

Bringing Hambantota Back to Normal

A Post-Tsunami Livelihoods Needs Assessment of
Hambantota District in Southern Sri Lanka

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Executive Summary

Hambantota, a southern coastal district of Sri Lanka, was affected by the tsunami on 26th December 2004. The district records the third highest poverty incidence and is the poorest coastal district in the country. The livelihoods of the area are diverse, with the main economic activities in the coastal areas comprising of fishing, as well as agriculture, trade and services. A substantial share of the services caters to local and foreign tourists. International Water Management Institute (IWMI), a Future Harvest Centre of the Consultative Group on International Agricultural Research (CGIAR) has a long standing relationship with the Hambantota District as most of its area falls within the IWMI Ruhuna Benchmark Basin.

This study was conducted by a team of researchers from IWMI aiming to understand how the tsunami has impacted on the livelihoods of people directly affected and others, and to suggest interventions needed to bring the affected livelihood systems back to normal in the most efficient and appropriate manner. Affected villages were identified through a global positioning system (GPS) technology based mapping exercise to demarcate the Tsunami Affected Boundary Line (TABL). Villages were also characterized according to the main livelihoods activities using the data available from the latest National Census of Population and Housing (2001). Rapid Rural Appraisal (RRA) methods were used to collect information and an adapted version of the Sustainable Livelihood Framework was used in the analysis. A review of existing relief and rehabilitation activities was also conducted.

In the agriculture sector, irrigated lowlands, irrigated highlands and home gardens experienced damage leading to loss of income and reduced food security. A large part of the affected irrigated lowland has already undergone remedial measures through special irrigation releases, while rehabilitation methods for the remaining farmed area should best be decided upon by evaluating the economics of reclamation. Long-term monitoring of the recovery of agricultural land is recommended. In the short-term, however, farmers are without a source of income, so it may be appropriate to use tsunami relief money to fund community projects to restore community infrastructure, for example, common land and wetlands.

Rehabilitation of the fisheries sector will require considerable physical inputs, including replacement of boats, fishing gear and larger infrastructure such as harbours. This process should be staggered, with smaller boats and related fishing gear being replaced immediately, followed by larger vessels, when harbours have been restored. Ancillary industries, such as fish processing and ice production, must also be restored to make fishing viable.

The tourist industry is a major source of external income to the area and must be regenerated. This will require a combination of infrastructure development and awareness raising (advertising) to promote local tourism.

The study concludes that the impact of the tsunami on people's livelihood assets, activities and outcomes is high. Restoring the economy requires short-, medium and long-term solutions that will be undertaken in sequence. Central to the process is the rehabilitation of the productive sectors, which will in turn create the demand for these productive services and lead to increases in the secondary and tertiary sectors, including tourism. Any interventions that are made, however, must be undertaken in full collaboration with community members to ensure their effectiveness and sustainability, and to prevent conflict between recipients.

In all sectors the disastrous event of the 26th December 2004 has provided a space in which to work towards more sustainable and diverse livelihoods that contribute to reducing vulnerability. Of equal importance is the fact that it also provided the impetus, and to an extent, the finances, to support this transition. For example, in the fisheries sector, over fishing and wastage of fish catch have both been a problem that may now be addressed by improving technologies for fish storage on multi-day boats and fish processing units. In agriculture, there is a need to better manage water resources, to reduce water use and to diversify crops. While in tourism, water use efficiency can be promoted along with re-use of wastewater for agriculture, and crucially for the local economy, efforts should be made to use local produce in hotels and restaurants.

While appreciating the current programs implemented by the government and valuable support by other actors, a more people-centred participatory approach in rehabilitation is recommended. Active participation of community members in decision making and activities through incorporating existing CBOs or revitalizing non-functional CBOs is vital, as the approach will make people feel that they are the owners of the process of rehabilitating and modernizing their own communities. Establishment of local level task forces with strong monitoring mechanisms and transparency is proposed as there is evidence at community level of tension originating from the lack of targeting of the activities.

Community collaboration on decision making and support to CBOs are not only short-term, post-tsunami measures but should be incorporated into general practice for government agencies, NGOs and funding agencies charged with livelihoods related activities. Such a people-centred approach is often ensconced in policy documents, such as the Coastal Zone Management Plan, but is not always implemented. This is an opportunity to try to implement such approaches for improved livelihoods, reduced vulnerability and sustainability of natural resources.

Abbreviations

CBO	Community Based Organizations
CGIAR	Consultative Group on International Agricultural Research
CNO	Centre for National Operations
DDMC	District Disaster Management Committee
DDMgC	District Disaster Management Committee
DFID	Department for International Development (UK)
DOCS	Department of Census and Statistics (Sri Lanka)
DS	Divisional Secretary
FO	Farmer Organization
GN	Grama Niladhari (village officer)
GOSL	Government of Sri Lanka
GPS	Geographical Positioning System
INGO	International Non Governmental Organizations
IWMI	International Water Management Institute
KOISP	Kirindioya Irrigation and Settlement Project
NGO	Non Governmental Organizations
RBMB	Ruhuna Benchmark Basin
RRA	Rapid Rural Appraisal
SLA	Sustainable Livelihoods Approach
SLR	Sri Lanka Rupee
TABL	Tsunami Affected Boundary Line
TAFREN	Task Force for Rebuilding the Nation
UNDP	United Nations' Development Program

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Chapter One

Introduction

BACKGROUND

The tsunami on 26th December 2004 caused severe damage to the livelihood systems of the people of Hambantota District. A coastal district in southern Sri Lanka, Hambantota is a major agricultural production area and the coastal belt provides a large proportion of the country's marine and lagoon fish. The International Water Management Institute (IWMI), a Future Harvest Centre of the Consultative Group on International Agricultural Research (CGIAR) initiated a research study as an immediate response to the need of the people. This response was due to the long standing relationship between IWMI and the people of Hambantota District, a large part of which is within IWMI's Ruhuna Benchmark Basin (RBMB). The study aims to address the needs for rehabilitating the livelihoods of the people of the area with a people-centred participatory approach. Based on findings by a team of professional researchers from IWMI, this document presents the recommendations on key strategies needed to bring the economic activities of the area back to a normal state.

RESEARCH OBJECTIVES

The study was planned with five specific objectives:

1. Understanding the pre-tsunami livelihood strategies of the people in the affected area;
2. Evaluating how the tsunami affected these livelihoods;
3. Identifying the post-tsunami status of physical infrastructure and resources, and their capacity to restore livelihoods;
4. Identifying possible strategies to diversify livelihoods and increase the capacity of the communities to cope with such changes; and
5. Identifying the community based organizations (CBOs) needed to sustain restored and diversified livelihoods.

The activities included mapping the tsunami affected boundary line (TABL) to demarcate the physically damaged area and characterizing the livelihoods of the people within the TABL. The initial steps led to the identification of locations that were representative of the area in terms of predominant livelihood activities. A Rapid Rural Appraisal (RRA) approach was then used to derive information needed to achieve the study's objectives.

SRI LANKA AND HAMBANTOTA DISTRICT

Hambantota district lies southeast of Colombo. The district has an area of 2609 km² and a shoreline of 130 km. Hambantota ranks as the third poorest district in the country and the poorest coastal district in the country, recording 32 percent of its people as poor. The district has 592 Grama Niladhari (GN) divisions, the lowest unit in the administrative structure of the country, each with an average area of 4.4 km². Hambantota district comprises of 12 divisional Secretariats (DS), the next in the hierarchy of administration. Four of these, Tissamaharama, Hambantota, Ambalantota and Tangalle, are located near the coast. *Table* presents information to compare the district with Sri Lanka as a whole.

Table 1. Economic activities of Hambantota District: A comparison with Sri Lanka.

	Sri Lanka	Hambantota District	% Share of Hambantota
Land Area (km ²)	65,610	2,609	4.0
Agriculture			
Major irrigated area (ha)	333,106	20,125	6.0
Minor irrigated area (ha)	177,399	5,057	2.9
Annual rice production (1000 tons)	2,880	145	5.1
Marine Fishing			
Fish Production (tons)	267,680	34,470	12.9
Fishing Families (number)	98,157	5,385	5.5
Fishermen ¹ (number)	115,014	7,001	6.1
Fishing Fleet (number)	31,343	1,733	5.5
Industry			
Number of establishments	11,922	185	1.6
Number of people employed	458,032	1,527	0.3
Final Output (SLR billion)	275	0.15	0.1
Value added (SLR billion)	118	0.069	0.1

¹Includes part-time fishermen.

Data Source: For Agriculture and Industry, Department of Census and Statistics (2003), for Fisheries, Sri Lanka Ministry of Fisheries (2005).

Agriculture in the district is dominated by smallholder production systems and irrigated agriculture is the mainstay of agricultural activities. Historical and archaeological evidence confirm that the tradition of irrigation in Hambantota dates back more than two millennia. The modern era in irrigation began when the ancient systems in the Kirindioya basin were restored in 1880s. Today, the district accounts for 6.0 percent of the major irrigated area and is the 7th largest paddy production district.

The district also accounts for 5.5 percent of the nation's fishing fleet and for 12.9 percent of the total marine fish production. The average number of fishermen per family is higher in the area than the national average signifying the dependence of the people on fishing for their livelihoods. Marine fisheries in the district are based on a well developed infrastructure, including three fisheries harbours and six anchoring points. Lagoon fishing, based on coastal lagoons, is also a livelihood activity among people.

Formal industrial activities are of less importance in the district in terms of number and employment levels, with the district recording only 1.6 percent of the formal manufacturing establishments of the country, employing a mere 0.3 percent of the national workforce and adding only 0.1 percent of the total national value addition. However, statistics indicate the involvement of many people in the non-formal manufacturing sector. Many members of the fisher families engage in cottage industries, such as coir processing. Hambantota has three salterns that provide seasonal employment to many.

The economy of Hambantota revolves around trading and services activities to a large extent. Pilgrims visiting Kataragama, one of the most important religious destinations, and several other places of religious significance, demand services from Hambantota while the region's two national parks and the beaches are major tourist attractions. The demand for services from other areas as well as the demand for productive services from agriculture and fisheries activities generate substantial activity and create many employment opportunities. The major employment patterns in Hambantota are shown in *Table 2.* and *Figure 1.* Not surprisingly due to the importance of tourism in the area, the services sector share of employment is higher in the coastal zone than in the rest of the district with about 50 percent of those employed in the services sector working in the coastal DS areas (*Table 2.*).

Table 2. Employment in Hambantota District and in coastal DS areas by sector.

Sector	Hambantota District	Coastal DS Areas ^a	% in Coastal DS Areas
Agriculture	72,607	26,981	37
Fisheries ^b	5,439	5,057	93
Manufacturing	24,832	10,783	43
Services and Trade ^b	40,348	19,941	49
Other ^d	21,697	11,779	54

Notes: ^a Coastal DS areas are, Ambalantota, Hambantota, Tangalle and Tissamaharama.

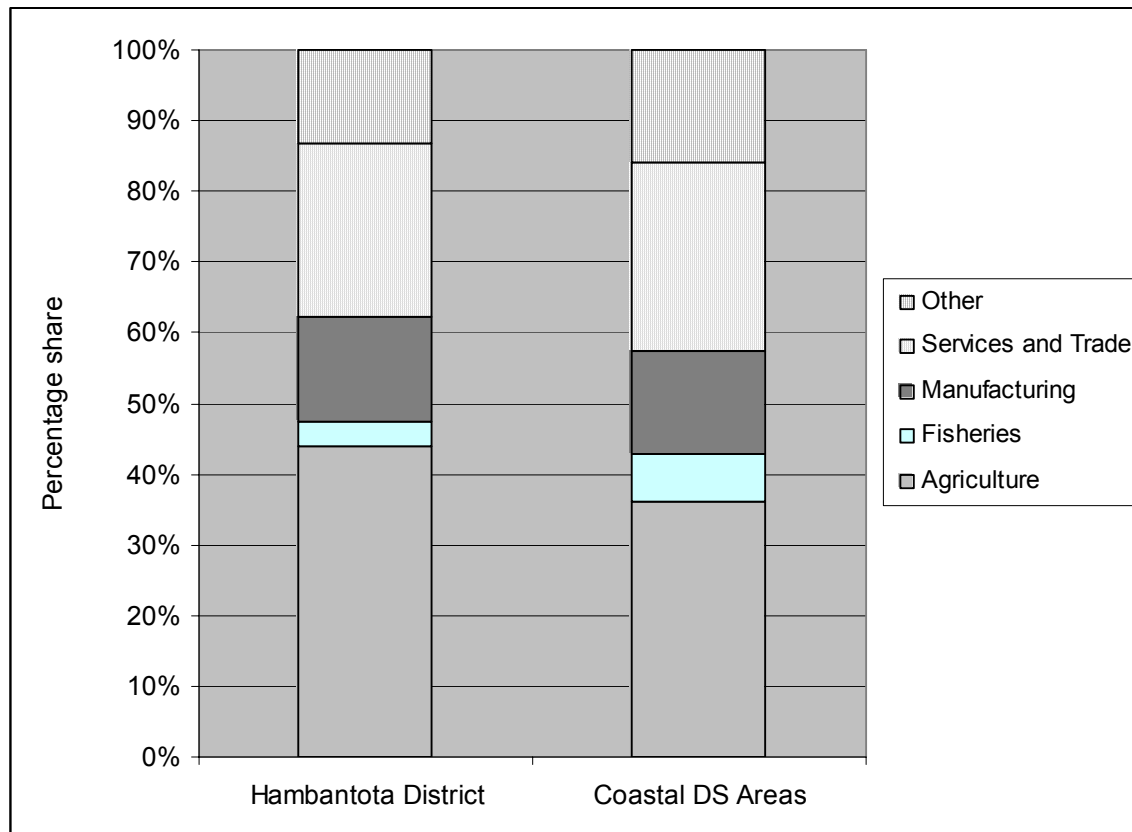
^b Includes marine, lagoon and inland fisherman.

^c Includes mining and quarrying

^d Includes public administration, defence and workers in foreign organizations.

Data Source: Department of Census and Statistics (2005b).

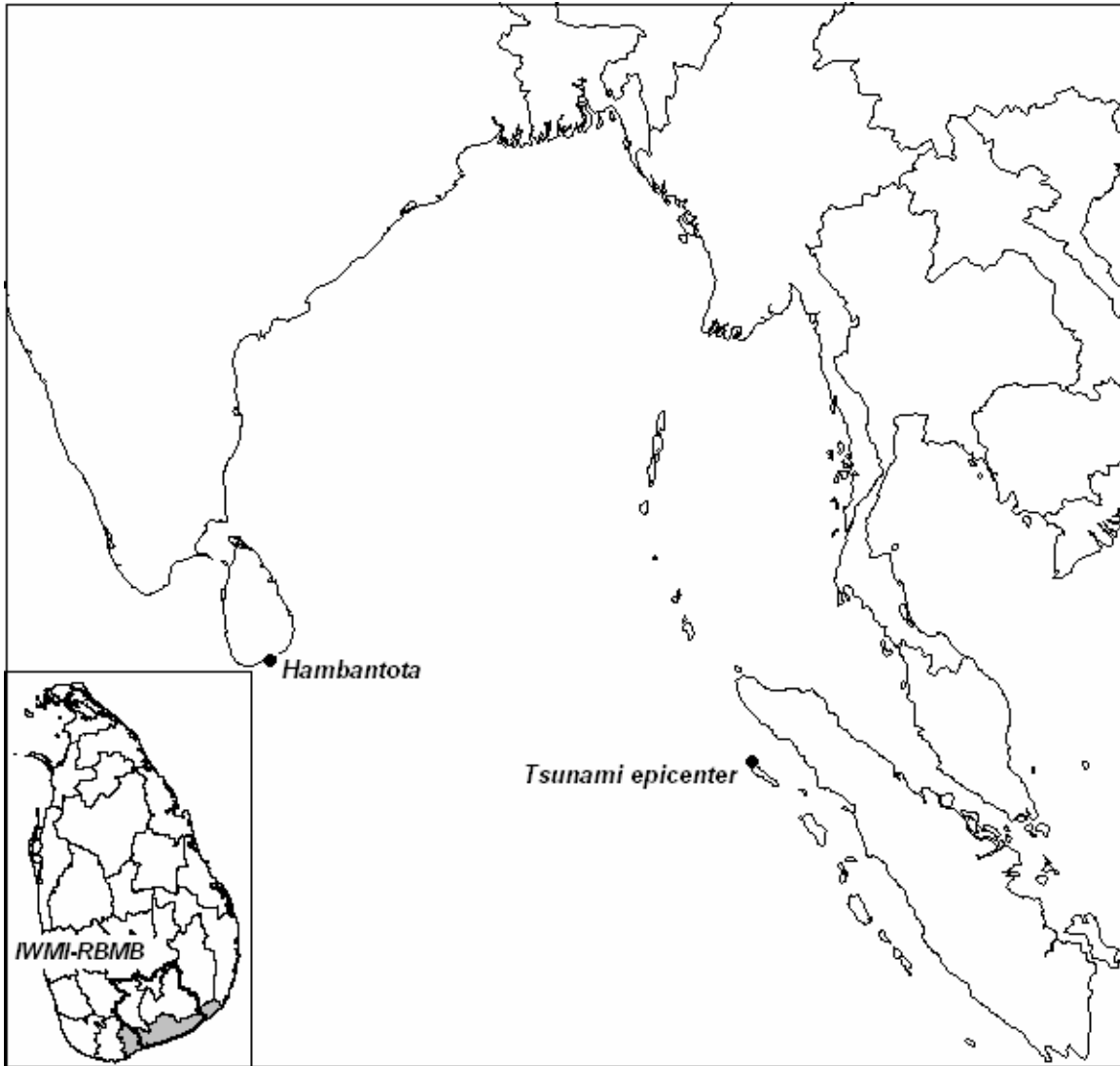
Figure 1. Employment Pattern of Hambantota District.



TSUNAMI AND HAMBANTOTA

The coastline of Hambantota district experienced the direct impact of the tsunami waves. *Figure 2.* shows the location of Sri Lanka and Hambantota with respect to the epicentre of the earthquake that caused the tsunami. Official statistics collected by the police and District Secretary and reported by the District Disaster Management Committee (DDMC) indicate that the tsunami impacted 16,994 families, caused more than 3,000 deaths and damaged or totally destroyed more than 4,000 houses in the Hambantota district (*Table 3.* and Appendix A, Table A1). The total damage was estimated to be SLR 23 billion. The Ministry of Fisheries reported that 92 percent of the fishing fleet was affected by the disaster and it was reported that damage to the agricultural sector included damage to about 350 ha of paddy and 36 ha of other field crops. Immediate relief measures including temporary shelter and provision of food and medical supplies commenced soon after the disaster, and long-term rehabilitation and modernization measures were initiated soon after and received the highest priority of the Government of Sri Lanka (GOSL). An overview of the rehabilitation and reconstruction measures is presented in Chapter 4.

Figure 2. Location of Sri Lanka, Hambantota and the tsunami epicentre.



Source: District Disaster Management Committee (DDMC), 2005.

Table 3. Officially reported direct tsunami damages to Hambantota District.

Damage Category	Description	Magnitude
Deaths and Displacements	Number of Families affected	16,994
	(Of which) Displaced	3,334
	Number of persons affected	78,968
	(Of which) confirmed dead	3,067
	Injured	361
	Missing	963
Number of Houses	Damaged	4,057
	(Of which) fully damaged	2,303
	Partially	1,744
Number of reported damages	Business enterprises	1,087
	Fisheries enterprises	10,704
	Other	1,156
Agriculture Sector damages	Rice area affected (ha)	353
	Other field crops affected (ha)	36
	Families affected (Number)	623
Fisheries Sector damages	Vessels destroyed (Number)	1,665
	Vessels Damaged (Number)	750

Source: District Disaster Management Committee (DDMC), 2005.

IWMI AND HAMBANTOTA DISTRICT: A LONGSTANDING PARTNERSHIP

The International Water Management Institute (IWMI) has a long standing relationship with the Hambantota District and its people. Since the inception of the institute in 1984, IWMI has been involved in institutional building activities with farmer organizations in the newly commissioned Kirindioya Irrigation and Settlement Project (KOISP) and was active in conflict management between traditional and new water users of the area. IWMI continued to engage in a strategic research alliance with water management agencies to improve the water productivity of the area and later expanded its work to cover environment and health aspects of water. A large part of the Hambantota District is within the Ruhuna Benchmark Basin, one of IWMI's four benchmark basins established to promote long-term partnerships to improve the relevance of research. IWMI's active involvement with the people of the area and its strengths as an International Agricultural Research Centre made this post-tsunami research highly relevant and IWMI is expected to play a key role in this time of need to work towards rehabilitating and improving the lives of the local population.

ORGANIZATION OF THE REPORT

This introductory chapter is followed by a description of research methods and characterization and categorization of villages (Chapter 2) and a synthesis of the results of the RRA is presented in Chapter 3. A brief overview of the ongoing rehabilitation and modernization activities is presented in the fourth Chapter and the fifth Chapter is devoted to the presentation of conclusions and recommendations.

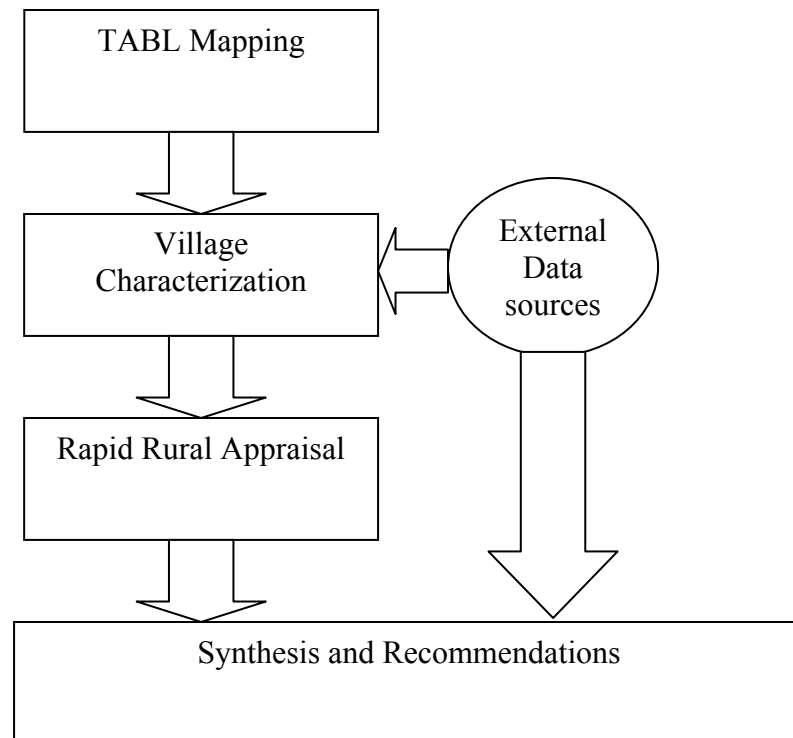
Chapter 2

Research Methodology

INTRODUCTION

A needs assessment study of the Hambantota District was conducted by following a methodology with three steps. The first step was to identify the TABL using GPS technology and demarcation of the affected area on existing maps. The exercises led to the second step of compiling data and characterization of the affected area to develop a logical basis for selection of study locations for RRA. Information collected through RRA was synthesized and led to the development of specific conclusions and recommendation. *Figure 1.* outlines the research procedure.

Figure 1. Flow diagram depicting the outline of the tsunami impact assessment study in Hambantota District.



DESCRIPTION OF RESEARCH PROCEDURE AND PRELIMINARY FINDINGS

TABL Mapping

Identification of the area affected by the tsunami was essential in order to select the study locations for the RRA. To support tsunami relief administration, the Department of Census and Statistics, the official data collection agency of the GOSL, published a list of all coastal GN divisions. The list contained 39 GN divisions that adjoin the coast or lie within 2 km of the coastline (DOCS 2005a). However, information on the extent of damage or the distance travelled by the tsunami waves from the coast was not available. This necessitated visiting the area and acquiring this information. The demarcation of this boundary was carried out during 18th-21st January 2005, using the GPS with handheld Personal Navigators (“GARMIN” GPS III +) along the coast line of the district. The open terrain of the area and cloud free weather allowed a “constant view” of four or more satellites most of the time, which enabled a “3D” fix (latitude, longitude and altitude) in the locations mapped with an expected positional error of +/-5m. The mapping process involved traversing along the visually verified TABL and recording the spatial location of characteristic points. However, this procedure was not feasible along some parts of the TABL due to inaccessibility. GPS points in these stretches were recorded only from the accessible locations ensuring maximum possible measures to minimize the interpolation error. The eastern boundary of the Hambantota District extends up to Kumbukkan Oya. The crossing of the Menik Ganga on the coastal road through Yala National Park was not possible due to high river flow. The TABL constructed using these points, presented as an ESRI polygon shape-file, was overlaid on available country, districts, roads, water bodies and other terrain feature shape-files in UTM projection, and checked for consistency. The TABL identified was incorporated into the existing map of the district (*Figure 2.*).

Contrary to popular belief that the TABL is a line parallel to the coast, the figure shows that tsunami water has intruded inland in pockets. A common feature in these locations is the absence of the natural sand barrier due to natural reasons or anthropogenic action, such as removal of the same for construction of hotels to facilitate a better view of the sea. This made the damage caused to towns and tourist resorts, and consequently the number of casualties, very high compared to the damage caused to remote locations along the coast. The Walawe River and Kirindi Oya sea outfalls showed that the waves didn't travel much upstream along the rivers but caused inundation of areas near the river mouth. The location of the Walawe river outfall has shifted towards Godawaya, an alternate outfall, 3.8 kilometres away. It is also seen that coastal water bodies (lagoons and lakes) have the expected buffering effect on the tsunami waters. This is evident in the case of almost all the coastal lagoons, where the TABL traverses along the water body boundary. Observations made and information gathered from residents of the area assisted the research team in further planning of the study. The TABL mapping exercise identified 50 GN divisions that had been physically affected by the tsunami. The distribution of these divisions among DS areas is given in Table 1.

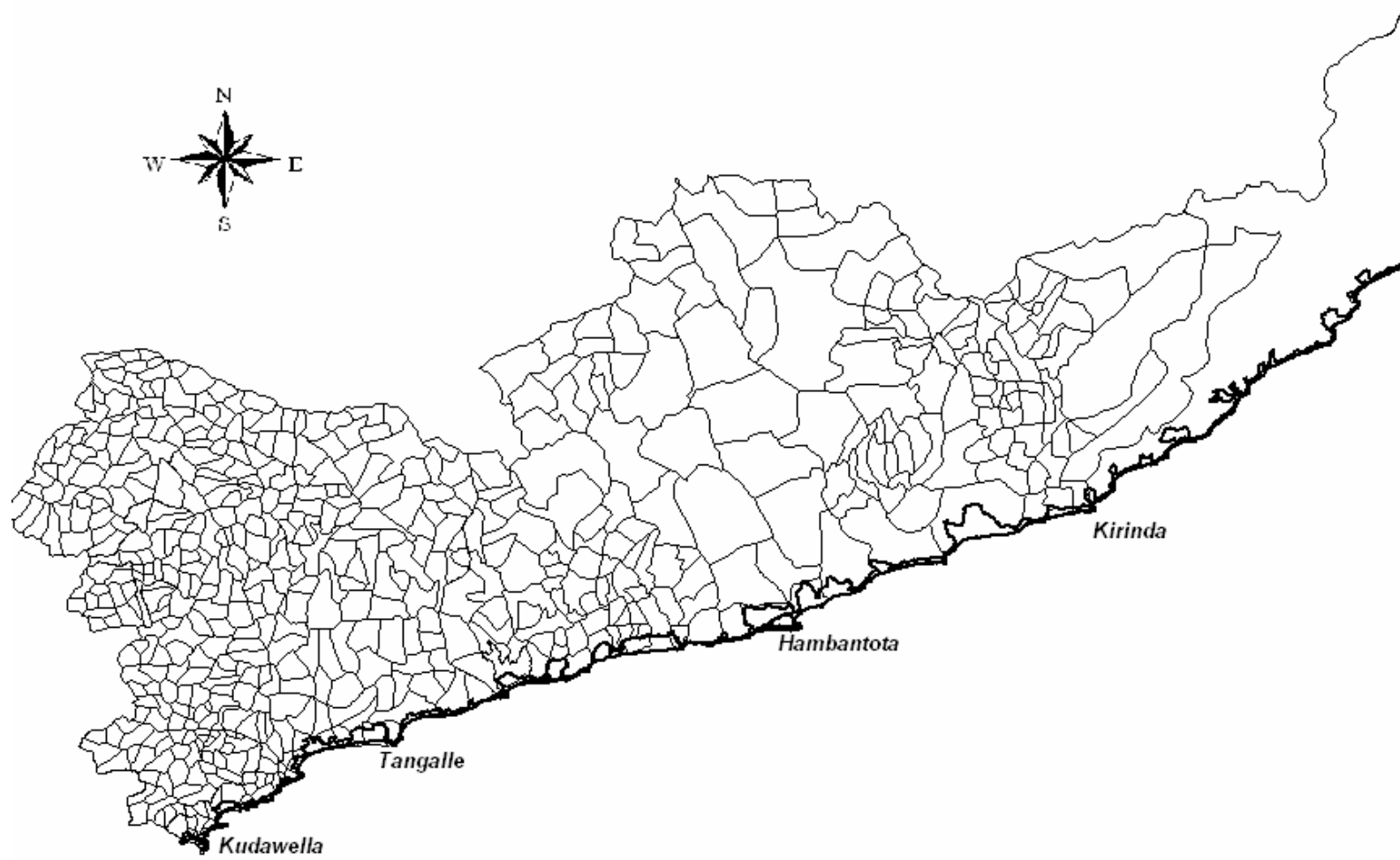
A large part of Tissamaharama DS area falls within the Yala National Park and is uninhabited. Expressing the impact as a share of total area is therefore inappropriate in a livelihoods assessment. According to the data presented in Table 1., about five percent of the area of the three DS areas, Ambalantota, Hambantota and Tangalle, are included within the TABL.

Table 1. Distribution of affected GN divisions by DS area and percentage area affected.

DS division	Affected Area (ha)	Total Area (100 ha)	Affected Area as a % of total Area	Number of GN Divisions Affected
Ambalantota	1,137	248	4.6	8
Hambantota	2,487	477	5.2	11
Tangalle	825	153	5.4	28
Subtotal	4,449	878	5.1	47
Tissamaharama ^a	1,471	1,057	1.4	3
Hambantota District	5,920	2,496	2.4	50

^a Excluding the affected area along the 34 km coastline from Menik Ganga to Kumbukkan Oya.

Figure 2. Tsunami affected boundary line.



Village Characterization and Categorization

Data from the most recent Census of Population and Housing (2001) were used to understand the socio-economic characteristics of the affected GN divisions in order to develop a logical basis for selecting areas for the RRA. Since the RRA focused on livelihoods, the most appropriate approach was considered to be characterizing the villages based on economic activities of employed persons. DOCS identified 18 major economic activities undertaken by employed individuals. These activities can be included in three basic economic sectors: primary; secondary; and tertiary. Four broad sectors for income generating activity were identified for the purposes of the study: agriculture; fishing; manufacturing and services.

Table 2.2 shows the main income generating activities in the area; how they were divided according to the four economic sectors used in the study and the number of individuals employed in each in the tsunami affected DS divisions in Hambantota District. Of these, agriculture accounts for approximately 42 percent of the working population, manufacturing 17 percent, fisheries 8 percent and services the remaining 33 percent (table 5).

Although all livelihoods have been drastically disrupted by the tsunami, some of these are likely to recover in the short- to medium term even if this is only in terms of continuing to receive a salary. Examples of these include teaching, government service. . Other income generating resources that have been disrupted rely on natural resources, such as marine and lagoon fisheries, and land, and will take much longer to recover. The households that depend on these activities may not currently be receiving any form of income other than relief distributions.

When this data is analysed by DS division, it can be seen that on average 85 percent of the working population in each DS division is involved in an activity that may have been affected by the tsunami (*Table 3*).

As *Table 3* shows, over 90 percent of those employed in the tsunami affected DS areas in Hambantota District are engaged in six major income generating activities. Two activities in the primary sector, namely agriculture and Fisheries, were considered separate sectors due to their importance in the area. All activities with a small contribution to employment were included in the services sector, such as mining and quarrying, which accounts for only 0.9 percent of the total number employed.

Table 2. People employed in the main income generating activities in the coastal DS of the Hambantota District.

Economic Activity ¹	Number employed	% of total employed in affected activities	Cumulative percentage	Sector
Agriculture and forestry	26,981	42.1	42.1	Agriculture
Manufacturing	10,783	16.8	58.9	Manufacture
Wholesale and retail trade	8,773	13.7	72.6	Services
Fishing ²	5,057	7.9	80.5	Fisheries
Transport, storage and communication	3,803	5.9	86.4	Services
Construction	2,626	4.1	90.5	Services
Hotels and restaurants	1,654	2.6	93.1	Services
Health and social work	1,025	1.6	94.7	Services
Other community, social and personal services	973	1.5	96.2	Services
Financial intermediation	753	1.2	97.4	Services
Real estate activities	644	1.0	98.4	Services
Mining and quarrying ³	553	0.9	99.3	Services
Employed by private households	313	0.5	99.7	Services
Utility provision	162	0.3	100.0	Services

¹ Activities not included are public administration and defence, education and extra territorial organizations.

² Fishing includes marine, inland and lagoon fishing.

³ Mining and quarrying is traditionally included as a primary sector activity. It makes a small contribution in the area.

Data Source: Department of Census and Statistics (2005c).

Table 3. Affected sectors as a percentage of total employed.

DS division	Total employed	Employed in affected activities ¹	Percentage included in village characterization
Ambalantota	20,478	17,851	87
Hambantota	15,041	12,973	86
Tangalle	19,678	16,597	84
Tissamaharama	19,343	16,678	86

¹ Activities not included are public administration and defence, education and employment outside the area.

Data Source: Department of Census and Statistics (2005c).

Selected GN divisions were categorized into four activity categories based on the sector that accounted for the highest share of all employed in the GN divisions. The four activity categories identified were agriculture; fisheries; services; and mixed, in which no dominant activity was reported. A list of GN divisions identified as affected and their activity category is included in Appendix B. *Table 4.* presents the number of people in all GN divisions in the four activity categories. In the GN divisions categorised as agricultural, 55 percent of those employed are working in the agricultural sector; in the GN divisions categorised as fisheries, 55 percent of those employed are engaged in this activity; and in the GN division categorised as services, the figure is also 55 percent. For GN divisions categorised as mixed, employment is divided almost evenly between agriculture (21 percent), fisheries (30 percent), manufacturing (19 percent) and services (30 percent) (*Table 4.*).

Table 4. Number of people employed by economic sector by GN division activity category.

GN Division Activity Category	Number of GN Divisions	Total Employed in all Sectors	Total Employed by Sector			
			Agriculture	Fisheries	Manufacturing	Services
Agriculture	8	2,229 (100)	1,209 (54)	71 (3)	382 (17)	569 (26)
Fisheries	13	3,973 (100)	179 (4)	2,185 (55)	699 (18)	910 (23)
Services	23	11,115 (100)	1,169 (11)	1,338 (12)	2,489 (22)	6,120 (55)
Mixed	6	1,742 (100)	366 (21)	516 (30)	331 (19)	529 (30)
All GN Divisions	50	19,060	2,922	4,109	3,900	8,127

Note: Figures in parenthesis are percentage of employed in the in the village of total employed in the economic activity.

Data Source: Department of Census and Statistics (2005c).

The socio-economic status of the GN divisions also shows some variations between the activity categories used in this research. Selected socio-economic indicators were used as proxies to the development status of the GN division, including electricity supply, roofing material, wall types and floor types. Of these, only electricity supply showed a statistically significant difference at 5 percent between the GN divisions, with fewer houses in agricultural GN divisions and mixed activity GN divisions receiving grid electricity, while the highest percentage of electrified houses were found in the services GN divisions (*Table 5.*).

Table 5. Percentage of electrified houses by GN division activity category.

GN Division Category	Total GN Divisions	Average Percentage of Houses Electrified
Agriculture	8	55
Fisheries	13	69
Services	23	78
Mixed	6	53
Total	50	69

Data Source: Department of Census and Statistics (2005c).

The RRA Study Locations

A total of fifty GN divisions were identified through the TABL research as affected by tsunami. These were further aggregated into 29 clusters based on activity category and proximity to each other. The study locations were selected on a random basis to represent around 50 percent of the clusters. Thirteen RRAs were conducted in areas that covered 23 GN divisions, (some villages or clusters of households cover more than one GN division as GN divisions are administrative divisions and do not necessarily fit with traditional village demarcation). *Table 6.* presents the distribution of RRA study locations by GN division type. Findings and a detailed description of RRA GN divisions are given in Chapter 3.

Table 6. RRA Locations by GN division category.

GN Division Activity Category	Total GN Divisions	Number of Clusters	Number of RRAs	Number of GN Divisions Covered
Agriculture	8	6	3	3
Fisheries	13	6	3	9 ^a
Mixed	6	6	3	3
Services	23	8	4	8
Total	50	26	13	23

^a People from nearby GN divisions came together for the discussions.

The spatial distribution of the RRA locations is shown in *Figure 3.* and described in *Table.* Although GN divisions were selected based on the dominant sector of economic activity, all the GN divisions studied had some households whose primary economic activity falls outside the dominant activity. The impacts of the tsunami on such households are assumed to be similar to the impact on a household from a GN division in which their main activity is dominant. For example, the impact on fishing households in an agricultural GN division is assumed to be similar to the impact on a fishing household in a GN division categorized as fishing. The reason for this categorization was to ensure that all major income generating activities in the area were covered; to facilitate investigation of differences between households with different primary income generating activities, and to study the effect of CBOs in villages where specific livelihood activities were dominant.

Figure 3. Spatial location of focus group discussion sites.

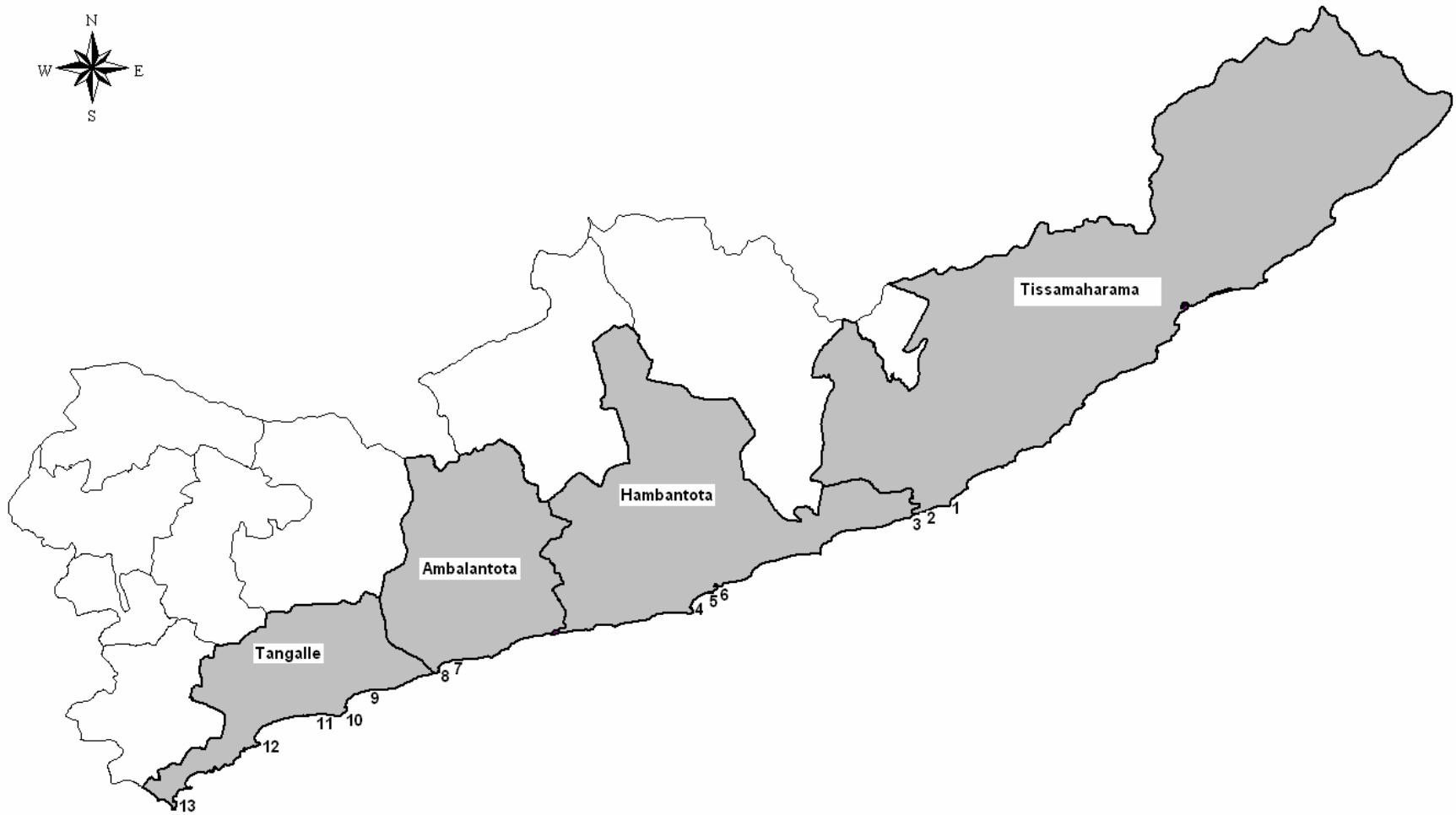


Table 7. RRA locations and their GN division activity category.

RRA Number	DS Area	Location	GN division type
1	Tissamaharama	Kirinda	Fisheries
2	Tissamaharama	Andaragasyaya	Agriculture
3	Tissamaharama	Magama	Agriculture
4	Hambantota	Hambantota Town Cluster	Services
5	Hambantota	Hambantota Town Cluster	Services
6	Hambantota	Hambantota Town Cluster	Services
7	Ambalantota	Welipatanvila	Agriculture
8	Ambalantota	Hathagala	Mixed
9	Tangalle	Gurupokuna	Fisheries
10	Tangalle	Kahandamodara	Mixed
11	Tangalle	Wella Odaya	Mixed
12	Tangalle	Tangalle Town Cluster	Services
13	Tangalle	Kudawella-Mawella Cluster	Fisheries

More specifically, RRA exercise was focused to explore the types of assets affected by the tsunami for each main livelihood activities studied and how the tsunami affected the quality, quantity and access to them. The RRAs also explored the coping strategies employed by households in each group in response to the changes to their asset profile as a result of the tsunami. Ultimately in the analysis of the RRA data, the research considers the overall wellbeing of the households and how this was influenced by the tsunami.

RRAs covered 46 percent of affected GN divisions in the Hambantota District and 54 percent of the employed population in affected GN divisions (*Table 8.*). The locations also represented 44 percent of the employed persons in agriculture as a primary income generating activity, 70 percent of fisheries, 47 percent of manufacturing and 52 percent of services and hence RRA locations can be considered to be adequately represent the activity profile of the study area. *Table 8.* shows that the selected RRA locations are fairly representative of the income generating activities undertaken in the area. 63 percent of the population in the agricultural villages in which RRAs were conducted is involved in agriculture. For fisheries villages, the percentage employed in fisheries is 58 percent and 56 percent of services villages are employed in services.

Table 8. Profile of RRA locations.

	Tsunami Affected	Studied under RRA	Percentage
Number of GN Divisions	50	23	46
Persons Employed by Sector			
Agriculture	2,922	1,293	44
Fisheries	4,109	2,894	70
Manufacturing	3,900	1,826	47
Services	8,127	4,213	52
Total	19,058	10,226	213

Table 9. Number of people involved in each activity and the percentage distribution of people within activities in each RRA GN division.

GN Division Activity Category	Agriculture	Fisheries	Manufacturing	Services	Total
Agriculture	512 (63)	33 (4)	101 (12)	168 (21)	814 (100)
Fisheries	136 (4)	1810 (58)	464 (15)	707 (23)	3117 (100)
Services	458 (8)	856 (15)	1114 (20)	3118 (56)	5547 (100)
Mixed	187 (25)	195 (26)	146 (20)	220 (29)	748 (100)

Note: Figures in parenthesis are percentage of employed in the in the village of total employed in the economic activity.

Chapter 3

The Process and Findings of RRA

INTRODUCTION

This chapter discusses the importance of the livelihoods systems approach and describes the process and the outcomes of RRA. The study used an adapted version of the Sustainable Livelihoods Framework developed and used by the UK Department for International Development (DFID). Focus group discussions² in selected communities were used as the data gathering tool.

INTRODUCTION TO THE SUSTAINABLE LIVELIHOODS APPROACH

Livelihood assessments are often conducted with the aim of gaining an understanding of the impact of a designed intervention on the livelihoods of project beneficiaries. The livelihood approach gained popularity over the last few years as its focus is on peoples' livelihoods rather than specific project outcomes. There are usually three key themes explored in this livelihood assessment:

1. An overview of livelihood strategies and priorities of the target group;
2. Various impacts of the project or event on their livelihoods; and
3. Differences between stakeholders in livelihood impacts.

Despite its wide use, the approach is flexible and is usually adapted depending on the aims of the study and the context of use.

Livelihood assessment is based on the assumption that there are five building blocks of livelihoods identified as assets or capital endowments and that the ability of a person or household to escape from poverty depends on their access to these assets. Carney (1998) defines these capitals as:

1. Human capital, representing the skills, knowledge, ability to labour and good health that together enable people to pursue different livelihood strategies and achieve their livelihood objectives.
2. Social capital, taken to mean the social resources upon which people draw in pursuit of their livelihood objectives, including friends, family, informal and formal networks, livelihoods groups, and political affiliations.

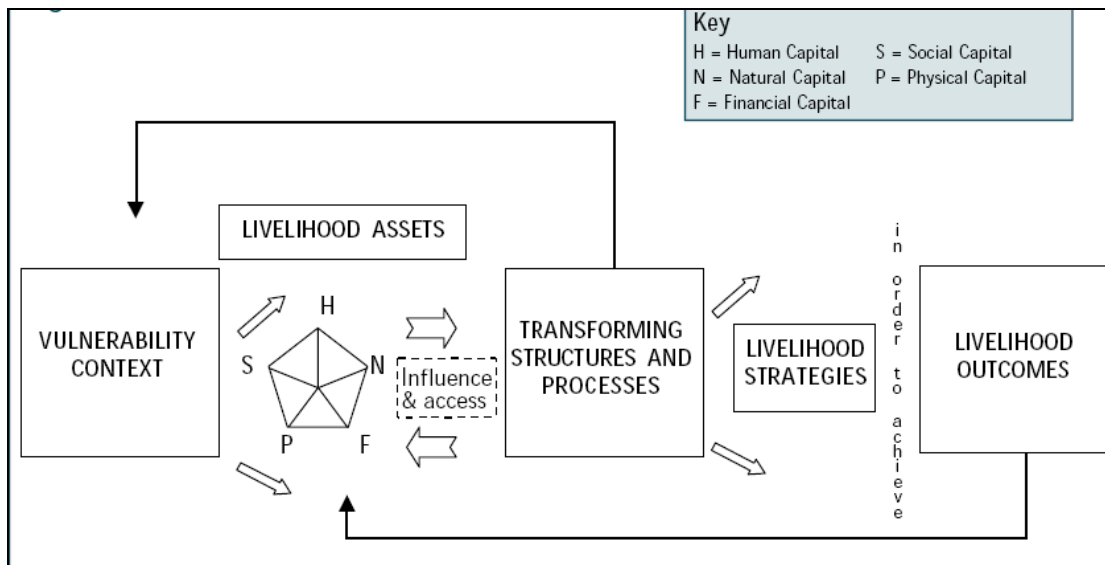
²In the DFID livelihoods framework, livestock are considered to be financial capital as they are a store of financial funds that can be released by selling the animal. In this research, however, they have been classified as physical capital because they are often used as a "tool" to plough land or for other productive uses.

3. Natural capital, the term used for the natural resource stocks from which resource flows and services (e.g., nutrient cycling, erosion protection) useful for livelihoods are derived.
4. Physical capital, comprising the basic infrastructure and producer goods needed to support livelihoods. Infrastructure consists of changes to the physical environment that help people to meet their basic needs and to be more productive. Producer goods are the tools and equipment that people use to function more productively.
5. Financial capital, denoting the financial resources that people use to achieve their livelihood objectives. The definition used here is not economically robust in that it includes flows, as well as stocks, and it can contribute to consumption, as well as production.

(DFID 1999)

People usually use these capitals to pursue a diverse portfolio of activities to generate outcomes. Outcomes include improved wellbeing, increased income, reduced vulnerability, empowerment, food security and more sustainable use of natural resources. Peoples' actions are subjected to external influences, including the social, political, natural, demographic and economic environments in which they operate. This also depends on peoples' strategies that shape their priorities and preferences over designing outcomes based on activities and thereby their own use of capital and assets. This broad conceptual framework is presented in *Figure 4.*

Figure 4. DFID Sustainable Livelihood Framework.



Source: DFID (1999).

Although designed to evaluate the impact of projects, the framework can also be used to assess livelihood changes under a number of other conditions, for example due to external shock, such as the tsunami. Thus, the framework was adapted for this study to facilitate evaluation of how the disaster impacted the assets, activities and outcomes of the selected communities. This study considers natural capital as the production inputs gained from the nature. Physical capital is taken to be infrastructure created by improving (investing in) natural capital with a view to gaining a flow of benefits over an extended period of time, as well as any tangible intermediate outcome produced in the process of production that has yet to be converted into the final outcome. Thus, standing crops are physical capital in the sense they have not yet yielded the outcome but are intermediate results of the process of production. Social capital is intangible social and human relationships that facilitate the communities to combine other assets in a productive manner. Human capital is the skills to carryout key tasks and activities, while financial capital is the outcomes reinvested in livelihood activities.

THE RRA: STUDY LOCATIONS AND MAIN FINDINGS

Impact of the Tsunami on Productive Capital and Assets

RRA findings reiterated the diverse nature of livelihood strategies in the area, which was the key underlying assumption in planning the study to focus on livelihoods. Findings are presented to provide an understanding of this diversity and by contrast to present generalizations where appropriate. The type of natural capital and physical capital used is dependent upon the main income generating activity of the community. Findings relating to the impact on natural capital and physical capital are presented in relation to the four economic activities that have been used throughout this research. Social capital shows notable diversity among studied communities and findings are therefore presented on a community (GN division) basis. Financial and human capital losses are conversely fairly homogeneous across the study sites and are therefore described in general terms for the whole area.

Impact on Natural and Physical Capital

Agriculture Based Activities

Agricultural activities affected include homestead gardens and farms, which comprise of two main types: irrigated lowland farming; and irrigated highland farming. Farmers in the terminal tracts of Bandagiriya, KOISP-Old System, Ridiyagama, Walawe Right Bank Irrigation System, Urubokka Oya Scheme and Kirama Oya practice irrigated lowland farming. Some paddy tracts that are not included in the formal command area, but receive water through drainage and are situated closer to the sea, have also been damaged. The highland farmers, who were affected, cultivate vegetables and other field crops using water lifted from Kirindi Oya using privately invested small pumps. Both groups experienced some salinization of the soil, while the lowland farmers also suffered from siltation in the drainage canals (*Table 10.*).

Home gardens of varying sizes growing coconuts, fruits, vegetables and ornamental plants also reported erosion of land, and damage to or destruction of crops (*Table 10*). These home gardens generate income through marketing of produce to collectors or through sales at periodic markets; they are also an important source for household consumption, providing many of the nutritional needs of the household, especially fruits that are rich in micro-nutrients and vitamins, and supplements to staple foods during times of cash shortage.

Livestock, reared on homestead gardens in both rural and urban locations, were also affected with several being killed and early weaning of the young. These problems led to the loss of income and the reduction of home consumed livestock products, such as milk. Homestead gardens are also the source of many raw materials for cottage industries, such as coconut husks for coir production (*Table 10*).

Table 10. Impact on agriculture.

Livelihood Activities			
Type of Capital	Description	Impact on Quality	Impact on Quantity
1. Irrigated Agriculture- Lowland Farming			
Natural Capital	Land	Salinity increased	No impact
Physical Capital	Drainage Systems	Siltation of drainage systems	Systems destroyed
	Standing Crops	Possible yield loss	Crops destroyed
2. Irrigated Agriculture- Highland Farming			
Natural Capital	Land	Salt deposits	No impact
Physical Capital	Water Pumps	Not applicable	Destroyed
	Standing Crops	Not applicable	Destroyed
	Growth Support Structures	Not applicable	Destroyed
3. Home garden Crops			
Natural Capital	Land	Negative Salt deposits Soil erosion	No impact
Physical Capital	Standing Crops	Possible yield loss	Many plant species destroyed
	Land Levelling Growth Support Structures	Deteriorated Not applicable	Not applicable Destroyed
4. Livestock			
Natural Capital	Not Applicable		
Physical Capital	Animals	Untimely weaning	Many died
	Farm-sheds	Not applicable	Destroyed

Irrigated fields in tail-end tracts of KOISP experienced inflow of salt water and farmers took immediate action to flush the fields with the support of irrigation authorities. So the damage to yield is limited. A similar situation was experienced by farmers in Walawe Right Bank System and Lower tracts of Ridiyagama Tank. However, irrigated fields in Welipatanvila had experienced destroyed crops as inflow of tsunami water was not drained. Drainage systems were silted. The area has poor drainage conditions as a majority of lands use drainage water from the adjacent Walawe Right Bank System. Farmers indicated a planned project to improve the drainage conditions of the area. Flood gates to prevent high tide from the sea entering the fields in Kirama Oya Irrigation System in Tangalle were also damaged. A salt crust was formed in irrigated highlands in Magama and in home gardens across the study area. Farmers in Magama also reported their water pumps washed away.

Fisheries Sector

The marine fisheries sector was arguably the worst effected sector, experiencing damages to vessels, landing points and fishing gear. The fish stocks were also impacted but it is beyond the scope of this study to undertake an ecological fisheries assessment. This work instead focuses on physical losses and how these impact on a household's ability to undertake fishing activities. In the GN divisions under study, many of the households owned sea fishing vessels, so losses were felt directly in terms of the impact on physical capital (*Table 11*). However, many people work as labourers on multi-day boats and their financial capital will therefore have been impacted. Likewise, while they did not own landing points and have not therefore lost a capital asset that they had a financial investment in, they have lost access to these vital components of fishing activity, which has reduced their capacity to generate an income or meet household protein needs from their traditional activities (*Table 11*). A more direct effect for many fishing households is the loss of nets that were stored on or near the beach or were being used at the time that the tsunami struck. The loss of nets once again means the inability to fish but also the requirement to divert funds from other activities towards buying new nets or mending damaged nets. In many cases, however, NGOs and donors have rushed to provide households with new net, although it is not always the case that people are provided with equipment that is suitable for the type of fishing that they traditionally practice.

Table 11. Impact of the tsunami on the marine fisheries sector.

Type of Capital	Description	Impact on Quality	Impact on Quantity
Natural Capital	Not Applicable	-	-
Physical Capital	Vessels	Not Applicable	Destroyed or Damaged
	Landing Points/harbours	Silted and deterioration of facilities	Capacity loss
	Nets	Nets were lost of damaged	Destroyed or Damaged

Manufacturing Sector

This discussion covers two of the main industries in the area: salt production and coir production. Of these two industries, the salt industry, which is owned by a public corporation, was not badly affected because the salt production season does not begin until the dry months of July and it is expected that the damages will be repaired by then.. This is very important for the economy of the area as large numbers of people are employed by the salt company as packers, collectors, drivers and office staff and fortunately, it is not expected that there will be negative employment consequences. According the industry announcements, the salt packing was not affected and there are sufficient salt stocks in hand.

Coir manufacturing, the most important cottage industry in the area, has by contrast been badly affected due to the damage and destruction caused to coconut trees in homestead gardens. Some coconut trees were uprooted by the tsunami but many more have been affected by the salinity arising from the wave (*Table 12.*). The industry depends on the coconut husk supply from home gardens both within the affected area and adjacent villages. Coconut husks are soaked in pits made of stones or in wooden structures made on the shores of lagoons to remove cell-walls and to break the bonds between fibre cells through bacteria action. The coir fibre is then removed by beating on the husks that disaggregates coir fibre and coir dust. Manufacturing machines are used to make ropes and other products. In many cases, manufacturing machines are simple devices made of wood and are built by local craftsman.

Table 12. Impact of the tsunami on the coir industry.

Type of Capital	Description	Impact on Quality	Impact on Quantity
Natural Capital	Not Applicable	-	-
Physical Capital	Soaking Pits	Silting	Destroyed
	Husks in Soaking Pits		Washed Away
	Manufacturing Machines		Destroyed
	Manufactured Coir and ropes		Destroyed

Services and Trade Sector

The services sector includes activities of trading and services such as tourism and transport. Trading involves the sale of goods that are produced within the district or are imported from other regions. The tsunami damaged two main business centres, Tangalle and Hambantota, and many tourist hotels situated along the coast, as well as other tourist facilities such as restaurants and shops. Many of the premises are situated very close to the coast because of tourist demand for views of the sea and proximity to the beach, and consequently they suffered some of the worst damage.

Transport assets, including buses and trishaws used for public transport, and lorries and trucks used for transport of produce, were damaged or destroyed. The effect on the livelihoods of vehicle owners and operators was heavy. Goods in stores were destroyed and the damages are notably high, as many traders stocked perishables to cater to the large number of pilgrims, and they were also expecting the demand to increase due to the new year and the new school term. *Table 13.* summarizes the impact on this sector.

Table 13. Impact of the tsunami on the services and trade sectors.

Type of Capital	Description	Impact on Quality	Impact on Quantity
Natural Capital	Not Applicable	-	-
Physical Capital	Business Premises	Deteriorated	Destroyed
	Vehicles	Damaged	Destroyed
	Tradable goods at hand	Deteriorated	Destroyed
	Hotels	Damaged	Destroyed
	Restaurants	Damaged	Destroyed

Effect on Social Capital

The nature and dynamics of social capital differ greatly according to the structure of different communities. It is therefore important to present the diverse pre-tsunami situation and the impacts of the tsunami on individual communities. *Table 14.* summarizes these findings and also defines the positive and negative impacts of the tsunami on social capital. It can be inferred from the table that though the impacts are diverse, many communities have unrealized potentials in the social capital.

In the pre-tsunami situation, there was tension in some villages, especially Kirinda, over resource allocation. This tension has increased since the tsunami and has also developed in some villages where it was previously not an issue. This is due to the need for resettlement. Although communities have consensus on resettlement, they also have no assurance on the future use of the land from which they are to be evicted. Improper targeting leads to tension and the consequences are borne by the village level officers who do day-to-day functions in communities. Tension has also erupted over the distribution of relief, as some villagers are receiving more relief than others and many feel that there is inadequate needs assessment and targeting of relief.

There was also a large variation prior to the tsunami in terms of the effectiveness of CBOs, such as farmers' organizations, fisheries cooperatives, coir manufacturing societies etc. This and previous studies have shown that some were well managed and functioning effectively, while others suffered from a lack of funds, poor management and internal conflict sometimes associated with political affiliation (Clemett et al. 2004).

The post-tsunami situation has been equally polarized, but despite the lack of activities or non-presence of CBOs, all communities have shown positive signs of cohesiveness and solidarity. In some cases, CBOs are paralyzed due to lack of resources but have active

leadership. It is also observed that in communities where community solidarity persists, the need for CBOs may not emerge as the functions of CBOs are looked after by the community's own practices. The evidence in Hathagala, Weelaodaya and Kudawella, where no CBOs exist but has records of strong self help, supports this argument.

Table 14. Impact on social capital by RRA location.

RRA No	Community	Pre-tsunami Situation	Identified impact	
			Negative	Positive
1	Kirinda	Inter-ethnic conflict rooted in resource claims Less active CBOs due to lack of benefits to members		Community solidarity. Common opinion on activities of reconstruction
2	Andaragasyaya	Active CBOs	CBOs have little resources to initiate activities	CBO leaders active in relief and rehabilitation
3	Magama			
4-6	Hambantota Town	Persistent harmony in a multi-ethnic community	Inter-ethnic conflict rooted in external influence. Polarization of opinions on activities of reconstruction	Emerging need-based CBO
7	Welipatanvila	Well-functioning CBOs		
8	Hathagala	Strong community solidarity and cohesiveness		Common opinion on activities of reconstruction
9	Gurupokuna	Active CBOs		
10	Kahandamodara	Active CBOs		
11	Weela Odaya	Non-functioning CBOs		Strong kinship ties lead to self help
12	Tangalle Town			Emerging active CBO, ethnic harmony
13	Kudawella- Nilwella	Strong community solidarity and cohesiveness	Tension on distribution of relief	

Intra-household social capital was not covered in this study due to the fact that it was conducted very shortly after the event and for people who had lost family members this is still a very traumatic time. However, it can be assumed that the social capital of many households will have been affected by the loss of certain key household members, the loss of the household head in particular. These losses impact on several other capitals, such as financial, through the loss of income, and on social networks, as it is often individuals within a household who are part of the network, not the household as a whole. Such social networks played a crucial part immediately after the tsunami and will continue to do so, with households moving in with relatives or friends, or borrowing food and money from them. This social network is likely to continue to be relied on for many months.

Effect on Financial Capital

The impact of the tsunami on all other livelihoods capitals has reduced a household's capacity to generate an income and, therefore, negatively impacted on financial capital. Furthermore, those households with savings have had to use these; the majority of participants in the study said that they had borrowed money from informal or formal sources to finance working capital or to acquire physical assets, such as buildings, boats and fishing gear, livestock and tradable goods. Informal sources include friends, relatives and business associates, while formal sources include banks, cooperatives and trade sources. The fact that people had access to these resources can be perceived positively but there are of course implications in terms of repayment depending on the funding source. As physical capital was affected, there is less likelihood of getting returns from investments and those who conduct business transactions on a credit basis are likely to have difficulties in recovering the debt, as the businesses or individuals were affected and their repayment capacity reduced.

Effect on Human Capital

Human capital and intra-household social capital are closely linked and are both affected by the loss of household members. For this reason, research into this capital was again rather sensitive and the findings therefore limited. However, it can be said that although the magnitude of the loss of human capital with respect to quality and quantity vary, impact on human capital was negative in all the communities studied, irrespective of their main economic activity. This arose as many of the people who died may have acquired specialized skills in carrying out an activity. Even unskilled labourers are a huge loss to a household, as the absolute financial income of the household will be reduced even when income generating activities return to normal. Furthermore, the disruption caused immediately post-tsunami and the need to use schools for temporary shelter has caused some disruption to the education of the children in the area. It is unknown what the long-term impact on human capital may be in terms of mental trauma suffered by those who witnessed the tsunami and lost friends and relatives, but it is likely to be extensive and many organizations are already establishing counselling services.

Impact on Livelihood Activities

According to the Sustainable Livelihood Framework, people use capital assets in various livelihood activities to generate outcomes. Although this study has focused predominantly on four main categories of income generating activities, the RRA supported well known premise that household members undertake multiple activities to provide sufficient financial income, goods and services. The activities identified in this study and presented in *Table 15*. and are supported by previous studies undertaken by Sellamuttu and Clemett (2002) in Kalametiya, an area within the study site for this project.

The current study was a rapid appraisal and did not conduct a detailed investigation of how each of these activities was affected and how households and individuals changed their livelihoods activities. Some of these activities will have been directly affected as the capital assets required to undertake these activities were destroyed or damaged by tsunamis, while others are indirectly affected and still others, which were unaffected, may have become a major part of a household's coping strategy. This however needs much greater investigation and it is not proposed to comment further on this.

Table 15. Multiple livelihood activities identified.

Activity Name	Activity Name
1 Paddy farmer	21 Curd maker
2 Home gardening	22 Milk collector
3 Livestock farmer	23 Roadside curd trader
4 Highland vegetable farmer	24 Roadside sweetmeats trader
5 Marketing own produce at market place	25 Sweetmeats maker
6 Sea Fisher	26 Coconut trader
7 Lagoon Fisher	27 Coconut husk supplier
8 Fishing boat owner	28 Fire wood supplier
9 Fisheries support	29 Eating house operator
10 Boat repair technician	30 General merchant
11 Itinerary fish trader	31 Furniture trader
12 Wholesale fish trader	32 Baker
13 Coir manufacturer	33 Barber
14 Salt industry labourer	34 Telecom centre operator
15 Tea boutique keeper	35 Grinding mill operator
16 Safari Jeep Operator	36 Motor repair mechanic
17 Tourist guide	37 Coir product collector
18 Petty trading to pilgrims	38 Trade sector employee
19 Tourist hotel employee	39 Transport operator
20 Trishaw driver	40 Driver

Impact on Livelihood Outcomes

Livelihood outcomes are the results of livelihood strategies. Generally identified livelihood outcomes include people's wellbeing, food security, income, empowerment, health and ability to cope with external shocks. This was not rigorously studied due to the nature of the research, its focus on the five capital assets and the complexity of investigating livelihood outcomes. However, it is possible to make some general statements. There is no doubt that the quality of life and overall wellbeing of people in the tsunami affected area has deteriorated. For most people, there has been a negative impact on some or all of the capitals, including physical capital required in income generating activities like fishing nets, and damage or destruction to houses and household assets, in the worst case making people homeless. As a consequence, it is likely that food security at the household level will decrease temporarily, as production from home gardens and farms was disturbed and the purchasing power of people has been reduced. This food insecurity may be temporarily overcome by food aid but is likely to become evident in the medium to long-term until livelihoods have been restored.

Although immediate health problems, other than injuries resulting directly from the tsunami, are not yet evident, poor temporary housing, lack of sanitation, insufficient freshwater and reduced levels of food intake may all contribute to health problems.

Economy of Hambantota: A Holistic Look

In the preceding sections, the analysis has focused on the household level but these households do not exist in isolation and all livelihood activities are connected to the wider economy. This section, therefore, analyses the inter-sector economic linkages within Hambantota District and discusses possible remedial measures where problems are identified.

As presented in Chapter 1, the services sector of the Hambantota District is an important sector in the coastal DS areas. The traversing of the major supply route may be one of the reasons for concentrating business and trade activities along the coastal areas. Coastal trade activities, in fact, catered to inland agricultural activities as well. We begin by illustrating the linkages among the two production sectors: primary and manufacturing, and the services and trade sectors. The agricultural sector provides raw material to the manufacturing sector and all sectors market their products through the tertiary sector. The tertiary sector provides productive services and inputs to productive sectors i.e., agriculture, fisheries, coir manufacturing. The tertiary sector also provides consumption services to those who are in the two productive sectors. The tertiary sector in Hambantota has a link to the rest of Sri Lankan economy by providing consumptive services, including tourism and services to pilgrims. We also identify a direct input link from primary to manufacturing sector, keeping the coir processing industry in mind. The model is presented in *Figure 5*.

Based on the above simplified model, the report tries to explain the indirect effects of the tsunami on the economy. Although the services sector depends on productive sectors, it should also be noted that the sector does business with the areas with no direct tsunami impact. Therefore, the business loss is primarily due to reduced demand for outputs in the tsunami affected areas.

Other than the direct physical damage, the tsunami greatly reduced the productive capacity of fisheries sector. For example, more than 90 percent of the fishing fleet was damaged, making the production less than 10 percent of the pre-tsunami situation. This affected hundreds of fish traders, wholesale traders involved in trade with distant inland areas, and small scale traders catering to the inland areas of Hambantota District and the adjoining Monaragala and Ratnapura districts. The fisheries sector, including both marine and lagoon fisheries,³ employs a substantial number of supporting labourers on a casual basis and demands supporting services, for example in maintaining the fleet, providing fuel and ice. RRA findings identify important fish trade patterns emerging in the area. For example, the Kalametiya fisheries area is a main centre supplying fish to areas in the Central districts. A part of wages for supporting labourers is paid in kind, implying that the loss of productive capacity also has an impact on the food security of those who are in fisheries related activities but not actually fisherman.

The services sector of Hambantota generates business from tourism activities and roadside trade, catering to local travellers and pilgrims. There are many important religious places within and in the vicinity of the district. A large number of local pilgrims and leisure travellers visit the district during the holiday season. According to traders, the peak season for local pilgrims is December to January and mid-May to August. The major players to cater to this segment are roadside traders of local sweetmeats, curd and eating houses and operators of pilgrims' lodges.

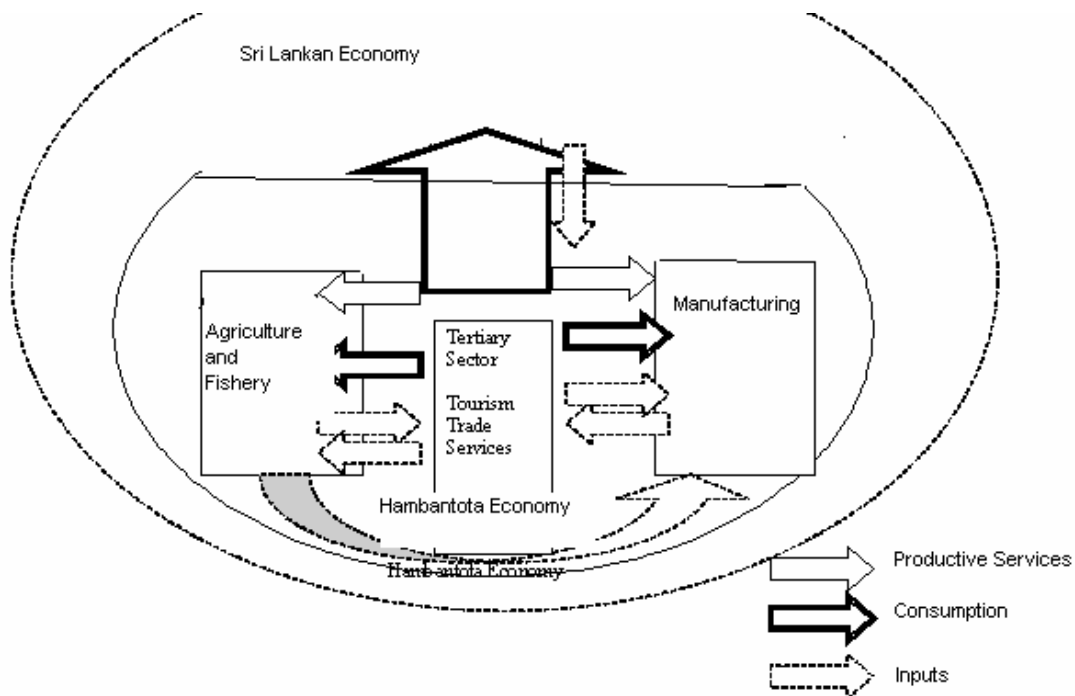
There are 88 curd selling stalls in the 15 km stretch of the A-2 highway from Hambantota to Weerawila. Although curd is usually bought by returning pilgrims to take home, offering in-house consumption has recently become a pattern. About 50 sweetmeat trade stalls are concentrated in the Mirijjawila area in the vicinity of the Hambantota town. Sweetmeat stalls do not usually operate, as specialty stores but stock a variety of other goods demanded by pilgrims and tourists, such as souvenirs, pottery, toys and other confectionery items. Suppliers and producers of these items are generally from other areas. Sweetmeats and curd have well developed backward linkages to the economy and, hence, are important components with respect to income generation and employment. Eating places are a frequent site alongside the 100 km long section of the A-2 Highway. All these have undergone a severe decline in business since the tsunami. Trading to local visitors takes place at religious sites and other attractions, such as the borehole at Kudawella. These provide part-time and informal employment to people. Similarly, organized and informal activities related to non-local tourism in the area included hotels, tourist guides and safari jeep operators, as well as large scale organized tourism.

³There are also other forms of fishing, for example in tanks, but these are the two main broad fishing types undertaken in the area.

Although the tsunami did not cause direct physical damage to the livelihood assets of those living outside the TABL, their livelihood activities, and consequently their livelihood outcomes, are affected. In some cases, traders stocked large amounts of perishable products and farmers harvested produce with the expectation of high volumes of transactions during the end-of-year tourist season. The expectations did not materialize and the products had to be discarded. There are reported financial losses and backward linkages were disturbed. Immediately after the incident, farmers stopped milking the cows, as there was no outlet for milk and produce was not harvested as there was no effective demand.

Visits of local tourists have almost stopped after the tsunami, as there is reluctance among Sri Lankans to visit the area due to the fear of another disaster, and also of diseases and contaminated food. For some people, this fear extends to consuming salt produced at Hambantota saltern. Lack of business has made the business sector lean and the backward linkages to the local economy are non-functional. As productive sectors have reduced capacity, the demand for services is less and the employment generation by local business has decreased prompting diversification of activities. The strategies adopted will depend on the speed and the nature of the recovery of the whole economy of the district.

Figure 5. Economic linkages between Hambantota and the rest of Sri Lanka.



Chapter 4

A Review of Post-Tsunami Relief and Rehabilitation Activities

INTRODUCTION

The aim of this chapter is to review the present status of post-tsunami operations in the Hambantota District. Various actors, their roles and the actions are discussed. We begin from the national level and then describe the specific situation in the Hambantota District.

NATIONAL LEVEL COORDINATION

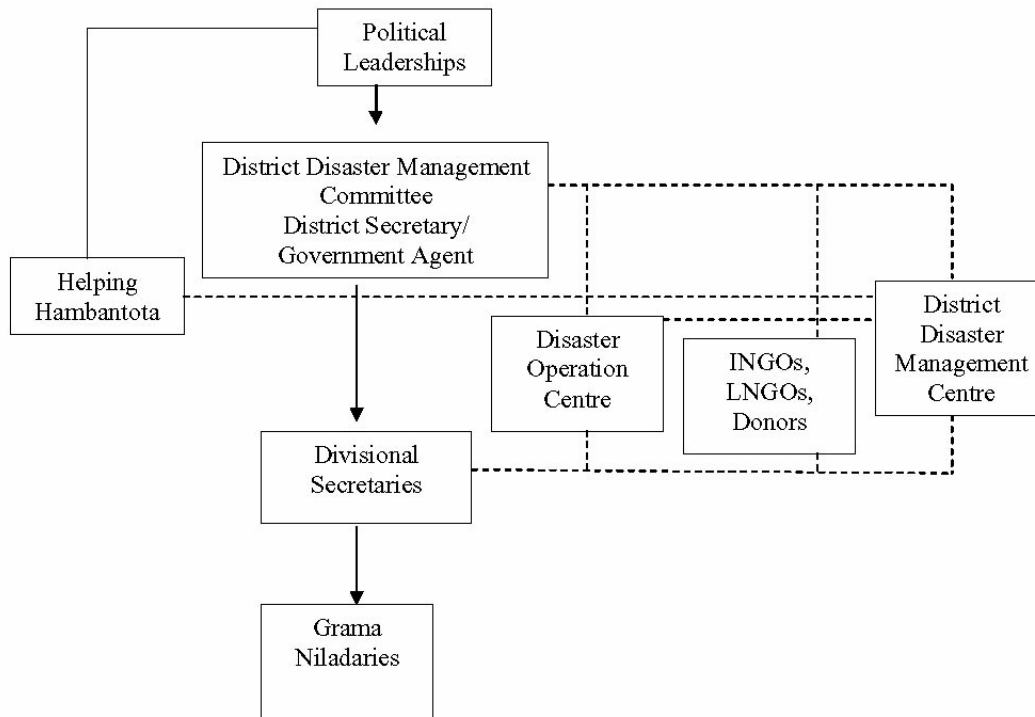
The national level body responsible for the process is the Task Force for Rebuilding the Nation (TAFREN). Entrusted with the task of ensuring progress on the reconstruction and rehabilitation work in the tsunami affected areas, TAFREN facilitates and assists government institutions and agencies to ensure accelerated economic development and support for people and organizations to rapidly overcome the effects of the disaster. The task force ensures the implementation of all short, medium and long-term projects, coordinating, facilitating and finalizing the plans for reconstruction by playing the role of mediator and acting as a centralizing body. There were initially other operating bodies, including the Centre for National Operations (CNO), which played a key role during the immediate post-tsunami relief activities and was the national level co-ordination body, but the tasks were gradually transferred to TAFREN and to respective line ministries. Among other agencies, the UNDP supports the GOSL to collate and provide information.

DISTRICT LEVEL ACTIVITIES

Tsunami relief activities began soon after the disaster but mainly took the form of uncoordinated support provided by people from nearby villages. Sooriyawewa hosted the displaced community from Hambantota, providing them with shelter at the school and meals until outside assistance arrived. The first outside assistance originated as largely uncoordinated philanthropic support from people from other areas. Various organizations, including foreign agencies, also began to appear. Many NGOs (Appendix C) started operations on post-tsunami rehabilitation with the help of foreign donors. However, the activities seem to have lacked focus, coordination and sustainability, something which is still evident at this time.

At the district level, the District Disaster Management Committee (DDMC) is the focal point for post-tsunami activities. District Disaster Management Centre (DDMgC) is a technical planning entity to support the activities of the DDMC. It receives inputs from the Disaster Operations Centre, various agencies working in the area and divisional secretaries. The linkages among various responsible actors are presented in *Figure 1*.

Figure 1. Structure of Post-Tsunami Operators and their Linkages.



Source: DDMgC (2005).

DDMgC prepared a detailed work plan elaborating objectives and activities of the post-tsunami interventions of the district. The program identified three phases of post-tsunami operations: response, recovery and reconstruction, and assigned short-term, medium term and long-term goals respectively for the three operations. The response phase is short-term and concentrates on data collection, data analysis, coordination and capacity building. Immediate relief measures have been designed, and planning and co-ordination of relief—including food and non-food distribution—death compensation and cash payments is being conducted. Medium term recovery activities include health services, housing, education and minor infrastructure, while long-term reconstruction includes major infrastructure development, livelihood reestablishment, commercial sector and tourism redevelopment, and disaster risk and management planning. Actors and responsibilities are identified and the work is in progress. The main actors involved are given in Appendix C. Other than those listed, many private individuals have also agreed to undertake reconstruction.

A separate coordinating office established by the Prime Minister, named “Helping Hambantota” is also involved in relief and rehabilitation activities. The office coordinates the INGO activities and has a link with the DDMC. This office also conducts weekly sectoral coordination meetings to review the progress in different sectors.

UNDP has had an on-going two year project on disaster management and preparedness in the district, with a plan to handle more typical disasters such as droughts and floods; an office of the UNDP transition programme has been set up and they are assisting the district secretariat in handling information, targeting relief and rehabilitation activities, and is also involved in relief and rehabilitation activities. Information collected from government offices, NGOs, private organizations and from the field is provided to the DS, the CNO and the public. UNDP has identified six categories of livelihood activities of the district that need to be considered in the rehabilitation process—fishing, fish marketing, small industries, retail businesses, agriculture and transport.

Although coordination of sectoral and intersectoral activities is managed by the DDMC, this is through a series of taskforces and coordination meetings using existing institutions and personnel. Use of existing resources without adequate strengthening seems to impact on the effectiveness of the decision making process. Individuals appointed specifically for this purpose at senior level and equipped with a greater degree of information support, will enable implementation of operations with clear policy, direction and decisions. A strengthened parallel institutional structure, with clear levels and support from the normal institutions, will have not only the benefit of better coordination, but also enable drawing on peoples’ participation, as recommended in this report.

Government line ministries and departments carry out information gathering and relief programs within their own domains of operation. Nationwide programs on fisheries information and assistance is one such example. Government relief payments to the value of Rs. 15,000 as death compensation, and Rs 5,000.00 monthly relief payment have been made and the dry rations worth Rs. 375.00 per person per week are being distributed.

Impact evaluation studies have also been conducted by several organizations. An International Rice Research Institute (IRRI) mission visited the area for a quick fact finding visit and recommended action to be taken in rehabilitating agricultural lands. University of Ruhuna conducted a survey on damage to the agriculture sector as part of a national effort coordinated by the Green Movement, an environmental NGO.

Although many agencies are active on tsunami related relief, a critical weakness in the post-tsunami situation in Hambantota is the lack of integration of grassroots level opinion in planning and the weakness of mobilizing support in activities. The approach undertaken is of imposition from the top and establishment of high level coordinating groups, without the creation of sufficient capacity at the GN division level to identify and address needs. Support has continued without a proper needs assessment or evaluation of the damage done to the local economy, community solidarity and to the natural resource base. This can be harmful and the impacts irreversible. A people-centered participatory

approach is therefore needed if the ongoing process is to generate desired outcomes which are also sustainable.

Chapter 5

Conclusions and Recommendations

INTRODUCTION

This chapter draws on the findings of the RRA in the tsunami affected GN divisions of the Hambantota District to make conclusions about impacts on livelihoods in the area and make recommendations for restoring income generating activities and supporting livelihoods in the medium to long-term. It is important to note, however, that while suggestions for this are made in this document all solutions should be devised in full cooperation with community members. If communities are not involved in the identification and implementation of activities, there will never be a sense of ownership. Some activities will fail, and there is the potential to create divisions and disputes within communities.

The geographical area enclosed by the TABL, as defined by IWMI, includes a diversity of income generating activities. Fishing is the main income generating activity in the area, with agriculture and livestock rearing also being important. In addition, many households cultivate homestead gardens to meet household needs and to supplement incomes. The coastal area is also a prime tourist location, with the tourist industry depending heavily on the fisheries and agriculture sector. Hence, livelihoods activities in the area are highly interconnected and the tsunami caused damage to all sectors.

RESTORING AGRICULTURE

Several sub-sectors within agriculture—including irrigated lowland agriculture; highland farming of cereal crops and vegetables; and livestock rearing; as well as homestead gardens—were affected. The study reveals that the tsunami induced salinity in both lowlands and highlands. Although irrigated lowland areas have undergone remedial measures through flushing of fields with special releases of irrigation water, there are no such measures undertaken for highlands. Experts expect that the salinity of highland areas will be reduced after the rains. The rainy season in eastern Hambantota, the area falling within the DL5 agro-ecological region (Low Country Dry Zone), receives rains only during the northeast monsoon season which is expected to begin in October. The annual rainfall is less than 1250 mm and a thick salt layer on the surface is observed. The reclamation of the area could be left for natural process of reclamation or irrigation could be used. The economics of the second method should be assessed and compared with the benefits lost to the farmers if the lands are not reclaimed at least in the areas where highland farming was the main livelihood. In untreated lowlands, remedial measures should continue by flushing. In areas of special need due to inherent drainage problems,

such as Welipatanvila in the Ambalantota DS area, approved projects should be expedited.

Homestead gardens in the area are multifunctional systems generating direct income for the sale of outputs, producing raw materials for cottage industries, contributing to household food security and providing environmental amenities, such as shade and habitat for birds. The tsunami affected this sector by degrading the land, damaging the infrastructure and supporting facilities, as well as causing permanent damage to perennial crops, especially young coconuts palms. Water shortages in Hambantota make the prospect of flushing homestead gardens to reduce salinity unlikely. Alternative methods of producing garden vegetables could be employed and one such option would be to try using plant pots filled with soil transported from inland areas as a short term measure until the land is naturally desalinized. However, this may not be financially viable or practical, and would only be an option where households were highly reliant on homestead agriculture.

All agricultural land in the area should be monitored for changes in salinity levels. The International Rice Research Institute (IRRI) emphasized the need for long-term monitoring after its mission to Sri Lanka. Documenting the progression of resurgence of natural vegetation in both reclaimed and non-reclaimed soils through scientific methods will be a useful addition to the knowledge base. Monitoring of recovery should be done using local expertise and IWMI, with its strengths as a CGIAR centre, its strong local capacity and long-term involvement in the area, can play a vital role in mobilizing resources in this exercise. The Soil Science Society of Sri Lanka, and the agricultural faculties of the University of Ruhuna and Sabaragamuwa University may be useful stakeholders. The capital needs are the provision of a reasonable number of digital electronic conductivity meters, and the costs associated with training local people in measuring salinity and record keeping for monitoring purposes.

Although the effect on national food supply due to the effects on agriculture in Hambantota District appears to be negligible, the effects on income of farmers directly affected and those who depend on selling their produce to local consumers are considerable. If the reclamation activities are delayed, then the farmers should be provided with alternative employment in non-affected farms in inland areas. Many farmers already undertake agricultural day labour or off-farm employment in adjoining areas, so facilitation of the process would be effective. However, in this region, there are often more agricultural day labours than are required and these additional labourers will increase the competition for employment. In the short-term, it may therefore be necessary to seek other options, for example using tsunami relief money to pay labourers to undertake community projects to restore communal land and infrastructure.

Local consumers may take time to regain their purchasing power and promoting trade with other regions may help recover the losses of the farmers who lost their livelihoods due to lack of demand for their produce.

Agricultural production in the dry zone is always problematic; therefore, farmers need to be encouraged to grow crops that have lower water requirements. This has been the intention of the Irrigation Department and Department of Agriculture for some time but has not been successfully adopted by farmers. This may be due to a fear of crop failure, uncertain markets or lack of knowledge about markets for new produce, and lack of knowledge about their agricultural requirements. It may, therefore, be beneficial to use some tsunami relief funds to understand farmers' reluctance to diversify and grow lower water demanding crops; to provide awareness training regarding crop types, agricultural needs and markets; to support for two to three years farmers who are prepared to try alternatives; and to fund the stimulation of markets.

Water shortages are also linked to water sharing, an issue that needs to be urgently addressed in the area. This should be achieved by strengthening farmers' associations and irrigation committees, and working to improve the social capital of poor farmers, as access to water is often as much about social capital as physical infrastructure or overall water availability.

RESTORING THE FISHERIES SECTOR

Damage was caused to infrastructure, including fisheries harbours, vessels and nets. In the initial phase, it is likely to be most appropriate and beneficial to replace fishing vessels and equipment that do not require a harbour, as the infrastructure of the large fisheries harbours was destroyed and the rehabilitation efforts may take some time, and the priority is to restore income generating activities that will enable households to recover more quickly. It is, however, important that the provision of any physical assets is based on scientific advice and in consultation with local communities, for example on the size of boats, nets and type of fishing that is encouraged. One needs to be mindful of long term effects on fish stocks and sustainability issues.

As the scale of fishing operations has of course reduced, there is a large number of people displaced from auxiliary employment in the sector. Many of them are unskilled and are flexible in working in other trades. Although fisheries capacity was reduced, restoring the sector generates employment opportunities in boat repairs, creating fishing gear and reconstructing infrastructure, and these new opportunities should be used as sources of activity for those displaced by lack of activity in the production sector.

Boat repairing should be given to local servicemen who have expertise in these matters. Fisheries also provide employment to petty traders and it seems appropriate that interventions should attempt to restore the livelihood of the many people involved in this, rather than to support a few large scale traders. As the supply, is low there will be conflicts among wholesale traders to gain their share. Local level allocation of fish catch should be decided by the communities and the wholesalers may be supported to engage in other activities, ideally using their existing investments such as trucks.

Whilst restoring income generation in traditional livelihoods activities is a priority in the short-term restoration process, there have for many years been issues over the sustainability of marine and lagoon fisheries, the decline in fish catches, and the need to decrease fishing pressure and reduce waste. The current situation may therefore provide an opportunity for doing this in the medium to long-term. Some practical options include providing or upgrading facilities for fish storage on multi-day boats, as many fishermen complain that when they return to Sri Lanka after many days fishing some of the catch is unfit for consumption (Clemett et al. 2004). Similar problems are experienced by beach seine fishermen, as it may take several hours to remove all the fish from the net. Providing cooling facilities or discussing options for alternative fishing methods with local fishermen may produce beneficial results. Improving fish processing may also reduce waste and add value to the produce.

RESTORING THE INDUSTRY

Cottage industries receive raw materials from the primary sector and generate employment and income. The supply of raw materials to the coir fibre industry from affected areas will be low, because of the damage caused to coconut trees. However, RRA findings indicate that the supply chain for raw materials originating from nearby villages already exists. Restoring the damaged soaking pits and machinery should be the priority in restoring this sector. Working capital should be provided and group work in using undamaged infrastructure and production facilities, which are otherwise underutilized, should be started. Existing producer associations will be important institutions in restoring the sector and would be feasible in the regained community cohesiveness. There is no evidence of damage to product marketing channels and there is a very high likelihood of restoring the industry. Coir fibre products will be demanded for the reconstruction industries and early restoration will be advantageous to reap the benefits from this new development.

The production capacity of the salt industry is affected as a result of the damage to the salt production ponds. However, there are no major threats to the industry from the supply side, as there are enough stocks of salt and packaging facilities are not affected. Damaged infrastructure should be restored before the next salt production season using displaced labour from affected industries. Therefore, there are unlikely to be negative implications for employment. However, there is a potential demand side threat as consumers have been misinformed and are concerned that salt from this area has been contaminated during the tsunami. Any possible effects should be reversed by a well designed country-wide awareness campaign to bring the message of “salt from Hambantota is safe and pure”.

RESTORING SERVICES AND TRADE

Strategies to restore the tertiary sector in a disturbed economy are best designed when the nature and magnitudes of the inter-sector linkages are understood. Despite the paucity of information through previous studies and the lack of reliability of ex-post evaluations, the conceptualization of the Hambantota economy presented here is a useful guide in setting strategies to achieve the objective of restoring the economy.

The demand for productive services is a derived demand from the activities of the production sectors. Suppliers to fisheries, agriculture and cottage industries will be back in business, only if the demand for their services is restored. This depends on the speed of recovery of primary and secondary sectors. The demand for consumption goods and services by the residents of the area depend on the effective demand from consumers. Consumer demand is based on their purchasing power and the availability of substitutes. People in affected occupations will regain real purchasing power, only if the production sectors are restored. It is therefore unwise to invest in physical capital in those services establishments, until the consumers get real purchasing power. It is also observed that people still consume commodities and food rations distributed as relief. This leads to a reduction in the volume of business, as well as having a negative effect on the supply of local food commodities from production areas. The alternative is to give food coupons for people to purchase from the local market, or to use tsunami relief funds to implement work schemes for community restoration projects, that simultaneously improve the local environment and provide incomes.

Manufacturing and trade to outsiders is also an important component of the trade and services sector of Hambantota. This sector includes tourism and trading with local pilgrims. The activities of both these sectors depend on the volume of tourists and pilgrims. This is exogenously decided depending on the purchasing power of people in other regions and their willingness to travel to a particular area. Although the effect of the tsunami on the first factor could be negligible, the attitudes of tourists and pilgrims on visiting Hambantota seem to be negative at present. This may be due to: cultural and moral reasons of not enjoying oneself in an area where a disaster has occurred; the fear of unhygienic and contaminated food; a notion that the whole district was destroyed; or fear about another disaster. These months are typically lean months for tourism due to the unfavourable weather conditions. but it will be important to create demand in the next season by persuading potential visitors. A well organized information and promotion campaign should be undertaken as the first step. Further investments in physical capital should be considered only once the industry reaches a sufficient level of activity and a moratorium for business loans, if not compensated by insurance, should be considered until the economy recovers.

In the longer term, it is important to ensure that the economy of the district benefits to the fullest possible extent from the tourist industry. At present, and as is often the case in the tourist industry, some individuals (hotel and restaurant owners) are benefiting disproportionately from tourism. This balance needs to be addressed and some solutions include encouraging the sourcing of local produce to support the economy of the area.

Small-scale local guesthouses are also an option, so that tourism income goes directly to local entrepreneurs but in these cases, marketing can be a problem, especially where international tourists are the target. Tourism is also a naturally unpredictable trade with several factors influencing consumer choice, therefore too heavy a reliance on tourism can increase vulnerability.

OTHER LIVELIHOODS REQUIREMENTS

It is not only income generating activities that have been affected by the tsunami. Non-productive daily livelihoods activities, such as domestic water availability, have also been impacted. This has been compounded by the current drought in the area, which is a reminder that water resources availability is a constant pressure for agricultural and domestic needs. As a short-term measure, households can be provided with barrels of water, as is currently done in some areas in the Hambantota District in the dry season, but this is not sustainable and is far too unreliable (Clemett et al. 2004). Instead, water management in the district as a whole must be improved. In certain areas, the provision of rainwater harvesting may be appropriate and should be done to supplement any other forms of water provision. Water conservation should also be practiced in the towns, tourist resorts and industries. Recycling of grey water should be encouraged wherever possible and this could provide water for productive uses such as vegetable cultivation. Such practices are common in villages, where bathing water will be used in homestead gardens but in hotels water from bathing will often be channelled directly to the drains. Reduction in water use should also be encouraged in hotels and cities through access to technologies such as low-flush toilets. There are numerous options for water conservation, water re-use and water treatment, and industrialists, water planners and hotel owners should be made aware of these.

Access to markets and markets themselves have been disrupted by the tsunami. In many places, immediate relief efforts have restored these facilities, but where this has not taken place, this issue should be addressed to stimulate trade and ensure access to necessary household goods.

For the numerous displaced people, the ultimate priority is to have somewhere to live. Housing projects are already underway and the pace should be fast, however there is also the risk of rushing construction so that houses are not of adequate quality or do not meet the requirements of the user. The recipients should be fully consulted on the location and design of housing, and should be active members in the construction team, if they do not have other income generating activities to undertake. The materials used for construction should be carefully sourced, as the high demand for them may lead to unsustainable extraction practices, such as beach and river sand mining and coral mining for lime. Instead, the reconstruction process should be used as an opportunity to source appropriate local construction materials and to build sustainable housing with rainwater harvesting, water reuse, composing and adequate space for homestead gardens.

In all aspects of livelihoods, social capital plays a vital role. The emergence and strengthening of existing CBOs is a positive outcome of the disaster and one that should be capitalised on. NGOs and government agencies should work through CBOs but should also be careful to ensure equity of activities that take place through CBOs, as some are politically or socially influenced. As part of this process, and especially after the immediate relief process, efforts should be made to strengthen CBOs in terms of their managerial and financial capabilities and their technical skills, and to make them more equitable. Where community management gaps exist, it may be necessary to facilitate the development of CBOs or to encourage existing CBOs, such as women's organisations, to take on additional responsibilities, like community water management or revolving funds for tsunami relief.

SUMMARY

The problems and potential solutions or remedial measures for specific income generating activities are collated into *Table 16*. There are also general issues over the sustainability of livelihoods in this area, and the current situation provides the impetus to address these. The disruption to livelihoods creates a space into which alternatives could be introduced that diversify livelihoods and help to improve resilience.

Table 16. Sector-wise problems and remedial measures.

Sector	Problems and Impacts	Short- to Medium term Remedial Measures	Long-term Measures
Agriculture	<ul style="list-style-type: none"> • Salinization of soils 	<ul style="list-style-type: none"> • Natural flushing with rain water; flushing with irrigation water; growing homestead crops in pots. • Monitor salinity levels. • In consultation with local communities and CBOs, develop temporary alternative livelihoods. These could include labour on other people's land outside the affected area or the use of tsunami funds for day labour to restore communal infrastructure, rehabilitate irrigation channels or clear debris. 	<ul style="list-style-type: none"> • Encourage farmers' need to grow crops with lower water requirements by providing financial and technical support for 2-3 growing seasons. • Strengthen farmers' associations to improve equitable water sharing in irrigated areas. • Strengthen the "food chain" by improving food processing and marketing to increase the value of goods leaving Hambantota district.
Fisheries	<ul style="list-style-type: none"> • Damage to harbours, boats and nets. 	<ul style="list-style-type: none"> • Discuss local requirements with community members. • Restore boats and nets focusing on those that do not need harbour facilities. • Support ancillary industries, such as ice production and fish 	<ul style="list-style-type: none"> • Restore harbour facilities in consultation with local authorities and communities. • Improve infrastructure and ancillary industries, such as fish processing and ice production. • Improve marketing to increase value. • Improve facilities on multi-day boats, for example, cold storage to

		trading.	prevent waste.
			<ul style="list-style-type: none"> • Work with fishermen's organisations to develop plans for optimising catch and reducing waste. • Consider alternative income generating activities to reduce pressure on depleting resources.
Salt production	<ul style="list-style-type: none"> • Some damaged ponds and consumer misconceptions that the salt has been contaminated. 	<ul style="list-style-type: none"> • Restore damaged ponds and develop a targeted advertising campaign. 	<ul style="list-style-type: none"> • Further remedial measures unlikely to be required.
Coir industry	<ul style="list-style-type: none"> • Loss of coconut trees. • Damage to or loss of soaking pits and equipment. 	<ul style="list-style-type: none"> • Restore soaking pits and equipment. • Encourage sharing of underutilised facilities. 	<ul style="list-style-type: none"> • Monitor salinity levels. • Plant more coconut trees when salinity levels will permit.
Services and trade	<ul style="list-style-type: none"> • Lack of purchasing power. • Damage to market place infrastructure. 	<ul style="list-style-type: none"> • Gradually improve primary industries, reduce food aid and provide coupons or work programmes to stimulate the economy. • Restore market places. 	<ul style="list-style-type: none"> • Consider developing cooperatives to increase the strength of local producers in the wider market place. • Support provision of access to markets outside the district.
Tourism	<ul style="list-style-type: none"> • Lack of desire to holiday or pilgrimage to the areas. 	<ul style="list-style-type: none"> • Advertising campaign • Rebuild infrastructure 	<ul style="list-style-type: none"> • Improve tourism facilities (both private and public). • Regenerate areas of natural beauty. • Provide training on tourist requirements especially for international tourists. • Encourage/support development of more sustainable tourism, including waste management and water conservation. • Encourage use of local produce to stimulate the local economy.
Other livelihoods requirements	<ul style="list-style-type: none"> • Water availability • Housing destroyed 	<ul style="list-style-type: none"> • Provide barrels of water for domestic needs. • Provide temporary 	<ul style="list-style-type: none"> • Encourage water conservation, introduce rainwater harvesting and encourage wastewater reuse, especially by industry and hotels.

	<ul style="list-style-type: none"> • Markets damaged and access to markets disrupted. 	<ul style="list-style-type: none"> • housing. • Restore communication routes and market facilities. 	<ul style="list-style-type: none"> • In consultation with recipients, design and build appropriate structures that consider water and waste management (rainwater harvesting, wastewater reuse and composting) and use appropriate local construction materials.
Social capital	<ul style="list-style-type: none"> • CBOs emerging and becoming stronger 	<ul style="list-style-type: none"> • Support CBOs and channel relief aid through them. 	<ul style="list-style-type: none"> • Support CBOs by providing managerial, financial and technical skills and improve equity. • Facilitate development of new CBOs where gaps exist or encourage existing CBOs to take on additional responsibilities.

RECOMMENDATIONS FOR A PEOPLE CENTRED STRATEGY

The research also reiterates the often highlighted importance of a people-centred strategy and strengthens the belief that the results of such an approach will generate sustainability and a sense of ownership to the real beneficiaries. While this is going on in many places, it could also be increased and the level of collaboration extended beyond rhetoric. The essence of these recommendations, which are elaborated below are that:

- All planning should be participatory, not only consultative.
- Property rights must be ensured and appropriate relocation strategies developed based on needs.
- Income generating activities must be restored to stimulate trade and pay for public services.
- Who receives what compensation, from where and through what mechanisms must be clearly defined.
- Coordination through the relevant bodies is essential but must not slow down interventions.
- Village level officers are over burdened and interventions are needed to support them.
- CBOs should be supported, strengthened and be a central part of external interventions.
- Local labour should be harnessed in the rebuilding effort, as many people are currently unemployed.

The affected poor in many areas have no property rights for their original residential or agricultural land. This makes it difficult for people to claim for their losses, as well as to appeal for alternative housing locations. Reclamation of affected agricultural land needs

substantial investments and such investment are not likely to be borne by the farmers if there are no property rights.

Damage to public utilities made a negative impact on the wellbeing of people. A major share of the damaged infrastructure has already been restored but the sustainability of public utility systems depends on the paying capacity of the users for services provided. If peoples' income generating activities are not restored, there is a threat to the sustainability of service providers as there is a question of financial viability.

The pre-tsunami socio-economic status of the affected people varies greatly and the affected communities are in appreciation of the fact that compensation of these losses should be based on the pre-disaster situation. This leads to the questions of who compensates whom, to what extent and via what mechanisms? The need for a well defined compensation policy is an important element in an efficient recovery management program.

During the rehabilitation activities, many parties who are not stakeholders of the communities affected have appeared and have been promised relief. This, though well intentioned, has the danger of diverting the attention of other true supporters and what is given as support may not reflect the real needs of the particular community and could be a possible misallocation of resources. All those involved in the rehabilitation effort must therefore coordinate with the relevant bodies and most importantly with the communities. However, this coordination must not be over bureaucratized and slow down intervention measures, leaving communities in limbo, while aid organizations agree on territory and activities. Rather it should be a facilitating process, to prevent activities from overlapping, and provide an information point from which aid organizations and NGOs can rapidly determine which areas and activities still require funding. This also prevents excessive research time that interferes with the affected communities' daily activities, which have already been significantly disrupted.

The majority of displaced people left the organized camps to stay with their friends or relatives. This suggests that community cohesiveness and strong family ties exist. This social structure should be built on and supported. Village level officers now have to bear the double burden of normal and tsunami related activities. The situation can be addressed by appointing special officers or the capacity of existing officers in affected villages should be strengthened.

There are signs of community tension on distribution of relief, and the situation is likely to be aggravated during the rehabilitation phase, as rehabilitation assistance generates long-term benefits. A key shortcoming in targeting the affected people was that the assistance primarily focused on those who were affected physically. Impacts on livelihoods aspects were not adequately considered. Targeting decisions are irreversible and the tension will be long lasting. The problem can be addressed through community consultation and identifying the real needy.

Based on the above observations, a people-centred participatory approach in rebuilding the area is recommended. The domain of planning should not be larger than 10 GN divisions to facilitate accessibility and also to avoid the need for complicated infrastructure. Setting up of local area task forces comprised of community leaders, members of CBOs and government officers is an immediate requirement. These bodies should facilitate bi-directional communication between real beneficiaries and parties interested in helping them. They should function with a high degree of transparency and monitoring focus. Identification and monitoring of rehabilitation support should be a responsibility of this body. All records should be deposited with the DDMgC. The office should be open to all; and key information should be displayed in prominent places to promote transparency. This task force should function as a gateway for all activities by NGOs to avoid uncoordinated activities. To ensure this approach from village level to district level using the existing structure is difficult, and needs to be strengthened and supported to manage this as a parallel set of activities with clear links to normal government administration mechanisms.

Revitalizing the existing non-functional CBOs and using industry based CBOs (fisheries societies, farmers' organizations and coir manufacturing societies) or mutual help and patronage CBOs (Death Support and Temple Committees) as vehicles for consultation and work programs should be important in the process. Some CBOs have emerged as a response to the disaster. Working with these grassroots level organizations will facilitate mobilizing community level resources, as well as improving the targeting of the rehabilitation efforts. Community participation will also provide a sense of ownership to the results of the rehabilitation exercises.

Local manpower and resources should be used to the maximum possible level. Tsunami debris should be recycled to the extent possible to reduce the intensified extraction of natural resources. Debris recycling also gives employment to those who are displaced from their usual employment, but the process may require a change in attitude.

SUGGESTIONS ON FURTHER RESEARCH

Studies for monitoring environmental dynamics based on agricultural and natural science study methods should be undertaken with the support of communities. Such studies should include economy-environment linkages, while continuous monitoring of recovery of the economy and livelihoods should be planned through nutrition based and socio-economic studies. However, while this process needs to be started quickly, it is also important to be aware of the sensitivities of undertaking activities that do not lead to an immediate short-term benefit for affected communities. Therefore, all studies should be fully explained to the communities so that they understand the long-term implications but should also be conducted as discretely as possible so as not to put further burdens on already stressed communities. Since the recovery is long-term, studies should be well tied to higher degree training rather than based on ad-hoc short term consultancies. This will ensure high academic standards as well as relevance of such studies to national capacity building. All studies in which people are involved should only be conducted by those who have prior training, should be approved by a body comprising of subject experts and the community should be well informed of the aims of the research.

LIMITATIONS OF THE STUDY

This study was a rapid assessment and does not therefore profess to contain detailed information about the impacts of the tsunami or about pre-tsunami livelihoods activities. However, it does give a broad overview of the situation and provides adequate information to enable preliminary decisions to be taken about interventions. The information summarized here has been collated elsewhere on a GN division level and is therefore extremely useful to anyone planning to work specifically in those GN divisions.

The need for a rapid assessment meant that it was necessary to develop a research methodology that simplified the situation. For this reason, the research was based around the main income generating activity of a household, even though it is well known that households rely on several income streams for cash, goods and services. More detailed studies based on constructing household profiles may be needed to address more complex household livelihoods problems but such work is probably not appropriate in the short-term, as immediate relief solutions are required and households, who have been affected by the tsunami, have precious little time to participate in research.

Very little information on the ex-ante situation is available; thus, the damage evaluation on livelihood losses is mainly based on information generated after the tsunami through recall processes of the affected communities. This may lead to generation of biased information as respondents may exaggerate the losses with the expectation of increasing the value of the relief or rehabilitation that they receive. This is not surprising under the circumstances but does complicate the situation. The problem has its roots in the lack of monitoring of the economy, which provides difficulties in the instance of any disaster, not just a tsunami, and also in planning in general.

This report does not adequately consider the important issue of preventing livelihoods impacts from future tsunamis through early warning systems or coastal set-back areas where construction is prohibited. These need to be the topics of more in-depth evaluation and could not be covered under the rapid assessment being undertaken.

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Appendix A

Table A-1. Situation Report Tsunami Disaster 02 Feb 2005 - Hambantota District.

D.S.division	Affected Families	Affected people	Displaced families	Displaced			Reported ***			Damaged Houses		No of Camps
				In Camps	In relative houses	Total	Deaths	Injured	Missing	Fully	Partly	
Thangalla	6553	30965	791	486		486	257	76	39	920	710	2
Ambalantota	2107	10035	615			0	14		117	179	335	
Hambantota	5706	27522	1680				2538	66	635	1059	630	
Thissamaharamaya	1910	7648	248				191	85	48	145	69	
Beliatte	194	756					33	110	17			
Weeraketiya	154	606						6	9			
Walasmulla	35	140							10			
Katuwana	48	187							41			
Okewella	12	47										
Angunukolapelessa	41	162						18	8			
Sooriyawewa	118	462							38			
Lunugamwehera	116	438					34		1			
Total	16994	78968	3334	486		486	3067	361	963	2303	1744	2

*** According to the Police Report
District Secretary, Hambantota.
Source: DDMC.

Table A-2. Magnitude of Physical Damages, Affected Families and Individuals.

DS Division	Damaged Houses	Damaged Business Enterprises	Damaged Fishing Enterprises	Others	Total Number of Families	Total Number of Individuals
Tangalla	1630	501	4235	187	6553	30965
Ambalantota	514	46	1445	102	2107	10035
Hambantota	1689	518	3369	130	5706	27522
Tissamaharama	214	22	1488	186	1910	7648
Other Divisions		-	167	551	718	2798
Total	4047	1087	10704	1156	16994	78968

Source: DDMC.

Table A-3. Sector Wise Financial Estimates of Infrastructure and Property Damage.

	Rs Million	US \$ Million
Housing & Shelter	6,500	
Tourist Industry	4,200	
Commercial Sector	3,850	
Fisheries Sector	2,200	
Roads & Bridges	990	
Telecommunication	750	
Public Services	650	
Health Sector	600	
Transport Sector	600	
Power & Energy	500	
Educational Sector	420	
Agricultural Sector	175	
Others	2,400	
Total	23,835	238

Source: DDMC.

Appendix B

GN Division Divisions Identified as Affected by TABL Mapping.

Serial	DS Area	GN division Code and Name	Activity category
4	Ambalantota	142 - Wanduruppa	4
6		143 - Ambalanthota South	4
5		145 - Thawaluvila	4
3		150 - Welipatanvila	1
2		152 - Lunama South	1
8		154 - Kivula South	1
7		156 - Hathagala	3
1		158 - Bataatha South	2
17	Hambantota	81 - Bundala	4
18		82 - Siriyagama	1
16		83 - Pallemalala	2
15		89 - Koholankala	4
19		90 - Siribopura	4
14		93 - Hambantota East	4
13		94 - Hambantota West	4
12		123 - Mirijjavila	4
11		124 - Sisilasagama	4
9		125 - Walawa	1
10	126 - Godawaya	4	
22	Tangalle	238 - Gurupokuna	2
21		239 - Kahandamodara	3
20		241 - Nidahasgama West	1
23		242 - Wella Odaya	3
24		254 - Rekawa East	2
25		255 - Rekawa West	3
47		258 - Medagama	4
26		260 - Medilla	4
28		268 - Medaketiya	4
27		269 - Danketiya	4
30		270 - Indipokunagoda North	4
31		271 - Indipokunagoda South	4
29		272 - Kotuwegoda	4
32		273 - Pallikkudawa Urban	4
46		274 - Pallikkudawa Rural	2
45		275 - Unakooruwa East	3
35		276 - Unakooruwa West	2
33		278 - Kadurupokuna West	4
37		285 - Nakulugamuwa South	4
39		287 - Kudawella East	2
43	288 - Kudawella West	2	
38	289 - Kudawella North	2	
44	290 - Kudawella Central	2	
42	291 - Kudawella South	2	
41	292 - Mawella North	2	

40		293 - Mawella South	2
36		295 - Moraketi Ara East	2
34		296 - Seenimodara East	4
48	Tissamaharama	19 - Kirinda	2
49		20 - Magama	1
50		21 - Andaragasyaya	1

Source: Census of Population and Housing (2001).

Key

1	Agriculture
2	Fisheries
3	Mixed
4	Services

Appendix C

List of Organizations Involved in Hambantota Post-Tsunami Activities.

Government Agencies	Local Government Bodies	International Agencies	Bi-lateral Aid Agencies	International NGOs	National NGOs
<ul style="list-style-type: none"> • Urban Development Authority • Department of Land • Road Development Authority • Ceylon Electricity Board • Department of Health • Department of Education • National Housing Development Authority • Fisheries Department • Sri Lanka Telecom • divisional Secretaries • Department of Social Services • National Water Supply and Drainage Board • Sri Lanka Transport Board • Department of Agriculture • Department of Agrarian Development 	<ul style="list-style-type: none"> • Provincial Councils • Pradesiya Sabhas • Town Councils • Urban Councils 	<ul style="list-style-type: none"> • United Nations Development Programme • United Nations International Children's Emergency Fund • World Food Programme • United Nations High Commission for Refugees • International Labour Organisation • International Bank for Reconstruction and Development • Asian Development Bank 	<ul style="list-style-type: none"> • Japanese Bank for International Cooperation • Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ) 	<ul style="list-style-type: none"> • Action International • Red Cross • Action aid International • Red Cross-Malta • OXFAM • FORUT • World Vision • Thai Buddhist Foundation • CARE International • Medicine Sans Frontiers • NICCO • LEADS • CCF • Colliers International 	<ul style="list-style-type: none"> • Human Resource Development and Environment Protection Organization • Sri Lanka Centre for Development Facilitation • Women Development Federation • Saramanda (Swiss) • Sarvodaya • Sewalanka Foundation • International Services Partners • Bio Diversity and Elephant Conservation Trust • Plan Sri Lanka • Nawajeewana • Green Movement • Future Peace • IUCN • Artist Federation • Rajapaksha Foundation