

**Sri Lanka**  
**State of the Economy Report 2010**

**Chapter 8**  
**Environmental and Natural Resource Issues in**  
**Post-conflict Development**

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## **8. Environmental and Natural Resource Issues in Post-conflict Development**

### **8.1 Introduction**

Post-conflict development has become the major focus of Sri Lanka's current national development agenda. The country faces a number of complex challenges in this regard with many issues and aspects to be taken account of and addressed appropriately. One of the most important aspects is that of environment/natural resource management. A failure to ensure a sustainable post-conflict development effort in terms of environment and natural resources could lead to limited achievement of Sri Lanka's overall long term goals. In this backdrop, this Chapter attempts to examine the environmental aspects of post-conflict development, highlighting the necessity of a balanced approach for achieving the objectives of sustainable development.

The Chapter is organized in the following manner. It first discusses the nature of the relationship between conflicts and the environment and thereafter proceeds to present a profile of natural resources in the formerly conflict-affected Northern and Eastern Provinces of Sri Lanka. This is followed by a brief discussion on livelihoods supported by the profile of resources, and major impacts of the conflict on livelihoods and the environment. In the next section, the essential aspects that need to be addressed in dealing with environmental issues in a post-conflict era are examined. In the final section, important policy implications that can be derived from the assessment are discussed.

### **8.2 Human Conflicts and Environmental Resources**

The environment is a dynamic system, which remains in continuous interaction with social and economic systems, and fulfills the numerous livelihood needs of people. Therefore, environmental resources are usually identified as natural capital to distinguish them from other man-made assets (capital), which support livelihoods. Modern concepts of sustainable development advocate that there should be harmony between livelihood demands of humans and the capacity of environmental systems to fulfill them. In this respect, human conflicts create conditions that not only endanger livelihoods of people but that of the environment as well. Thus, conflicts can be considered as a serious threat to sustainable development.

Conflicts cause numerous direct and indirect damages to the environment and livelihoods. Even low intensity conflicts - with limited use of violence and a low level of resource damage - can inflict significant welfare losses due to restrictions imposed upon activities pertaining to use of livelihood resources (e.g., loss of access to forests/fisheries due to security reasons). Prolonged conflicts with extensive use of violent force inflict direct damages to natural systems, thereby disturbing the livelihood security of local communities that depend on such resources. This is not only confined to natural assets, but conflicts

also damage man-made assets such as irrigation facilities, urban and rural infrastructure, amenities, public utilities and cultural facilities, etc., that provide essential support for livelihoods. Such adverse effects on both natural and man-made capital impose severe constraints on the economic welfare of communities and reduce the quality of the environment that they live in. In the worst circumstances, communities could be forcefully evicted from their familiar environments causing permanent damage to their livelihoods, leaving the resources also under conditions that are vulnerable to devastation. Experience shows that many conflicts have evolved from relatively less intensive initial phases to violent later stages, resulting in outcomes with cumulative damage of all forms over extended periods of time.

The conflict experienced by Sri Lanka is an example of a prolonged, intense conflict with serious adverse consequences over both livelihoods and the environment. The overall impact of the conflict left major outcomes on the environment and natural resources as follows:

- Physical damages to the environment and natural resources
- Loss of access to resources and associated welfare losses to livelihoods
- Collapse of local systems of resource management
- Loss of control over state managed resources

Due to lack of reliable data, arriving at a detailed assessment of the above effects is not feasible at present. Therefore, only a brief account on the above effects is presented in the following sections. To make this a meaningful effort, it is necessary to recognize the profile of environment/natural resources in the conflict-affected areas of the North and

East (N&E) and the nature of livelihoods supported by this profile.

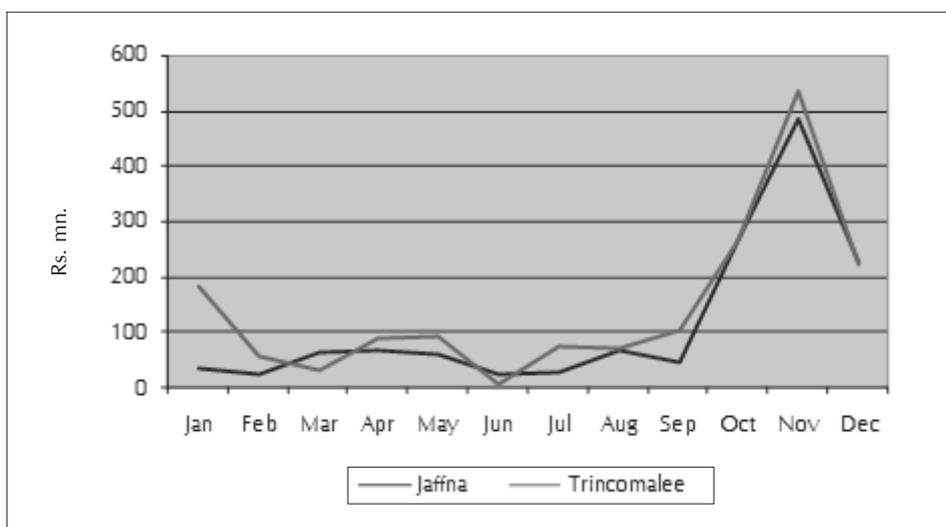
### **8.3 Profile of Resources and Livelihoods in the N&E**

#### **8.3.1 A Brief Profile of Resources**

In this section, a short profile of natural resources in the N&E is presented. Both the Northern and Eastern Provinces belong to the dry zone of the country. This implies that these areas receive limited rainfall during certain months of the year, followed by extended periods of dry weather in between. Figure 8.1 provides the average pattern of monthly rainfall for Jaffna (2003-08) and Trincomalee (2003-05). Accordingly, it shows that Jaffna (Northern Province) and Trincomalee (Eastern Province) experience dry conditions for a number of months during the year. Both have a pattern of rainfall with a single peak during the months of October-December, receiving significant amounts of rainfall from the northeast monsoon (NEM) and a second inter-monsoon (SIM).

Geologically, the Jaffna peninsula and the northwestern coastal belt that extends towards the Mannar district are underlain with sediments of Miocene limestone, a distinct geological formation not common to the rest of the country. This formation has specific physical properties. Porous limestones store substantial amounts of groundwater in shallow karstic aquifers in the Jaffna peninsula, and deep confined aquifers in the Mannar area. As a result, groundwater has an important role to play in agricultural and domestic water supply in these areas. Geographically, the Jaffna district is a peninsula connected to the mainland of the country by a narrow strip of land. Geological, geographical and climatic conditions in Jaffna have given rise to a distinct type of farming system in the peninsula. Comparatively, mainland districts of the Northern

**Figure 8.1**  
Average Monthly Rainfall in Jaffna and Trincomalee



Source: Department of Census and Statistics, *Statistical Abstract 2009*.

Province and the Eastern Province have a different farming system, which shares features common to many other areas of the dry zone.

The two provinces of the N&E jointly cover 28.7 per cent of the total land area of the

country. Table 8.1 presents the composition of land and inland water resources in the N&E, together with their country shares. Accordingly, the two provinces account for 40 per cent of forest cover and 42 per cent of inland waters of the country, which are significantly higher than their share of land

**Table 8.1**  
Land and Inland Water Resources in N&E

District	Land Cover (Hectares)			Inland Water
	Forest	Land Agriculture	Other	
<b>Northern Province</b>				
Jaffna	1,478	16,942	74,480	9,600
Kilinochchi	37,600	15,939	66,961	7,400
Mannar	123,861	8,920	55,219	11,600
Mullaivivu	171,167	16,293	54,040	20,200
Vavuniya	117,188	13,840	55,072	10,600
<b>Eastern Province</b>				
Ampara	168,763	73,180	180,257	19,300
Batticaloa	56,736	34,490	169,774	24,400
Trincomalee	127,236	22,474	103,190	19,800
<b>Total</b>	<b>804,029</b>	<b>202,078</b>	<b>758,993</b>	<b>122,900</b>
<b>Sri Lanka</b>	<b>2,022,160</b>	<b>1,942,663</b>	<b>2,305,677</b>	<b>290,500</b>
<b>N&amp;E share (%)</b>	<b>40</b>	<b>10</b>	<b>33</b>	<b>42</b>

Source: Department of Census and Statistics, *Statistical Abstract 2009*.

cover. Due to lack of reliable data on the population of these provinces, it is difficult to estimate per capita availability of land, forest and inland waters. However, given the relatively low density of population in mainland areas of the Northern Province (i.e., Kilinochchi, Mannar, Mullaittivu and Vavuniya districts), it is reasonable to assume that per capita availability of resources in these areas is relatively high compared with the Jaffna peninsula and the Eastern Province.

Table 8.2 presents details about the distribution of forest resources in the N&E. The data indicate that large proportions of Mannar, Mullaittivu and Vavuniya districts come under natural forests (around 60 per cent or more). Trincomalee, Ampara, Kilinochchi and Batticaloa districts also have significant shares of land under natural forests, whereas the Jaffna district has a very low area under forests. Natural forests in these areas come under two major types, namely; lowland semi-deciduous forests and lowland semi-deciduous wood land/thorn shrub for-

ests. These forest types usually house valuable hardwood species and abundant wildlife. The majority of these forest lands belong to the Forest Department while the Department of Wildlife Conservation manages certain wildlife rich patches. Limited areas under forest plantations are indicated for many districts, except for the Ampara and Batticaloa districts.

The two provinces of the N&E have a major advantage in terms of their richness in coastal resources. They jointly cover nearly 60 per cent of Sri Lanka's coastline. Except for Kilinochchi and Vavuniya, all other districts have coastlines running along the entire length of the land stretch. Table 8.3 provides details on coastal resources in the two provinces. Accordingly, they have all the major types of coastal habitats, exceeding over 60 per cent of the respective country totals in many cases. These coastal resources have been recognized for their high economic potential in terms of fishing, coastal aquaculture, tourism and mineral resources. Rich marine fishing grounds surround the entire

**Table 8.2**  
**Forest Resources in N&E**

District	Forest	Plantations	Total	% of Land Area
<b>Northern Province</b>				
Jaffna	1,355	124	1,478	1.4
Kilinochchi	37,600	-	37,600	29.0
Mannar	123,740	121	123,861	62.0
Mullaittivu	169,304	1,864	171,167	65.4
Vavuniya	117,051	138	117,188	59.6
<b>Eastern Province</b>				
Ampara	164,129	4,633	168,763	38.2
Batticaloa	52,733	4,003	56,736	19.9
Trincomalee	126,746	490	127,236	46.7
<b>Total</b>	<b>792,658</b>	<b>11,372</b>	<b>804,029</b>	
<b>Country total</b>	<b>1,942,219</b>	<b>79,941</b>	<b>2,022,160</b>	
<b>N&amp;E share (%)</b>	<b>41</b>	<b>14</b>	<b>40</b>	

Source: Forest Department.

**Table 8.3**  
**Coastal Resources in N&E**

Districts	Extent of Coastal Habitats (Ha)							
	Mangroves	Salt Marshes	Dunes	Beaches	Barriers & Spits	Lagoons	Other Water Bodies	Marshes
<b>Northern Province</b>								
Mannar	874	5,179	1,458	912	-	3,828	2,371	308
Kilinochchi	770	4,975	509	420	-	11,917	1,256	1,046
Jaffna	2,276	4,963	2,145	1,100	3	45,525	1,862	149
Vavuniya	-	-	-	-	-	-	-	-
Mullaittivu	428	517	-	864	-	9,233	507	194
<b>Eastern Province</b>								
Trincomalee	2,043	1,401	-	671	-	18,317	2,180	1,129
Batticaloa	1,303	2,196	-	1,489	-	13,682	2,365	968
Ampara	100	127	357	1,398	-	7,235	1,171	894
<b>Total</b>	<b>7,794</b>	<b>19,358</b>	<b>4,469</b>	<b>6,854</b>	<b>3</b>	<b>109,737</b>	<b>11,712</b>	<b>4,688</b>
<b>Country total</b>	<b>12,189</b>	<b>23,819</b>	<b>7,606</b>	<b>11,788</b>	<b>12</b>	<b>158,017</b>	<b>18,776</b>	<b>9,754</b>
<b>N&amp;E share (%)</b>	<b>64</b>	<b>81</b>	<b>59</b>	<b>58</b>	<b>25</b>	<b>69</b>	<b>62</b>	<b>48</b>

Source: Olsen, S., et al., 1992, "Coastal 2000: Recommendations for a Resource Management Strategy for Sri Lanka's Coastal Region", CRC Technical Report No. 2033, Coast Conservation Department.

coastal stretch of both provinces. In addition, there are numerous lagoons and brackish water bodies, which support significant brackish water fisheries. These inland water bodies and shallow seas around coastal areas provide ample opportunities for coastal aquaculture as well. More on fisheries resources is discussed under the section on livelihoods.

Besides fisheries resources, many coastal habitats have numerous tourist attractions, which provide a strong foundation for a viable tourism industry in the area. Certain coastal sites, especially in the Eastern Province, were among the key tourist attractions of the country from the colonial era. Notable attractions include Nilaweli beach, Kokilai lagoon and sanctuary, Kalkudah/Passkudah beach, Arugam Bay lagoon, Lahugala and Kumana National Parks, Trincomalee and Yala East National Park,

etc., which were popular destinations for both foreign and local tourists before the conflict.

In addition, the Northern and Eastern Provinces are endowed with significant mineral resources. Many of these are based on coastal areas. Such examples are mineral sand deposits in Pulmoddai area, and silica sands in the Vadamarachchi area (Jaffna peninsula). The potential for large-scale extraction of construction sands has also been identified both in the Jaffna peninsula and the eastern coast. Among other vital mineral resources in the region are copper-iron deposits in the Seruwila area and limestone resources in Kankasanturai. Facilities for commercial extraction of mineral sands in Pulmoddai, and manufacturing cement using limestone in Kankasanturai had already been established even before the conflict. Mineral sands deposits in Pulmoddai are ranked among the

best of its type in the world, and provide illmenite, rutile and zircon, which have value added industrial uses. Before halting such industrial operations in the 1990s due to the conflict, mineral sand output from Pulmoddai was mainly exported.

### 8.3.2 Major Livelihoods and Impacts of Conflict

The profile of resources in the N&E discussed above supports a local economy that is mainly based on agriculture and fisheries. Conditions in the Jaffna peninsula has given rise to a distinctive commercial farming system based on major crops - red onion, chilli, potato, tobacco, fruits and vegetables, with limited amount of paddy and livestock activities. In addition, Jaffna is famous for products based on palmyrah palm. Unlike other areas of the dry zone, groundwater from shallow karstic aquifers is a major source of water supply for agricultural crops in Jaffna. Being a peninsula surrounded by shallow sea with a complex system of lagoons and surrounding islands, Jaffna has a significant population that depends on fishing for livelihood. Fishing activities are concentrated in coastal areas, lagoon and small islands around the peninsula. Compared with other mainland districts in the Northern Province, Jaffna is more densely populated with a mixed population of urban, semi-urban and rural communities. Therefore, a significant proportion of the population is also occupied in commercial ventures and other service based activities, including public sector jobs.

Compared with the relatively diverse pattern of livelihoods in the Jaffna peninsula, the population in the mainland districts of the Northern Province as well as the Eastern Province is mainly dependent on agriculture and livestock for their livelihood. In addition, there are fishing communities based on coastal fisheries, lagoons, bays and large irrigation reservoirs. Agriculture in the main-

land areas is based on a dry zone farming system with two major components, namely, lowland rice farming and rain-fed highland crops. Certain variations in the farming system could be observed depending on the availability of irrigation water. There are major irrigation schemes in many districts that can support a greater number of farmers with more reliable supply of water for paddy farming. Major irrigation schemes play an important role in agricultural production in Ampara, Batticaloa, and Trincomalee districts as well as certain parts of Vavuniya and Mannar districts. As a result, the Eastern Province has remained a major rice producing area of the country even after several decades of conflict.

In addition to major irrigation schemes, a significant number of farmers in all districts are operating under minor irrigation schemes. This can be considered as basically a rain-fed farming system supported by communally owned rainwater harvesting devices known as village tanks. Unlike major irrigation schemes, minor irrigation schemes are heavily dependent on local rainfall. Therefore, farmers in village tanks face more uncertainties in water supply than farmers in major schemes. Besides the major and minor schemes, there are also farmers in dry zone districts who operate under pure rain-fed conditions, facing severe hardships when faced with lengthy spells of dry weather.

Both agriculture as well as fisheries livelihoods in the N&E were severely affected by the conflict. There were multiple effects on livelihoods. The impacts included loss of life of farmers/fishers, destruction of farming/fishing assets, forceful eviction from livelihood environments, denial of access to resources supporting livelihoods and abandoning or wasting of production harvest due to conflict related events. For instance, there were numerous incidents of attacks on farm villages and farmers in fields. Many

**Table 8.4**  
**Impact of Conflict on Livelihoods: Paddy Farming**

District	Asweddumized Extent of Paddy (Ha)		
	1985/86	2006/07	% Change
<b>Northern Province</b>			
Mannar	20,358	9,985	-51
Mullaittivu	16,268	14,189	-13
Jaffna	12,677	10,724	-15
Kilinochchi	22,379	21,019	-6
Vavuniya	20,205	16,330	-19
<b>Eastern Province</b>			
Ampara	63,697	75,147	18
Batticaloa	57,399	58,238	1
Trincomalee	40,674	29,920	-26
<b>Total</b>	<b>253,657</b>	<b>235,552</b>	<b>-7</b>

Source: Department of Census and Statistics, *Statistical Abstract*, 1986 and 2009.

farmers/fishers have become internally displaced persons (IDPs). Table 8.4 offers some idea of the impacts of the conflict on farmers' livelihood as indicated by the drop of asweddumized lands in different districts during the period of 1985-2007. Accordingly, paddy land under production dropped by over 20 per cent in the Northern Province. The impact is highest in the Mannar district (51 per cent) followed by the Trincomalee district (26 per cent).

Livelihood of the fishing community was also severely affected by the conflict. From the early stages, the conflict escalated into the sea as well. As a result, controls were imposed on fishing operations in many areas due to security reasons, thereby restricting fishers' access to fishery resources. This affected not only the local fishers but also migrant fishermen from other areas during the off-season in those areas. In addition, as confrontations at sea sometimes inflicted losses on lives and assets, fishers themselves refrained voluntarily from regular fishing operations. Table 8.5 indicates the negative impacts on fisheries production due to the conflict during the period 1983-2007. It

indicates that fisheries production from the two provinces dropped drastically by 55 per cent while fisheries production of the country increased by 59 per cent. From the 1990s onwards, the fisheries sector in other areas of the country was largely benefited by new technology and infrastructure developments, which helped to boost national production, even with the decline of production in the two major fishing areas of the N&E. This implies that fishers in the N&E were denied the benefits of overall progress experienced by the sector during the last two decades.

Tourism was another key sector that was adversely affected by the conflict. It is an industry which is highly sensitive to conflict situations. As a result, the inflow of tourists into the N&E area has decreased sharply over the years. This led to losses in tourism income from direct and indirect sources, especially for communities in the coastal belt. The losses to the tourism industry were not confined to the N&E alone. The conflict lowered the attractiveness of Sri Lanka as a tourism destination. Thus, the tourism industry of the country as a whole

**Table 8.5**  
**Impact of Conflict on Livelihoods: Marine Fisheries**

District	Marine Sector Fish Catch (Mt)		
	1983	2007	% Change
<b>Northern Province</b>			
Mannar	19,040	9,170	-52
Mullaivivu	6,960	360	-95
Jaffna	49,740	5,130	-90
Kilinochchi	-	-	-
Vavuniya	-	-	-
<b>Eastern Province</b>			
Ampara	10,650	12,810	20
Batticaloa	4,460	11,710	163
Trincomalee	13,510	8,150	-40
<b>Total</b>	<b>104,360</b>	<b>47,330</b>	<b>-55</b>
<b>Sri Lanka</b>	<b>184,740</b>	<b>293,170</b>	<b>59</b>

Source: Ministry of Fisheries and Aquatic Resources.

suffered as a result of underutilization of country-wide tourism facilities.

#### **8.4 Impacts of Conflict on Natural Resources and the Environment**

In this section, impacts of the conflict on natural resources and the environment are briefly discussed. It is less than three decades since the environment and natural resources have become a subject of public interest in Sri Lanka. Major legislation and institutions relating to environment came into existence only after 1980. This was the period when the Northern and Eastern Provinces began to come under the influence of the armed conflict. As a result, information on natural resources and the environment in these areas is scarce. Hence, making an objective assessment of impacts of the conflict on the environment and natural resources in the N&E is difficult. In this section, a preliminary attempt at conjecturing feasible outcomes based on commonly available knowledge is attempted. As discussed earlier, there are four major impacts that can be broadly identified, as follows:

- Physical damage to natural systems: The prolonged conflict extended its impacts over all types of natural systems and habitats causing physical damages at various levels of intensity. The level of damage depended on the level of exposure to the conflict. Damaged systems include forests and wild life parks, coastal strips, mangroves and wetlands, local water courses, etc. Sometimes these have undergone indiscriminate exploitation (e.g., felling timber, disturbing wild life) or severe modification (e.g., extensive clearing of forest stretches, construction of bunkers, ditches, etc.) for combat purposes. Many habitats that have become battlefronts were subject to destruction due to extensive use of fire-power. Another harmful effect is the heavy load of land mines buried in these habitats, which would be a severe threat to resource users even in the future.
- Loss of access to resources and associated welfare losses due to underutilization: The conflict has deprived resource users of their rights to access resources, and

numerous users were forcefully uprooted from their living environments. As a result, certain resources were left underutilized without extracting a sustainable stream of economic value. Examples are fisheries resources, coastal habitats, forest resources and communally owned assets such as village tanks. This has caused economic welfare losses not only to local communities, but also to the entire national economy. For instance, the conflict left some of the best fishing grounds of the country underutilized for nearly three decades. Farmers had to abandon their fields, creating conditions that threatened food security of local communities. Similarly, prime tourist attractions and associated facilities ran out of visitors depriving the local economy of significant income opportunities. Given that fisheries, agriculture and tourism in the areas are closely connected to the national economy through value chains, the conflict created significant welfare losses to the entire national economy due to long term underutilization of such resources.

- Collapse of local systems of resource management: From a resource management perspective, alienating resources from their owners and custodians has led to a collapse of local arrangements of resource management, making them susceptible to rapid degradation. This becomes especially important in the case of resources that need regular maintenance and management. Some examples are community owned tanks, canals, local catchments forests, etc. Usually, local institutions govern such resources under participatory systems of management. In addition, even privately owned assets such as agricultural fields, home gardens, water supply units, soil conservation structures, etc., have fallen into degradation due to long periods of negligence, and their restoration may need significant investments.

- Collapse of control over state managed resources: The conflict-affected areas have a significant stock of natural resources which are the responsibility of state agencies such as the Forest Department, Department of Wildlife Conservation, Geological Survey and Mines Bureau, as well as local officials in District and Divisional Secretariats. In addition, there are productive ventures such as mineral sands mining in Pulmoddai beach area. The control of civil administration over such resources collapsed with the intensification of the conflict. As a result, maintenance and management needs of such resources have been neglected over a lengthy period time.

### **8.5 Achieving Sustainability in Post-conflict Development**

Rehabilitation of a large mass of population whose livelihoods used to depend on primary resources such as land, forests and fisheries needs careful attention for sustainable management of resources. Therefore, policy makers and development workers have to take the current realities of environment and natural resources into consideration when selecting post-conflict development strategies. In the absence of such a policy thrust, selected development strategies may fail to achieve the desired long term results. There are several aspects that need attention in the post-conflict development context to ensure sustainability of the overall exercise. Among them, a few important aspects that need to be fulfilled to achieve this goal are discussed.

- Assess the losses and damages to natural systems due to the conflict: A reasonable assessment on losses and damages to natural systems is necessary to design appropriate post-conflict development strategies. Given the conditions prevailing in the N&E areas after the conflict and poor availability of information, a full-scale assessment may not be a real-

istic target in a short period of time. Therefore, assessments can be a step-wise exercise that is built into the overall development planning process. In order to achieve this, the participation of necessary stakeholders is critical.

- Resettle original users of resources and reinstate their rights: The first step in all rehabilitation activities is to resettle affected communities in their familiar environments that support their original livelihoods. Given the devastation caused by the conflict in certain areas, this may be a difficult and time-consuming task. The most important issue involved here is the restoration of their rights to private and community assets/resources with appropriate safeguards and precautionary measures. In this context, adhering to traditional practices in a strict sense may not be essential, but rather to focus on a process that provides plausible solutions to address issues of sustainability of livelihoods under the prevailing circumstances.
- Re-establish control of regulatory bodies and government agencies over sustainable management of resources: It is necessary to strengthen the institutional capacity of relevant state agencies, which have mandatory responsibilities for respective resources. This implies strengthening of management procedures applied to land/soil, water, forest, wildlife, coastal, fisheries and mineral resources. Relevant agencies include the Land Commissioner General's Department, Irrigation Department, Agrarian Development Department, Forest Department, Department of Wildlife Conservation, Coastal Conservation Department, Department of Fisheries and Aquatic Resources, National Aquaculture Development Authority and Geological Survey and Mines Bureau. Moreover, it is also necessary to implement general procedures and the National Environment Act as well. The relevant agency in this regard is the Central Environmental Authority. Many of these agencies are currently at a relatively weak position in the Northern and Eastern Provinces. Their position should be strengthened by providing adequate staff, facilities and other required resources. These agencies should have a fresh look at the current issues and existing conditions and select their strategies accordingly. It is necessary to take a consultative approach to the extent possible with the participation of stakeholders concerned.
- Rehabilitate livelihoods through promotion of sustainable use of environmental resources: Resettling the displaced alone would not be sufficient to ensure the sustainability of post-conflict development. It is necessary to take a holistic approach that addresses the livelihood needs of displaced as well as non-displaced conflict-affected communities. All development strategies should promote sustainable use of land, forest, water, fisheries and other natural resources that support livelihoods. All forms of unsustainable practices that lead to further degradation of resources should be discouraged through appropriate incentives and safeguard measures.
- Strengthen the role of local communities in the management of environmental resources: The role of local communities in management of resources should be strengthened. As already mentioned, this should be achieved through the restoration of rights of user communities, selecting participatory approaches involving all stakeholders, and setting appropriate incentive mechanisms to encourage sustainable resource use practices. Moreover, enhanced awareness, extension and adaptive learning approaches can fa-

facilitate such a process. All resource users should perceive their rights and responsibilities correctly. Enhanced cooperation would be helpful to improve the process of reconciliation of communities as well, in addition to ensuring environmental sustainability.

- Implement appropriate safeguard measures to enhance restoration and to prevent over-exploitation: As already mentioned, certain natural systems have undergone physical damages due to the conflict. These should be allowed to be restored without further disturbances. If any harmful modifications had been made, they have to be renovated by using appropriate scientific methods. Not only the damaged systems, but the resources that are currently being used should also be brought under sustainable systems of management. Any post-conflict development activity (e.g., livelihood development programmes, infrastructure projects, productive enterprises) which involves critical natural systems, should be implemented with appropriate safeguard measures to avoid over-exploitation and prevent harmful effects on the environment. This implies that existing procedures of environmental impact assessments and other necessary safeguard measures should be applied in all post-conflict development efforts.

## 8.6 Conclusion

Environmental and natural resource issues represent an important aspect of post-conflict development of Sri Lanka. The conflict has imposed significant damages to natural systems in the conflict-affected Northern and Eastern Provinces. Moreover, it has inflicted significant losses to the economic welfare of communities due to disturbances on livelihoods. Communities have been forcefully uprooted from their livelihood resources,

resulting in the collapse of local management and degradation of resources. As a result, environmental and natural resources in conflict-affected areas are in a state of decline, requiring the urgent attention of policy makers.

Thus, ensuring environmental sustainability becomes an important aspect of ongoing post-conflict development efforts. The government has recognized this and a strategic environmental assessment (SEA) is currently under way with donor support, complementing the 'Uthuru Wasanthaya' programme in the Northern Province. This can be considered a positive step towards increasing the sustainability of post-conflict development efforts. However, ensuring sustainability of post-conflict development is a complex challenge. It needs a holistic approach with close collaboration of communities, the state, and other relevant stakeholders.

Given the current conditions in the N&E areas, resettling of displaced communities and supporting their livelihoods are the most urgent steps in post-conflict development. Therefore, addressing environmental issues also has to commence from these early steps. A participatory, consultative approach should be adopted in all stages, and the role of communities in resource management should be strengthened. Among the major constraints that could negatively affect the process are poor capacity of state agencies in the N&E areas and lack of necessary information. Therefore, strong capacity building measures should also be introduced to strengthen the relevant agencies so that they can facilitate livelihood support strategies in an effective manner. Overall, post-conflict development efforts need a balanced approach that can harmonize livelihood needs of communities and the sustainable use of environmental resources.