7 million will be used to reach tsunami affected communities through this programme. In our fieldwork for this report, we were unable to determine the ground level scope and effectiveness of this programme. However, it is clear that a successful microfinance programme would meet an urgent need, particularly in meeting the financing needs of tsunami affected micro-enterprises to rebuild their livelihoods.

6. Rebuilding Capital Assets and Infrastructure

Rehabilitation of damaged housing and infrastructure forms the core of the capital expenditure programmes associated with post-tsunami recovery. Donor funding is seen as critical to this task, so funds were sought at donor meetings in May 2005 to meet assessed needs. Public infrastructure rebuilding is expected to be financed almost entirely by foreign donors with multilateral agencies as well as individual countries accepting particular projects for financing. Major communication and transport links have been repaired, at least on a temporary basis. However, in many cases public buildings and other infrastructure, such as bridges, are yet to be fully repaired or rebuilt on a permanent basis, particularly in the North and the East of the country.

Foreign financing is also expected to fund most of the new residential dwellings planned for affected households for whom new houses have been planned; NGOs (including some local NGOs) and private corporate enterprises are expected provide a significant proportion of required finances.

In both cases, actual progress will depend not only on the extent to which promised assistance actually materializes but also on the extent to which funds are able to finance the actual costs of rehabilitation and rebuilding. As will be discussed later, cost escalations and fiscal pressures are likely to place serious question marks over the extent to which reconstruction can be successfully implemented.

6.1 Residential Housing

Both the ADB-JBIC-WB needs assessment and the GOSL assessment presented to the donors in May 2005 identified damage to housing as the single largest source of damage to physical assets (Table 2). Field interviews conducted by the IPS and other organizations have shown that housing is viewed by the displaced families as their main concern, and regaining an acceptable permanent shelter is their priority goal. The housing issue in some detail below both because of its central importance, and also because it highlights some of the main policy concerns that emerge from our analysis.

6.2 Housing and the Buffer Zone

From the very outset, the housing issue was affected by the government announcement in the immediate aftermath of the tsunami that it would enforce a 'no-build' coastal buffer zone of 200 metres in the north and east coasts of the country and 100 metres elsewhere. It was announced that residents within the zone would not be permitted to

rebuild damaged or destroyed buildings. The larger distance in the north and east was claimed to be justified by the generally more extensive intrusion of the sea on this coast and the higher risk of cyclones on this coastline. In the areas controlled by the LTTE, initial reports suggested that a similar—or even wider—buffer zone would be put into effect.²⁰ The government promised that for people whose houses within the buffer zone were damaged, new houses would be provided for them, built on lands in reasonable proximity that would be acquired for the purpose.

In the buffer zone where construction was not to be permitted, the TAFREN guidance of 15 March 2005 stated that the government “will identify land closest to the affected village and provide houses to the affected families. As far as possible, the relocation process will attempt to keep communities intact”. The following assistance policy was to apply:

- No reconstruction of houses (partially or fully damaged) will be allowed within the buffer zone.
- All affected households will be provided with a house built with donor assistance on land allocated by the state. *Households will not be required to demonstrate ownership to land.* (Our emphasis)
- The new homes will be built in line with guidelines issued by the Urban Development Authority (UDA) and will have a floor area of 500 sq. ft. and would be provided with electricity, running water, sanitation and drainage facilities.
- The proposed houses in urban and rural settlements will have facilities such as road systems, recreation, etc.

Owners of damaged houses were to be allowed to keep their land for agriculture and would be offered free land and houses at an alternative site. Undamaged houses and hotels (even if damaged) would be allowed to remain in the buffer zone. For residents within the buffer zone, the government planned to assist not only landowners, but all residents (including encroachers) with some form of housing. This was estimated to require around 50,000 permanent houses.

For those whose damaged houses were located outside the buffer zone, the government agreed to provide grants and loans for households outside the buffer zone to rebuild in the same place. The grants are provided through the state banks with funding from donor agencies. According to TAFREN guidance of 15 March 2005, the following criterion was to apply to households outside the buffer zone:

²⁰ Buffer and ‘set back’ zones are both ways to create space between human development and the coast. They do not reduce the affects of hazards such as tsunami waves but are designed to move the population away from hazardous areas. Such zones facilitate costal eco-system conservation by restricting certain types of human activities, which may, among others, have beneficial effects on wave damage. A coastal setback has been defined as “a prescribed distance to a coastal feature, such as the line of permanent vegetation, within which all or certain types of development are prohibited” (“Coastal Zone Management Plan Sri Lanka 2004”: Coast Conservation Department, Government of Sri Lanka). For a discussion of buffer zones in developing countries, see Ebregt and De Greve (2000).

All affected households outside the buffer zone that are able to demonstrate ownership of land will be entitled to a grant by the state. Households that do not have ownership to the land are not entitled to this assistance.

Damages are assessed on a points basis, judged by a Verification Committee.²¹ If a house is more than 40 per cent damaged, a grant of Rs.250,000 (US\$2,500) is given in 4 installments, based on progress. If a house is less than 40 per cent damaged, then a grant of Rs.100,000 (US\$1,000) is provided, disbursed in 2 stages.²²

Buffer Zones are a widely used operational approach to conservation in many different contexts. The concept of a buffer zone was a reaction to the widespread damage inflicted on communities who resided in close proximity to the coast. This approach not only highlighted the potential dangers of being very close to the sea but also drew attention to the considerable numbers of people who were, in effect, illegal squatters on government land or occupying houses that had been built in violation of law. In promulgating the buffer zone, an overriding concern of the government may have been that in the event of a similar natural catastrophe (another tsunami or cyclone) that led to loss of life or destroyed rebuilt houses, the government would inevitably be blamed in the absence of a designated no-build zone.

But there were also other considerations that probably played a part. The 1981 Coast Conservation Act (1981, as amended in 1988) prohibits any person to engage in a “development activity” (which includes aquaculture) within the coastal zone unless such person is authorized by a permit issued by the Director of Coast Conservation. According to the Act, no permit can be issued if the activity has any adverse effect on the stability, productivity and environmental quality of the coastal zone. This Act, however, has never been strictly enforced. It appeared, however, as if this was the time, at last, to start to implement some measures of coastal conservation that also ensured that significant numbers of people would be moved away from areas where they were vulnerable to wave damage. The Coastal Conservation Department (CCD) Chief, for example, was reported to have pledged that the CCD would from now on strictly adhere to the buffer zone rule and no new construction or reconstruction would be allowed, pointing out that many houses along the coastal line, which were destroyed by the tsunami, were illegal.²³

From the very outset the buffer zone became a politically controversial issue which generated significant opposition from community and business groups. The zone limits were not based on prior community consultations and did not correspond to tsunami damage. They did not take into account topographical and other relevant features of the land that would affect hazard risks. Hence the underlying rationale for

²¹ In addition, households that have successfully utilized the grant will be eligible to apply for a concessionary loan of Rs.500,000 from the 2 state-owned commercial banks.

²² Since it became clear that there is considerable inequity in providing the same sum of money to rebuild houses with broken windows as against those houses that have suffered greater damage (even though the damage is less than 40 per cent), a new one-off payment of Rs.50,000 (US\$500) is being considered for those whose house damage is less than 20 points according to the damage verification system.

²³ Daily News, 02/02/05.

the 100 and 200 meter limits appeared arbitrary. The government's defence was that it needed to act fast before people moved back and a uniform approach was the fairest and quickest way to do so. There was also dissatisfaction that the rules applied only to residents whose houses were damaged but not to tourist enterprises who would be permitted to rebuild, and that households whose houses had not suffered damage were permitted to continue living in them. Indeed, much of the seaside of Galle Road in Colombo—one the most densely populated strips of land in the country—falls within the buffer zone. If the rationale for the buffer zone is public safety, then it should presumably be applied uniformly to all structures, though it may be argued that in a period of acute housing shortages, it would not be sensible to knock down undamaged houses or attempt to relocate large numbers of people who already have houses to live in.

Whatever merits the government's case had—indeed the concept of a buffer zone for coastal eco-system management does have considerable value—the discriminatory manner in which the no-build rules applied were bound to create dissatisfaction and raise suspicions about possible ulterior motives. While many tsunami victims, particularly those whose houses had been severely damaged by the tsunami and had lost family members, were not enthusiastic about rebuilding in the same location,²⁴ they were concerned about being relocated away from their places of employment or business and about the possibility that they would lose their properties to others (such as tourist enterprises who could rebuild). Many tsunami victims were fishermen who need to keep their boats and supplies near the shore while some fishing activities—such as drawing in of large nets (*Ma Del*)—require community participation. In urban and densely populated areas, relocation of business-related buildings to an interior location could be very costly.

The community concerns were articulated in the political sphere. The main opposition party, the United National Party (UNP), declared that it was opposed to restrictions being placed on citizens who wanted to rebuild their tsunami damaged houses within the buffer zone. Nevertheless, senior government leaders continued to affirm their strong commitment to maintaining the buffer zone limits until quite recently. But, as pressure mounted, signs emerged that the government commitment may not be as firm as publicly stated. In some locations in the east coast, the policy had been relaxed by early August, though with no public pronouncements. By the end of August the government abandoned their inflexible approach to apply buffer zone restrictions, and a relaxation of policy appears to allow households within the buffer zone to repair or rebuild damaged houses, if they choose to do so. The new limits show considerable variation across different coastal areas (see Annexes Table A-1).

The implications of these changes on government policy on the buffer zone for the house reconstruction strategy and funding needs remain to be spelled out. If house rebuilding or repairs within the buffer zone do not attract financial assistance from the government (or from aid funds channelled through the government), the financial

²⁴ In fact, a survey conducted by the IPS found that three-quarters of households within the designated buffer zone do not wish to rebuild on the same site (IPS, 2005).

implications for the public house building programme would depend on decisions regarding the eligibility of those households to receive new alternative houses.

6.3 Housing Programme Progress

The housing situation for the tsunami-affected communities in Sri Lanka has made some progress. The number of displaced declined to 516,000 by mid-June 2005 from the 800,000 or so figure in the immediate aftermath of the tsunami as people returned to their homes (even if they are destroyed or damaged) and were removed from the statistics. An initial 169,000 people housed in schools and tents have largely been moved to transitional shelters (to bridge the gap between emergency accommodation and permanent housing). Transitional shelters were only being provided for the affected households in the buffer zone. By end August 2005, it was estimated by TAFREN that approximately 52,383 transitional shelters, housing some 250,000 tsunami displaced people, have been constructed since February 2005 on 492 sites. A total of 55,000 such shelters are expected to be completed by end September 2005, thus completing the transitional house building programme, and this target appears likely to be met. The need for care and maintenance of such shelters becomes increasingly important as permanent housing reconstruction becomes delayed. The GOSL has agreed with donor agencies and NGOs to a plan detailing the responsibilities for care and maintenance over the next 1–2 years.

Early estimates suggested the total number of houses fully or partially damaged to be around 113,000. Revised figures published by the Department of Census and Statistics at end August 2005 estimate the tsunami to have destroyed over 77,561 houses (the figures place the number of fully damaged housing units to be 41,393 and partially damaged housing units to be 36,168).²⁵ Of the total 77,500 houses damaged, nearly 50,000 are estimated to have been within the buffer zone stipulated by the GOSL requiring relocation of the households to new houses.

The government unit charged with this task is the Tsunami Housing Reconstruction Unit (THRU) based in the UDA. The THRU has been signing Memoranda of Understanding (MOU) with donors who have offered to construct houses (international and national NGOs and some private companies). The MOU states that “the donor shall bear the cost of construction of the housing units which has been estimated to be around Rs.400,000 per single storey detached type housing unit including the cost of basic amenities such as water, electricity and sewage within the house”.²⁶ The MOU also states that the house must have a minimum of 500 square feet with two bedrooms, a living room, kitchen and toilet; and that construction must be in keeping with planning guidelines, design specification and standards given by the UDA. The donor must employ a contractor registered with the Institute for Construction Training and Development (ICTAD) or any other government construction agency. The type of pre-built housing will depend on the land available. The relatively slow progress

²⁵ The figures for total houses destroyed vary. For example, other GOSL estimates suggest that the number of houses destroyed is over 99,000 (GOSL (2005b)).

²⁶ THRU MOU for Housing ‘Donor’ (available from the Urban Development Authority).

in house construction has been attributed partly to problems associated with the acquisition of suitable land for relocation.

A survey carried out by the IPS indicates that if there is adequate land, the preferred option of most households is single storey detached houses on individual land plots of about 10 perches (IPS, 2005). As land becomes more limited, the proposals by order of preference include the following: (i) single storey attached houses with individual gardens; (ii) two-storey attached terraced houses with individual gardens (town-houses); and (iii) as a last resort, condominiums (limited to ground plus 2 or ground plus 3). Donors are to construct houses according to UDA guidance and site plans by the National Housing Development Authority (NHDA) and UDA. Many site plans, however, are allegedly prepared by architects visiting from Colombo with no consultation with users, which may create problems of insufficient space, and inappropriate design, and not suited to local conditions and requirements.

By September 2005 (according to data released by the THRU) a total number of 29,697 housing units had been assigned to donors through MOUs in 482 different sites (Table 4). There are wide variations in the numbers of total houses damaged and housing units allocated to donors for construction—for example, while Hambantota has already signed MOUs for almost as four times as many houses as had been damaged, Ampara had signed for less than half the requirements. Similarly the pace of house building is quite uneven. By September 2005, a total of 2566 houses had been completed while the actual construction of another 3,945 was in progress (as opposed to clearing of land etc. underway for an estimated 27,110 units); of these 990 are to be found in Hambantota, while only 31 houses had been completed in Ampara.

Table 4. Donor Built Housing: Current Status (September 2005)

District	Total Houses Damaged	MOUs Signed (No. of houses)	Construction Status (No. of Units)	
			In progress	Completed
Ampara	8435	3781	3342	54
Batticaloa	4426	3625	2052	43
Colombo	5150	928	756	08
Galle	5196	3660	3050	539
Gampaha	690	268	390	0
Hambantota	1057	3693	4519	1548
Jaffna	4551	2878	4009	69
Kalutara	4275	2375	1697	141
Kilinochchi	288	43	1187	0
Matara	2316	2952	2363	24
Mullaitivu	3011	700	0	0
Puttalam	56	0	56	56
Trincomalee	5737	4794	3689	84
Total	41738	29697	27110	2566

Source: TAFREN (2005), "Tsunami Housing Reconstruction Programme", September 2005.

Repairs and rebuilding in the area designated as ‘outside the buffer zone’ attract financial assistance. By November 2005, 22,700 had received the first installment of Rs.50,000 (US\$500) for reconstructing fully damaged houses and 31,920 for renovating partly damaged houses (Table 5). The fact that a relatively large number of households have obtained the first installment has been hailed by the World Bank as an indicator of its success:

“Money, whether it’s from the Bank or other donors, is expected to flow quite smoothly to the 34,000 or so houses outside the buffer zone set-back from the sea.”²⁷

However, it should be noted that very few have yet progressed beyond the first installment. It is still too early to assess the likely progress of this programme. But as we discuss later the relatively large number of households that have received the first installment may not be a good indicator of how this programme will perform over time.

Table 5. Assistance to Owner Build Housing: Status (November 2005)

	Fully Damaged Houses (US\$2,500)				Partially Damaged Houses (US\$1,000)	
	1 st	2 nd	3 rd	4 th	1 st	2 nd
Ampara	4963	492	0	0	11068	318
Batticaloa	10448	1591	604	70	5332	512
Galle	2112	153	45	15	5697	166
Hambantota	209	74	31	10	980	693
Jaffna	33	20	6	0	518	482
Kalutara	543	234	21	1	2583	1271
Matara	707	515	227	102	3987	3196
Trincomalee	1127	760	417	249	1709	742
Colombo	12	12	10	7	15	9
Total	22700	3851	1361	454	31920	7413

Source: TAFREN (2005), “Owner Build Housing”, November 2005.

²⁷ World Bank website (accessed 07/09/05)

7. Emerging Issues

Optimism about the country's ability to successfully recover from tsunami has been based on the pledges made at the donor meeting in May 2005, which seemed more than adequate to meet financing needs. In this context, three questions become important.

- How likely is it that pledges will be fully honored?
- Can the country effectively utilize such a large amount of foreign assistance?
- Will the external funds be adequate to finance the reconstruction programme, and if not, what options are available to raise necessary funds?

7.1 Aid: Pledges and Realization

The answer to the first question, going by historical experience of other disaster episodes in developing countries is a resounding “Not Very Likely”. For a variety of reasons, pledges made at the time of major disasters have almost never been fully honored.²⁸ As Benson and Clay (2004, p. 60) point out, “...ultimately disaster-related external assistance may not be additional but instead may displace funding for development.” Substantial gaps emerge between pledged and actual aid disbursement following major disasters despite the best intentions on the part of donors. This can reflect management constraints—such as procedural difficulties, procurement delays, lack of local counterpart finance, etc.—and new issues that change the political focus and divert attention. Disaster related external assistance may also not be entirely additional beyond the initial year of impact. While the immediate response involves some new money, rehabilitation needs are often met by switching aid money between uses rather than by increasing total aid to the affected country. Thus, total aid commitments may increase in the year of a major disaster, but they tend to fall back after the crisis to reflect longer-term trends in aid inflows. Some of the bilateral aid that comes in is also likely to be ‘tied’—used to buy anything from food products, telecommunications, transport and technical advice from the donor country—estimated to cut the value of aid to recipient countries by 25–40 per cent because the donor country is not always the cheapest source of those services.²⁹

However, judging by the extent to which pledges have been turned into commitments by major donors (multilaterals and governments) the present case may well prove to be an exception. Nevertheless, it should be noted that a third of the pledges made at the donor meeting in May 2005 came from non-governmental sources, whose own sources of funding are not always firm. There are already indications of emerging problems. Even though 384 NGOs registered with the Department of Social

²⁸ See, for example, Foreman and Patrick (eds.) (2000). Cuny (1983) for an earlier review of this issue, which suggests that this is not a new phenomenon. For some of the political economy aspects, see also bala-Bertrand, J.M., (1993) *The Political Economy of Large Natural Disasters: With Special Reference to Developing Countries*, Oxford, United Kingdom; Clarendon Press.

²⁹ For example, of 506 vehicles imported for tsunami work, 290 were released to NGOs (GOSL, 2005c).

Services had agreed to provide funds amounting to US\$1,321 million for rebuilding of assets destroyed by the tsunami, instances of failure to sign MOUs have been observed, while even some NGOs that had signed the MOUs had failed to commence work (GOSL, 2005c). In light of the frequency with which disasters—both natural and man-made—appear to strike the world at present, it seems prudent to prepare for some slippage in this area.

7.2 Aid Utilization

As far as the ability to utilize aid is concerned, Sri Lanka's past performance raises serious concerns. Effective management and utilization of aid can pose difficulties for developing countries at the best of times but the problems are compounded many times over in the context of a significant inflow of aid following a natural disaster.

Sri Lanka, like many developing countries, has been grappling with problems of under-utilization of aid.³⁰ The rate of aid utilization (measured by the disbursement ratio: disbursed aid as a share of cumulated undisbursed aid) indicated a relatively low utilization of aid of around 13–15 per cent towards the end of the 1990s (IPS, 2001). By 2003, there was a gradual improvement in the utilization rate to a more respectable disbursement ratio of around 20–22 per cent, though the cumulative undisbursed balance (CUB) has remained stubbornly in the region of US\$2.5–3 billion (Annexes Table A-2).

Many reasons have been cited for the low levels of aid utilization: political interference with regard to planning, implementation and allocation of funds; staffing and related problems in project management; implementation delays (including infrastructure bottlenecks, complex and costly procurement procedures), and excessive conditionality imposed by donors have been viewed as the key constraints (IPS, 2001). Availability of counterpart funds (local funds with appropriation) has also been an important factor. Even if budgetary allocations may have been made, cash is sometimes not available when needed. In the case of disasters, several factors further aggravate the capacity for utilization of foreign funds. The destruction of infrastructure, disappearance of public records, the sheer number of donors and programmes can create a complex web of aid transactions that are difficult for both donors and recipients to manage.

Past failures are of course not necessarily a guide to what may happen in the current situation. But they do provide a warning that, unless there is a concerted effort to meet targets and maintain focus, the potential for domestic slippage is ever present. An interim report by the Auditor General's Department has found that of US\$1168 million in aid committed for the reconstruction of six major sectors, the disbursement as of end July 2005 stood at US\$158 million (or a utilization rate of only 13.5 per cent).³¹ The role of TAFREN in overseeing the reconstruction effort, the political imperatives driving the programme, and strong pressure from donors may assist aid utilization

³⁰ Under-utilized aid refers to commitments of aid for a particular period minus disbursements of aid for the same period (in absolute terms).

³¹ GOSL (2005), "Interim Report of the Auditor General on the Rehabilitation of the Losses and Damages Caused to Sri Lanka by the Tsunami", September 2005.

performance and enable the country to achieve a much improved performance in utilizing the tsunami aid effectively.

7.3 Adequacy of Funding and Cost Escalation

The funds needed for rebuilding houses and other construction activities, including public infrastructure, were initially estimated on the basis of costs and prices that prevailed immediately after the tsunami disaster. However, there is now clear evidence that construction costs have been rising rapidly in recent months and materials (such as river sand).

This is of course not surprising. The scale of construction that is envisaged is several times higher than what is done in a normal year, and dramatically increases demand for labor and materials.³² Data obtained in late August from companies and organizations involved in house building and IPS field interviews show that *total* construction costs for the planned houses for tsunami affected families have risen from the estimated Rs.400,000 to Rs.550,000 or more in cases, and are continuing to increase (Table 6). Field interviews indicated that these increases are driven primarily by higher wages for skilled labor (such as carpenters, painters and masons) whose wages have doubled in some locations. Costs have also increased for particular building materials, but price increases for importable materials have been significantly lower than overall construction cost increases (see Annexes Table A-3).

³² Estimates of the extra demand for house construction vary, but they all indicate a massive increase in demand for scarce construction labor and materials (See TAFREN (2005), "Rebuilding Sri Lanka: Post Tsunami Reconstruction and Rehabilitation", June 2005). According to the Chamber of Construction Industry as reported the *Daily Mirror*, February 21, 2005, it is estimated that at least 100,000 additional workers will be required; this includes about 13,000 masons, 2,000 carpenters, 2,500 painters and nearly 54,000 unskilled laborers.

Table 6. Cost Escalation: Housing Construction

Donor	Unit Area (sq.ft.)	Initial Estimate (Rs.)	Current Estimate (Rs.)	% change	Comments
Red Cross	600	625,000 (March)	1,000,000	76	Houses with all basic infrastructure facilities (electricity, water supply, sanitation for each house, roads, etc.)
Tri Star Apparel Exports	550	200,000 (May)	260,000	30	<i>Cost only for building materials</i> , all other inputs by their own company.
Gift for Givers	500	400,000 (May)	400,000	–	Contract taken 3 months ago. Contractors attempting to complete houses with great difficulty. According to them, not possible to build in the future at this rate. House construction is done in Pothuvil
CARE International	550	450,000 (March)	850,000	89	Jaffna
			600,000	33	Hambantota
			550,000–650,000	22–44	All other areas (houses with few basic infrastructure)
Aitken Spence Co. Ltd.	550	450,000 (March)	> 500,000	>11	With basic infrastructure (with electricity but no water supply)
World Vision Lanka	500	550,000 (March)	700,000	27	With basic infrastructure
CARITAS Sri Lanka	500	500,000 (May)	650,000	30	A basic house (no mention of infrastructure)
Lodestar	> 500	> 800,000		60	Two-story houses built outside the buffer zone
Sarvodaya Movement	500	500,000 (May)	650,000	30	With only a few basic infrastructure facilities
Forut Institute	550	500,000 (April)	550,000	10	Only for the house (not with basic infrastructure)

Source: IPS survey, August 2005.

It should be noted that these cost increases have occurred at the very beginning of the construction programme. In fact, house building activities are still in their early stages. What these figures indicate is that if and when construction really picks up on the scale envisaged in the reconstruction phase, house construction cost escalation is likely to rise even more sharply. Increases in house construction costs are a useful (if not quite precise) indicator of the extent to which other construction costs, including rehabilitation costs of public infrastructure will increase.

All groups and organizations undertaking construction activities—households attempting to repair or rebuild houses, donors who have taken on commitments to build houses and the government which faces the task of rebuilding public infrastructure—must accept the reality of these cost increases. Further, the heavy demand for goods and services in the construction sector will produce ‘localized’ inflation to begin with, but later this will inevitably spread to the rest of the economy leading to more broadly based inflation. Inflation for the first 8 months of 2005 has risen to 12.7 per cent, significantly above the comparable period in the previous year.³³ This raises the question:

How much in the way of extra funds will be required to meet the actual reconstruction costs, and where will these funds come from?

8. Aid, Cost Inflation and ‘Dutch Disease’: Effects and Implications

The cost increases being observed in the construction industry are obviously due to increased demand for construction inputs as reconstruction activities get under way. Such increases are to be expected irrespective of whether the new construction activities are funded by domestic or foreign sources. However, these cost increases have a major bearing on the degree to which the reconstruction effort can be financed by available (or pledged) foreign funds. Given the importance of foreign funds in Sri Lanka’s reconstruction effort, we focus first on the link between utilization of foreign funds and construction cost inflation, and then go on to discuss the implications for domestic financing issues.

Domestic cost inflation is often observed whenever there is a large inflow of foreign funds. These cost increases lead to reduced profitability in industries that do not gain an offsetting increase in their prices and can adversely affect a country’s export performance. This phenomenon is known as the Dutch Disease, named after the Netherlands experienced a contraction of its industries in the wake of large inflows of export revenues after discovery of North Sea Oil in the late 1970s. This is a common phenomenon whereby increased demand in one sector of the economy—for whatever reason—leads to bidding up of prices of production factors.³⁴ The cost increases observed in the construction sector are a reflection of these Dutch Disease effects associated with absorption of capital inflows into an economy. However, there are some unique features associated with this phenomenon in the context of aid flows to finance asset replacement as part of the reconstruction effort. These have important policy implications.

³³ Monetary authorities have been slow to respond by raising interest rates for fear of further slowing down the growth momentum. The benchmark rates were revised upwards only in November 2004 by 50 basis points. A marginal increase of a further 25 basis points followed in May 2005 and a more appropriate upward adjustment of 50 basis points in June 2005. Despite the latter adjustment, Sri Lanka has experienced negative real rates of interest since the second half of 2004.

³⁴ In general, when countries get large capital inflows, they tend to experience Dutch Disease effects to varying degrees because some sectors and industries tend to have their profitability increase as well as spending effects raise prices for their outputs, while others experience only the resulting cost increases. (See Corden and Neary, 1982, and Corden, 1984 for expositions of the basic analytical model.)

Increases of prices and wages in response to increased demand for construction activities are greater the more difficult it is to increase their supply (i.e., when supply is relatively inelastic). This, for example, is the reason for the sharp increase in wages of skilled construction workers such as carpenters, whose skills cannot be easily acquired by others. If those factors can be imported from larger world markets—some building materials fall into this category—then their supply tends to be more elastic and resulting price increases can be moderated. But many factors, particularly labor, must be supplied from domestic sources ('non-traded'), as for various reasons they cannot be bought from international markets. (Of course it is possible to import skilled labor from other countries, and it has been suggested that skilled labor shortages in Sri Lanka's construction sector should be met by importing Indian labor. Whether this is politically feasible remains to be seen.) It is by offering higher rewards—higher wages, prices—that a particular sector is able to attract extra resources. Because this tends to increase costs for all other sectors that also employ those factors, there is a negative impact on their profitability, and the other sectors contract. Sometimes the higher incomes accruing to factor owners increase demand for certain goods and services, and those industries then experience an off-setting positive impact through price increases if their supplies are inelastic—which is normally the case if they are not internationally traded ('non-traded'). Typically goods that enter international trade do not experience offsetting price increases because they can be imported at more or less exogenously fixed world prices and are the hardest hit. This fall in the relative profitability of tradable industries is the standard 'real exchange rate appreciation' that is a necessary and unavoidable outcome of foreign capital absorption by the domestic economy. This can be minimized in the short-term through foreign exchange market interventions, but cannot be entirely avoided.

The rapid ('localized') inflation of domestic costs (at a rate higher than average inflation in the economy) will spill over into the rest of the economy, as aid flows increase expenditure on local non-tradable factors. In principle, this is an unavoidable outcome of extra spending financed by foreign funds. However, there are several distinctive aspects of this phenomenon in the context of foreign aid funded capital asset replacement that are not adequately discussed in the standard analytical literature (see, for example, the reviews in Freeman, Keen and Mani (2003), and Benson and Clay (2004)).

Rehabilitation or replacement of capital assets destroyed by the tsunami will yield real income benefits once they are in place i.e. benefits come in the future. However, as demonstrated in the case of the housing sector, replacement of the capital asset requires use of not only importable materials but also domestic production factors. If all factors are internationally 'tradable', and can be imported at fixed world prices, extra demand for factors will not lead to any price or cost increases. However, this is not generally the case, and certainly not the case with construction. Because the supply of some non-tradable factors, such as skilled labor, is quite inelastic in the short run, their prices increase as demand increases. Clearly, the more rapid is the pace of construction activity (whether financed by foreign or domestic sources) the greater will be the price and cost increases because supply of non-tradable factors is lower in the short run than the long run. In the case of skilled workers, for example, firstly, they can offer a larger

labor supply over a longer time period and secondly, it is possible for other workers to acquire skills thus expanding the total stock of skilled labor.

From a national viewpoint, higher incomes that accrue to inelastically supplied factors such as skilled labor can be seen as an income redistribution whereby part of the aid funds raise their incomes at the expense of tsunami affected capital asset replacement. Thus it is not surprising that post-tsunami reconstruction is generating something of a bonanza for some groups in the community. In the longer term higher expenditures by households that gain these higher incomes will tend to raise costs throughout the economy, thereby tending to squeeze profits in export and import competing industries. On the other hand, the availability of services from reconstructed infrastructure and other assets has an offsetting impact in the future on cost, facilitating increased supplies. *Thus investment in the domestic capital stock tends to produce an initial real exchange rate appreciation but this is followed by improved international competitiveness once the capital assets begin to provide services used in the tradable industries.*

What do these imply for capital asset replacement with foreign assistance?

8.1 Exchange Rate and Capital Asset Replacement

Suppose for simplicity that the tradable (imported) amount of inputs and domestic (non-tradable) inputs are required in fixed proportions for asset replacement. For given world prices of imported imports, a unit of foreign currency will buy a fixed quantity of imported inputs, irrespective of the exchange rate of the recipient country.³⁵ But the amount of domestic non-tradable inputs that a unit of foreign currency can purchase depends on the nominal exchange rate and the domestic currency price of those domestic inputs.

If the nominal exchange rate is fixed, this implies that the amount of capital assets that can be replaced for a given unit of foreign assistance is lower, the higher the domestic cost increase. If the capital inflow produces an appreciation of the nominal exchange rate, this effect is aggravated because less domestic inputs can then be bought with a unit of foreign currency.

Obviously the country's exchange rate policy becomes important here. In particular, a policy of propping up the nominal exchange rate by 'leaning against the wind' in foreign exchange markets makes it much harder to fund rehabilitation/reconstruction programmes with a given amount of foreign assistance. On the other hand, domestic price and cost inflation can be mitigated by trade liberalization, which tends to reduce costs of tradable goods and imported intermediate goods

If replacement of capital assets is staggered over time, demand increases in a given time period are lower, factor supplies become more elastic, and cost increases will be correspondingly lower. More domestic capital assets can now be replaced for a given amount of foreign funds. However, a slower pace of capital replacement imposes costs because it delays the generation of the flow of services from the capital asset. Ideally a

³⁵ The assumption is that the recipient country is a 'small' country in world markets, so its international transactions do not have a significant impact on world market prices.

balance must be struck between the high costs associated with faster pace of capital asset replacement, and the losses due to loss of services resulting from delayed replacement, and a programme of reconstruction must be formulated that takes into consideration the different costs and benefits associated with different rehabilitation projects, so that priorities can be established on an economically sound basis. However, an important consideration in relation to projects funded with foreign assistance is that, unless the funds are obtained and used quickly, they may simply disappear as donors' priorities change. Further, even in domestic political economy terms, delays in reconstruction may lead to priorities being set in a manner that is prejudicial to the interests of the needs of the worst affected groups. In other words, the costs of delay in reconstruction may fall largely on the poor and politically weak groups. This issue is particularly important because, as discussed below, a financing gap is emerging which may result in a rationing of available funds.

8.2 Financing the Emerging Funding Gap

The immediate issue for the reconstruction effort in Sri Lanka relates to the capacity of households and the government to meet capital asset replacement targets with a given amount of foreign assistance. For households hit by the tsunami, particularly poorer households, cost increases make the task of reconstruction much more difficult. Given 30–40 per cent plus cost inflation, the fixed cash grant of Rs.250,000 (US\$2,500) for a fully damaged house, for example, is woefully inadequate. As cost increases escalate the real value of subsequent instalments will fall even more. When this same scenario is extended to the reconstruction programme for public infrastructure, a funding gap will be inevitable.

How will this funding gap be addressed? More affluent households with access to savings and/or relatively cheap credit will draw down their savings or cut back on consumption to finance the necessary additional expenditure. Note, however, that this represents domestic household financing of asset replacement, at the expense of other types of expenditure. In other words, a substantial (and increasing) part of the burden of rehabilitation will be borne by the affected households themselves. This suggests that there will be a depletion of accumulated household savings—in effect allowing some substitution to take place between consumption spending and savings. Sri Lanka may therefore see a reduction in the savings rate which has remained virtually stagnant at around 16 per cent of GDP in recent years.

The situation will be much more difficult for the poorer households who lack both savings, access to cheap credit (and capacity to repay). We have already mentioned the optimism expressed by the World Bank about the rebuilding programme progress in this sector. According to field studies by the IPS, a significant number of poorer tsunami affected households had already spent the first installment of the grant (Rs.50,000–US\$500) on pressing immediate needs, including payment of outstanding loans. They would struggle to make much progress with the construction tasks that need to be completed to become eligible for the next installment. In the context of rapidly increasing costs, *these poorer households will find it extremely hard to rehabilitate their damaged houses and other assets without substantial additional assistance.*

In the case of public infrastructure spending, a similar story can be told. It should be recalled that the bulk of reconstruction funds are expected to come from external assistance. If foreign donors (including NGOs) have made commitments to rebuild specific infrastructure assets, then they will need to find extra funding if they were to honor those commitments. If—as is likely—such commitments are more or less fixed in foreign currency terms, what can be financed with them will fall, leaving gaps to be filled by the government from other sources. It would be highly optimistic to expect that significant extra donor assistance will be forthcoming in the future as global donor attention shifts to other disasters and other issues. *The conclusion that there will be additional demands on the government for rehabilitation funding appears compelling.*

8.3 Fiscal and Monetary Policy

This raises sharply the issue of the ability of the government to meet these new funding requirements. Fiscal targets set for 2005 have been already revised following the tsunami disaster to take account of a significant level of additional expenditures (Table 7). According to the revised estimates, capital expenditure is expected to see a significant increase, raising the overall deficit to 9.6 per cent of GDP from the pre-tsunami target of 7.6 per cent. While the Ministry of Finance has maintained that the post-tsunami reconstruction will be ‘budget neutral’ as much of the funding requirement is expected to be met by donor commitments, the reality is likely to be quite different if initial estimates did not factor in this cost escalation. If a shortfall should arise, the government will have quite limited options, particularly in the context of pressure on the fiscal balance due to the election cycle expenses and the rising costs of the fuel subsidy.

The above discussion on the link between the exchange rate and the ability to finance rehabilitation projects with foreign funds also pin points some implications for exchange rate policy. Obviously the inflow of foreign funds—both private remittances and donor funding—and debt relief has allowed maintenance of healthy foreign exchange reserves, despite the soaring oil price and a ballooning oil import bill that has widened the trade deficit. In turn this permits monetary authorities greater room to exercise influence in foreign exchange markets.

Table 7. Selected Indicators of Public Finance

As % of GDP	2004	2005 ^a	2005 ^b	2006 ^c
Revenue	15.3	17.1	16.4	17.8
Current expenditure	19.2	18.4	18.5	18.6
Public investment	4.8	6.3	5.0	6.6
Total expenditure	23.5	24.6	23.5	25.1
Budget deficit	-8.2	-7.5	-7.1	-7.3
Domestic financing	5.8	4.6	4.9	4.4
Foreign aid	2.3	2.6	2.2	2.8
Tsunami expenditure	—	—	1.4	1.8
Public investment with tsunami expenditure	—	—	5.7	8.3
Budget deficit with tsunami expenditure	—	—	8.5	9.1

Notes: a. Budgeted estimates; b. Revised estimates; c. Provisional estimates.

Source: GOSL, Budget Speech 2006.

There are difficult policy issues that need careful thought and analysis. Cost inflation in the construction sector is yet to spill over fully into other sectors of the economy, including the export (and more generally other tradable) sectors. In this sense, the sector specific real exchange rate relevant to the construction sector has appreciated much more than that for the entire economy. Hence the immediate pressures on the export sectors emanating directly from the tsunami reconstruction activities are not as pressing today as they will be sometime later in the future. On the other hand, independently of the tsunami expenditures, other factors such as high oil prices and projected increases in government expenditures aggravate external sector imbalances.

Though the Central Bank had to intervene in the immediate aftermath of the tsunami to minimize appreciation of the currency, this situation did not last. In recent months there have been significant downward pressures on the rupee in foreign currency markets. The temptation to slow down tsunami expenditures and use available foreign reserves to prop up the currency—through direct Central Bank intervention in foreign currency markets or through state owned commercial bank interventions—is certainly present. The IMF recently warned about the dangers of intervening in foreign exchange markets to prevent rupee depreciations, and it is difficult to assume that the

observed stability of the Rs./US\$ rate is driven entirely by market forces.³⁶ At some stage the monetary authorities will be compelled to face up to the implications of current exchange rate policies for the long term post-tsunami rehabilitation issues.

The bottom line is that inability to fully fund rehabilitation of assets will mean that Sri Lanka ends up with an inferior capital stock compared with the pre-tsunami situation. If funds are not diverted from consumption expenditures, the country's immediate macroeconomic imbalances maybe sorted out by meeting current consumption needs at the expense of capital stock replacement, but this will be at the expense of its longer-term growth prospects.

9. Some Lessons and Recommendations

Our review of Sri Lanka's experience with the tsunami and its aftermath has highlighted several short term as well as longer term issues that need to be addressed by policy makers. Some aspects of the Sri Lankan experience also hold lessons of wider relevance for governments and donor agencies in developing countries grappling with similar problems. In this section, we present a series of conclusions and recommendations relating to the following issues:

1. Livelihood related cash payments to households
2. Assistance for rebuilding houses
3. Titles to new houses
4. Buffer zone rules
5. Early warning systems and disaster management systems
6. Coordination of donor assisted activities
7. Macroeconomic policy issues

9.1 Review Livelihood-related Cash Grants for Tsunami Affected Households

The scaling back of the Rs.5,000 (US\$50) grant for affected households and the new eligibility rules for grant entitlement appears to be both inequitable and counterproductive in terms of encouraging affected households to re-engage in income earning activities. It must be emphasised that Rs.5000 for a *household* is a quite modest amount even by Sri Lankan standards must be seen in the context of Sri Lanka's poverty line, which was Rs.1526 *per capita* per month in May 2004. The scale of the disaster, the extent of price inflation, the many costs associated with narrow targeting, and the perverse incentives set up by the new rules justify the provision of the grant for *all* affected households for at least four months and preferably six months as many had

³⁶ In Sri Lanka authorities can intervene in foreign exchange markets not only directly through Central Bank transactions, but also using the resources of the two state owned commercial banks which dominate the commercial banking sector.

anticipated earlier. A continuation of this grant would go some way towards easing the hardships faced by affected households, and also provide a transparent and simple way of disbursing donor funds to all tsunami affected households.

9.2 Review Cash Grants for House Repairs/Rebuilding

The cost escalation in house construction documented above makes it obvious that the amount of assistance provided to tsunami-affected families for house repairs and rebuilding is quite inadequate and will rapidly erode further in real terms. While there is an argument for not providing full costs so that households have to make some contribution towards house repairs and rebuilding, the poorest households (outside the buffer zone) who are not eligible for new housing will find it extremely difficult to rebuild their houses without getting deeply into debt, thus aggravating their present plight, immersing them in a long term debt-poverty trap and aggravating social tensions. Again, though this too will also obviously increase the fiscal burden on the government, a review and upward revision of the cash grant amount should be seen as a priority issue.

9.3 Selection of Housing Beneficiaries and Titles to New Houses

The selection of beneficiaries for housing grants has caused dissatisfaction in some places. The process can be improved by improving transparency. Lists should be prepared by the government in consultation with donors, displayed in public places and people should be allowed to appeal.

A survey by the IPS (IPS, 2005) showed that households expecting new houses were unclear about their titles. Clearly, a decision is needed soon. The title may be awarded to the male head of households under the existing State Lands Act. Restrictions on sale of the house outside the family are also likely, as has been the case with state land (and house) allocations to settlers in irrigation settlement schemes. Restrictions of this nature in land markets, though well intentioned, have serious drawbacks highlighted by the resulting land use inefficiencies (and the numerous illegal land transactions that are known to occur in practice). If restrictions were to be imposed to minimize the possibility that undesirable distress sales in the immediate future may occur, such restrictions should nevertheless be of relatively short duration, and transfers outside the family after, say, at most 10 years should be permitted.

We believe that the case of title transfers also gives an opportunity to implement gender equality in state transfers. When houses are allocated, clear titles should be granted jointly to the husband and wife unless it is a single parent family even though this may require changes to existing legislation. Joint title held by both spouses is likely to be a deterrent to land sales arising from debts associated with gambling and excessive drinking by the household head.

9.4 Buffer Zone Rules

The concept of buffer zones to achieve coastal environmental protection and minimize impact of future natural hazards in future has intrinsic merit. However, as demonstrated by the failed attempt to implement a rigid and somewhat discriminatory system, the set of related issues needs to be more carefully examined and thought out for a comprehensive system to be developed. Both from a conservation and public safety point of view, a complete abandonment of the approach is not desirable. Further, it will create confusion for the programme of alternative house building currently in progress.

In any case, the process of setting out a new strategy, including the specification of Buffer Zone limits should be a transparent and consultative process that clarifies the underlying scientific and economic rationale for particular measures. In formulating an effective coastal management strategy, the potential for combining regulations with incentive-based systems for achieving the hoped for environmental and hazard management objectives should be explored to avoid over reliance on regulatory restrictions alone, which are often difficult and costly to enforce. There is considerable international experience that demonstrates the greater effectiveness of approaches which utilize both regulations and community-based incentive approaches. Even in Sri Lanka, coral protection, for example, appears to have been most effective in locations where the local tourist industry had an interest in its protection, and tsunami damage was correspondingly lower.

9.5 Early Warning Systems and Disaster Management Systems

The tsunami, unexpected as it was, dramatically exposed the absence of an adequate warning system, and appropriate civic and administrative mechanisms to cope with a natural disaster in Sri Lanka. In this sense the tsunami has been a wake up call to the country. International experience points to the value of investing in natural disaster information and management systems.³⁷ Since then there has been considerable discussion about the nature of the risks faced by Sri Lanka and the kind of early warning system and related disaster management systems. Though the recent historical record indicates that there have been no recent major disasters of this type, there are several factors that suggest that risks of natural disasters in Sri Lanka may be increasing. This is to be expected in the context of global evidence which suggests that “... as a result of both climate change and increasing concentration of the world’s population in vulnerable areas—natural disasters will become more frequent, more intense and more costly in the coming years” (Freeman, Keen and Mani, 2003: p. 3).

Of particular relevance to Sri Lanka is the scientific consensus that is emerging that the geographic region in which Sri Lanka is situated can expect increasing seismic activities as a result of the fracturing of the tectonic plate on which the country is located. Though Sri Lanka is not in close proximity to any of the 12 or 13 main plate boundaries that are prone to earthquakes, it rests on a plate that extended from Australia to India. This appears to be cracking up opening a fissure between the “Australian” and

³⁷ See Benson and Clay (2004)

“Indian” plates. Some scientists believe that this is leading to a new plate boundary across the Southern Indian Ocean.³⁸ The earthquake that hit Pakistan and parts of India in October 2005 serves as a grim warning of the potentially catastrophic consequences of major earthquakes (which may also unleash tsunamis closer to the Sri Lanka, this time on the more heavily populated Western side of the country). Sri Lankan scientists have also been warning about the potential for serious earthquakes, and increased seismic activity was recorded in the days leading up to the tsunami. This coupled with the possibility that global warming related changes may increase the potential for cyclonic activities suggest that there is a case for placing greater emphasis on the need for preparedness to cope with natural disaster. Risks also emanate from the presence of several large dams that are vulnerable to earthquakes and movements.

In this context, what is needed is not a single tsunami focused warning system—based on a single low probability event—but one that is geared to coping with the multiple hazards. A developing country with severe financial constraints cannot afford a multiplicity of specialized warning systems. With international assistance, steps have been taken to link Sri Lanka to regional disaster warning systems. Although the Sri Lanka Disaster Management Act (presented to Parliament in February, 2005) makes a useful start, the preparation of a comprehensive disaster management system for the country that is scientifically sound and financially feasible remains to be formulated.³⁹

There are other longer term issues that need to be explored, such as the how a developing country like Sri Lanka can prepare itself to meet the financing issues arising from low probability catastrophic risks, and the benefits and costs of different options such as purchasing such insurance in global insurance markets versus setting aside reserves to meet such needs. It has been noted that countries tend to be ‘reluctant to divert resources towards mitigation measures and the purchase of insurance, especially if the event is of sufficiently low probability that the consequences of under-preparation are likely to be borne by a subsequent government’.⁴⁰

³⁸ <http://www.recoverlanka.net/background/hazards.html>

³⁹ A detailed discussion of the requirements of an early warning system co-authored by Rohan Samarajiva and Ayesha Zainudeen (LIRNEasia), Malathy Knight-John (IPS) and Peter Anderson (Simon Fraser University, Canada) is available at <http://www.lirneasia.net/wp-content/news-sl.pdf>

⁴⁰ Freeman, Keen and Mani (2003: p.24). They go on to point out that this reluctance will be stronger if donor’s are expected to bear part of the costs if a disaster does occur. There is a large and growing literature on economic issues related to managing disaster risk, following the seminal contribution of Dacy and Kunreuther. (1969). See also Kunreuther and Roth Sr. (1998). Some of the literature relevant to developing countries is reviewed and discussed in Freeman, Paul K., Michael Keen and Muthukumara Mani (2003) and Benson and Clay (2004).

Box 1. Recommendations for the Design of an Effective All-Hazard National Early Warning System

- Public warning is a system, not a technology. The identification, detection and risk assessment of a hazard, the accurate identification of the vulnerability of a population at risk and finally the communication of information to the vulnerable population about the threat in sufficient time and clarity so that they take action to avert negative consequences constitute the system of public warning. Warning allows people to act in order to prevent hazards from becoming disasters. Effective public warning saves lives, reduces economic loss, reduces trauma and disruption in society and instills confidence and a sense of security in the public. It is an important component of the foundation of a sound economy.
- Effective warning is just one of the critical parts of a comprehensive risk management system that includes mitigation, preparedness, response and recovery. Warning is a crucial component of the overall risk management system that failed in the 2004 Indian Ocean tsunami; it needs urgent strengthening for the country to benefit from the proposed improvements in the regional hazard detection systems and to minimize losses from local hazards.
- Linkages to local, regional and international hazard detection systems are extremely important for an effective national warning system. For localized hazards such as floods and landslides, seamless connections must exist between the hazard detection systems and the Early Warning System. People are not only the recipients of warning messages from experts, they are also valuable sources of hazard detection and monitoring information. An early warning system without education, planning and rapid action is sub-optimal.
- It is the core business of government to protect its citizens to the best of its ability. However, in many developing countries, government action is constrained by numerous competing claims on scarce resources and by capacity and organizational-culture problems. Government cannot do it alone; all sectors of society must contribute.
- For example, the private sector offers complementary resources and necessary infrastructure (e.g., telecommunications and broadcasting networks) that are needed for disseminating warnings; civil society provides social infrastructure at the grassroots. The use of already existing capacities is not only cost-effective, but ensures the continuity and maintenance of the system. The cost to the government of implementing a nation-wide warning system is significantly less when other stakeholders contribute to the costs for maintenance, management and service. It is also important that there be adequate oversight of the performance of the vital functions associated with an early warning system; this can only be provided when multiple players are involved.
- Sri Lanka should adopt an 'all-hazards' approach, wherein the detection component may differ for each kind of hazard (flood, cyclone, fire, earthquake, epidemic, etc.) and may be provided by different entities with subject expertise, but the warning system is capable of carrying warnings for all kinds of hazards. An important element of this is an agreed format of warning messages for all hazards types, as given in the international standard Common Alerting Protocol (CAP). A common system capable of carrying warning for all types of hazards is not only a superior use of resources, but will also counter a common problem of lack of maintenance of systems that are rarely used. A common warning system is also important from the demand side, enhancing the ease of understanding of warning messages by the recipient.

(cont.)

- The telecommunications and electronic broadcasting industries play crucial roles in the effective dissemination of warnings. Action to ensure optimal contributions from the telecommunications network of networks should be ensured through the collective efforts of the operators, facilitated by the regulator. Government should also work collaboratively with the electronic broadcasting industry to ensure effective contributions to early warning at national and local levels.
- An early warning system is a pure public good that will be undersupplied by the market. The responsibility for its supply thus falls on government. In the event government undertakes this task in the aftermath of the tsunami, it should adopt a design that provides the necessary conditions for high performance required of a National Early Warning System. These conditions include provisions for the deployment of proper expertise and equipment, adequate levels of funding, insulation from day-to-day political interference, transparency and accountability. The Public Utilities Commission of Sri Lanka Act, No. 35 of 2002 provides a good starting point.
- If the government does not wish to create a new agency focused solely on warning, it may wish to consolidate the hazard-warning experts of the existing hazard detection and monitoring organizations along with disaster communication experts in a new entity. Because the current organizations have several other functions and have personnel configurations that may not be optimal for a modern, performance-oriented agency, it would be advisable to build the new entity as a greenfield organization with a clear focus.
- A variant of the option of government supply meshes government supply of hazard information and funding with actual operation by a community based organization, as in Bangladesh. The success of this public-private solution rests on the community based entity being perceived as credible and capable of issuing authentic warnings, based on a network of trust established over time at the community level.
- Hazard warnings are often based on incomplete information and judgment. In many societies, the final decisions on warnings and especially on evacuations are taken by political authorities, on the basis of independent and professional advice of experts. In Mauritius, the professional heading the warning agency makes the final call. Different options need to be considered taking into account Sri Lanka's political and administrative environment.
- In the event government supply of warnings, directly or through a public-private partnership, proves problematic, the alternative is private sector supply, where the warning is bundled with a private good. However, unlike government supply which lends itself readily to an all-hazards approach, non-governmental supply of warnings is likely to be partial in nature. Some forms of non-governmental supply of warnings, undertaken in good faith, may have to be indemnified by government.
- The solution that is appropriate and feasible for Sri Lanka is likely to be a hybrid, ideally with government leadership on the establishment of an effective National Early Warning System and complementary private sector and civil society initiatives that capitalize on their respective comparative advantages. Prompt action to establish an effective National Early Warning System is the best memorial we can build to the 40,000 valuable lives that were swept away for the lack of a few minutes of warning and a little awareness.

Source: Modified from Executive Summary of report: "National Early Warning System: Sri Lanka—A Participatory Concept Paper for the Design of an Effective All-Hazard Public Warning System" at: <http://www.lirneasia.net/projects/national-early-warning-system>.

9.6 Aid Coordination

Poor coordination across the many agencies and groups involved in the tsunami assistance effort has emerged as a serious constraint in the post-tsunami environment. Since the tsunami, slow decision-making processes have been criticized for keeping aid from those who need it while poor coordination has reduced the effectiveness of some of the assistance. The setting up of TAFREN as a single coordinating agency was a welcome step, but concerns about its composition, links to line agencies, and overall effectiveness have led to a new body being set up under the newly established Ministry of Disaster Management (headed by the Prime Minister) following the election in November 2005.

The reluctance to engage with government administrative structures by certain international NGOs (and their 'competitive' behavior in relation to local NGOs) has also been a major problem in Sri Lanka hampering coordination.

The mechanism for aid disbursement has run into further controversy in the context of the conflict affected North and East of the country. Balancing political realities and humanitarian concerns is a difficult but unavoidable task. The failures in Sri Lanka highlight the both the need for international facilitation and assistance as well as their inherent limitations. These are not issues confined to Sri Lanka alone but should be taken up by donors and NGOs. They emphasize the need to re-examine the modalities of aid spending, including procedures and mechanisms, so that assistance can be provided quickly in response to disasters.

9.7 Transparency and Accountability in Aid Disbursement

Transparency and accountability in aid disbursement are obviously desirable but in practice not an easy task. In the immediate relief phase of a natural disaster, humanitarian assistance inevitably takes precedence over formal aid accountability mechanisms. This can open avenues for various forms of corruption. The significant lapses in the clearance of relief goods, management of aid goods received, management of funds, payment of cash allowances, etc., highlighted in the interim report by the Auditor General's Department must be urgently addressed and those responsible for deliberate mismanagement made accountable (GOSL, 2005c).

Donor governments, as well as some international agencies, are influenced by the view that developing country governments are too corrupt and/or inefficient to be trusted to distribute aid funds effectively. This leads to a search for more efficient means of aid delivery, and NGOs have been often favored. It is not clear that this is necessarily a more efficient delivery path in all developing countries. The extent to which domestic corruption may lead to leakages must be weighed against the high overheads of INGOs, and the fact they are not always in touch with the ground realities. Further, with financial backing from large donors, INGOs who are tempted to act overly independently of local government administrative systems can complicate the already difficult task of coordination of complex relief and reconstruction efforts. At times this can lead to severe tensions between INGOs and local organizations. It should be recognized that local government institutions, despite their real and perceived inadequacies, often can and do play a positive role in disaster situations. A balanced

approach that recognizes the significant differences among developing country local government institutions is needed. Attempts to totally by pass them based on a 'one size fits all' attitude can be counterproductive in many circumstances.

9.8 Macroeconomic Policies

Macroeconomic management in the post-tsunami environment is going to be critical to the effectiveness of medium-term recovery of the Sri Lankan economy. Ironically, the tsunami itself provided a measure of stability to an economy that had been straining under growing macroeconomic imbalances, most visibly by averting a growing currency crisis by providing an unanticipated source of foreign capital inflows for the relief and reconstruction effort.

However, several critical issues are posed. First, cost blowouts will almost certainly create funding gaps, make reconstruction tasks difficult and impose further strains on government fiscal expenditures. Second, the tsunami reconstruction process itself places further strains on existing macroeconomic imbalances, and raises the costs of policy errors. Third, the success of the reconstruction effort cannot be divorced from the overall macroeconomic circumstances and policies.

We note in particular that inflationary pressures arising from policies unrelated to tsunami reconstruction will adversely impact the reconstruction effort both by reducing the real value of donor contributions and by reducing the fiscal capacity of the government to meet required funding gaps. Given the understandable community sensitivity to rising inflation, there are political imperatives to resist exchange rate depreciation. If, as discussed earlier, external sector developments exert downward pressure on the exchange rate, there is likely to be increasing temptation to use currency reserves to maintain the nominal exchange rate to control inflation in the short term. This would imply postponement of reconstruction activities for which the foreign funds were provided in the first place. Such policies will not only aggravate other imbalances but be costly for the reconstruction effort. As attention shifts over time from the tsunami victims, the poorest households in particular are likely to be losers from such delays. Tsunami reconstruction should remain a fundamental high priority issue both from a growth and equity point of view. Tsunami funds should be utilized for the purposes for which they were intended, and wider macroeconomic imbalances should be addressed by targeting their direct sources.

We hope that our discussion and suggestions made in this report will make a useful contribution to the policy formulation process and assist the country to recover from its tsunami inflicted damage and moves on to a path of sustainable and equitable growth path.

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Annexes

Table A-1. Recommended Set Back Standard

District	Divisional Secretariat	Grama Niladhari Division	Recommended set Back
Colombo	Thimbirigasyaya Dehiwela Ratmalana Moratuwa	Angulana (W) to Egodaunya (S)	55 m 55 m 45 m 45 m
Kalutara	Panadura Kalutara Beruwela	Sagara Pedesa to Molligoda Pohoddaramulla to Kalamulla Maggona (H) Beruwela Mradana	45 m 35 m 60 m 40 m 60 m
Galle	Bentota Balapitiya Ambalangoda Hikkaduwa Galle Habaraduwa	Angagoda to Warahena Randombe (H) Ambalangoda Police Station area (H) Narigama Thiranagama Patuwatha Closenber (H) Rumassala (H) Unawatuna to Pihilagoda (H)	40 m 45 m 45 m 35 m 25 m 40 m
Matara	Weligama Devinuwara Dickwella Matara	Kapparatota (H) Mirissa (H) Nilwella (H) Wavwa (H) Waththegama North to Dodampahala Central Browns Hill, Eliyakanda (H)	35 m 35 m 35 m 25 m
Hambantota	Tangalle Hambantota	Goyambokka (H) Pallemalala	35 m/60 m (depend on specific site) 60 m
Ampara	Potuvil Kalmunai	Arugam Bay	50 m 65 m
Batticaloa	Kaththankudi		80 m
Trincomalee	Muthur Kinniya Kuchchaweli Kadawathsathara		50 m
Jaffna	Maruthankemy Point Pedro		100 m

Source: October 2005, government press release

Table A-2. Foreign Aid Commitments, Disbursement and Utilization by Type

	1998	1999	2000	2001	2002	2003
Loans						
Commitment (US\$ mn)	607	640	351	687	779	914
Disbursement (US\$ mn)	579	358	338	451	495	559
Utilization	25.1	16.0	13.9	20.3	20.1	20.5
Grants						
Commitment (US\$ mn)	128	71	96	67	111	144
Disbursement (US\$ mn)	114	108	83	83	74	82
Utilization	42.8	41.6	45.5	41.6	40.6	38.2
Total						
Commitments (US\$ mn)	735	711	447	754	890	1058
Disbursement (US\$ mn)	693	466	421	534	569	641
Utilization	23.5	18.6	16.1	22.1	21.5	21.7
CUB (US\$ mn)		2499	2614	2420	2650	2952

Source: External Resources Department, *Foreign Aid Reviews*, various issues.

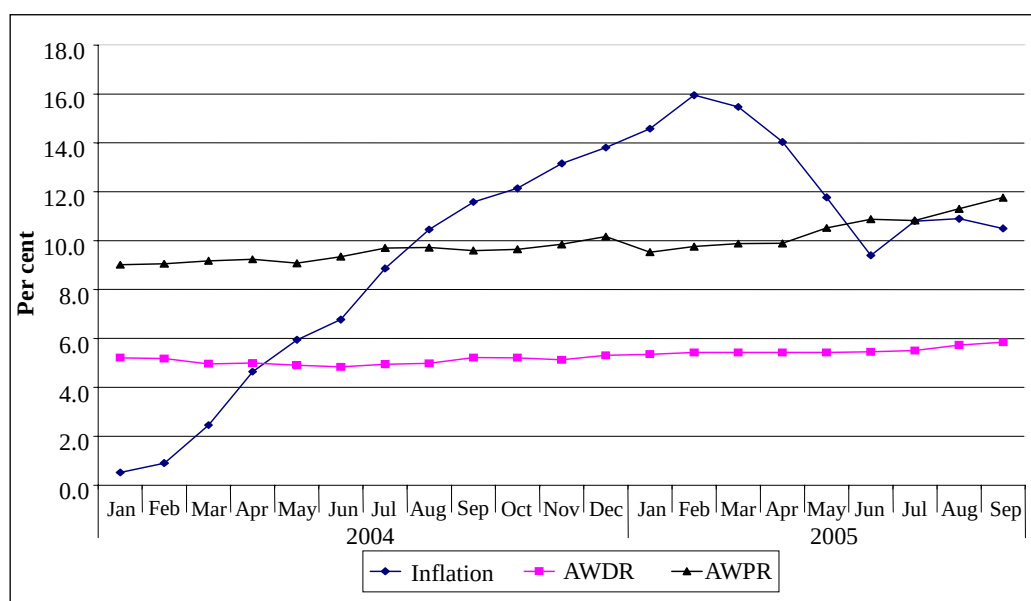
Table A-3. Prices of Major Building Materials

		Jan.	Feb.	Mar.	Apr.	May	Jun.	Jul.	Aug.	% increase Jan.– Aug.
Material	Measurement	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Cement	50kg bag	472.00	472.00	481.55	493.40	508.40	508.40	512.00	512.00	8
River sand	1 no. of cube	3625.00	3625.00	3625.00	3700.00	3850.00	3875.00	4100.00	4200.00	16
Metal	1 no. of cube	4200.00	4200.00	4250.00	4250.00	4625.00	4625.00	4750.00	4750.00	13
Quarry dust	1 no. of cube	3125.00	3125.00	3125.00	3375.00	3375.00	3625.00	4200.00	4400.00	41
Chip dust	1 no. of cube	3700.00	3750.00	4000.00	4200.00	4200.00	4250.00	4300.00	4375.00	18
Cement blocks	1 no.	22.00	22.00	22.00	23.00	23.00	25.00	25.00	26.00	15
Steel 10mm	1 no. of bar	–	–	254.00	254.00	250.43	295.00	295.00	295.00	16*
Steel 12mm	1 no. of bar	–	–	364.00	364.00	356.52	417.00	471.00	417.00	15*
6mm coil	1 kg	–	–	63.00	63.00	62.61	72.00	72.00	72.00	14*
1kg binding wire	1 kg	–	–	82.61	82.61	82.61	96.00	97.00	97.00	18*
Roofing tiles	1000 nos.	–	–	15500.00	15500.00	15500.00	15400.00	16400.00	16400.00	6

Note: Increases indicated by a * are for March–August

Source: Solidial Ladstar Rehabilitation Trust, private communication.

Figure A-1. Inflation and Interest Rates



Notes: Inflation = Point-to-point change in Colombo Consumer Price Index; AWDR= Average Weighted Deposit Rate; AWPR= Average Weighted Prime Lending Rate.

Source: Central Bank of Sri Lanka, Monthly Economic Indicators, various issues.