

Third National Status Report on Land Degradation

Implementation of the UN Convention to Combat Desertification in Sri Lanka



**Ministry of Environment
Sri Lanka**

2006

Third National Status Report on Land Degradation

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Summary

Sri Lanka is not a desertification prone country and falls within the context of land degradation and drought mitigation of the UN Convention to Combat Desertification, UNCCD. Ministry of Environment functions as the focal point for the Convention. The measures taken to combat land degradation in Sri Lanka has commenced even prior to the adoption of the Convention.

The need for combating land degradation has been addressed in previous and present governments' policy document, Vision Statement, and political manifestoes which promises sustainable development in the socio and economic atmospheres. The measures to combat land degradation, more specifically soil erosion, have been deeply addressed in the environment action programmes which are prepared in light of the government's sustainable development agenda. The environment action plans ensure conservation as well as mitigatory measures to control land degradation. National Action Programme (NAP) for Combating Land Degradation has been formulated in the light of these plans and South Asia - Sub Regional Action Programme has been prepared in the context of NAPs of country parties of South Asia.

The major forms of land degradation in the country are soil erosion, coastal land erosion occurrence of landslides, salinization, water logging, siltation, and water pollution. Soil erosion, among other forms of land degradation, is known to be the most acute form of degradation that seriously affects the people and the economy. Soil erosion is mainly found in the central highlands where major rivers drain from and experience high rainfall regimes. Siltation / sedimentation of low lands and man made large reservoirs built for the purpose of irrigating agricultural lands and generating hydropower has been seriously affected. Salinization in the Dry Zone has received less attention although there is strong relationship with crop production. Landslides are another phenomena prevalent in the country and as a result loss of lives and property has taken place to remarkable extents. Other forms of land degradation receive less significance in the present day context.

In this context, NAP has been formulated in year 2002, encompassing all the forms of land degradation and suggests mitigatory measures. It ensures participation by all stakeholders and identify their responsibilities.

There is no specific body set up to combat land degradation in the country. Instead the Ministry of Environment functions as the umbrella organization and is empowered by acts and ordinances to perform functions associated with land degradation. Further, many agencies

responsible for NAP implementation come under the purview of the NFP and has authority over them. These organizations are also empowered with relevant acts and ordinances. However, a few agencies do not come under the purview of NFP. The NFP is assisted by the National Expert Committee on land degradation which functions in an advisory capacity. The institutional framework within the country comprises of several elements. The Ministries Secretary's Committee functions as the highest administrative authority, and District Committees of Environment make decisions within the District. The Committee on Environment Policy and Management (CEPOM) has been devised to address issues which have environmental dimensions of development activities conducted by sectoral development Ministries.

The availability of funds directly for the implementation of NAP related activities is not sufficient. However, the agencies coming under NFP responsible for NAP implementation has partnerships with donor agencies through donor funded projects. These projects, as discussed in the text, provides financial and technical assistance to the relevant agencies. However, substantial investments have to be done, since the projects cater only to a limited number of years and institutionalization of the activities in to routine activities of the agencies is necessary. The main stakeholders comprise the government, NGOs / CBOs and private sector and community at large.

The NGOs associated with the UNDPs small grants programmes are actively engaged in land degradation control activities. Many other NGOs are engaged in similar activities. The private sector participation in environment and land degradation related ventures is fairly weak and limited to ad hoc environmental conservation projects.

The main actors engaged in mitigation of land degradation comprises Forest Department (FD), Department of Agriculture (DOA), Land Use Policy Planning Division (LUPPD), Mahaweli Environment of Forest Conservation Division (MEFCD), Tea Research Institute (TRI), Rubber Research Institute (RRI), Coast Conservation Department (CCD), Geological Survey & Mines Bureau (GSMB), Department of Meteorology, and NGOs. Every Agency has its own agenda and mandate and NFP has made attempts to bring them in to a single forum.

A landmark event took place with an exercise conducted by NFP to obtain assessment stocktake of the agencies and their degree of interventions and geographical distribution of interventions in land degradation and future projects / programmes proposed. The objective of the exercise was to take measures to fill the gapes and harmonize activities. A coordinated effort is required by all the agencies to meet the obligations of the Convention.

1.0 Basic Information

1.1 Focal Point Institution:

Name of focal point	Mr. J.R.W. Dissanayake, Secretary, Ministry of Environment
Address including e-mail address	No. 82, Rajamalwatta Road, Battaramulla, Sri Lanka E-mail: secoffice@menr.lk
Country-specific websites relating to desertification	There are no country specific web sites relating to desertification. However, web sites are available which provide information related to land degradation. eg: Department of Meteorology - www.meteo.slt.lk Department of Wildlife Conservation - www.dwlc.lk Geological Survey & Mines Buerau - www.gsmb.slt.lk

1.2 Status of NAP

Date of validation	14th October 2002
NAP review(s)	Nil
NAP has been integrated into the poverty reduction strategy (PRSP)	Yes
NAP has been integrated into the national development strategy	Yes
NAP implementation has started with or without the conclusions of partnership agreements	NAP implementation has started without partnership agreements. However, major agencies responsible for NAP implementation come under the umbrella of the Ministry of Environment. Therefore, there is a binding factor. These agencies that come under the purview of the focal point (Forest Dept., Dept. of Wildlife Conservation etc.,) have agency specific partnership agreements with donor countries that comply with matters related to land degradation.
Expected NAP validation	Not relevant
Final draft of a NAP exists	Not relevant
Formulation of a draft NAP is under way	Not relevant

Basic guidelines for a NAP have been established	Not relevant
Process has only been initiated	Not relevant
Process has not yet started	Not relevant

1.3 Member of SRAP/RAP

Name of Sub Regional and/or Regional Cooperation Framework		Involvement specifically in topics such as water harvesting techniques, soil erosion etc.
1.	South Asia Sub Regional Action Programme (SA - SRAP)	Establishment of early warning systems Integrated ecosystem management

1.4 Composition of the National Experts Committee (NEC) Appointed by the Ministry of Environment

	Name of institution	Government (√)	NGO (√)	Male (M)/ Female(F)
1.	Natural Resources Management Centre, Department of Agriculture	√		M
2.	National Physical Planning Department	√		M
3.	Field Crop Research Development Institute	√		M
4.	Land Use Policy Planning Division, Ministry of Lands	√		M
5.	Sugarcane Research Institute	√		M
6.	National Building Research Organization	√		M / F
7.	Department of Meteorology	√		M
8.	Department of Forest	√		M
9.	Department of Soil Science, University of Peradeniya	√		M
10	University of Ruhuna	√		M

1.5 Total Number of NGOs Accredited to the Process: -

<p>Has an NGO National Coordinating Committee on desertification been established; if yes, how many NGOs or civil society organizations participate in it?</p>	<p>Sri Lanka is not a desertification prone country. However the issue of land degradation has posed a severe threat to the national economy and the people.</p> <p>There is no established NGO National Coordinating Committee as such. However, there are NGOs registered with the Central Environmental Authority, which is the regulatory body for environment legislation in the country. Some of these NGOs are actively engaged in matters related to land degradation.</p>
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1.6 Total Number of Acts and Laws Passed Relating to the UNCCD - 13

Title of the Law		Date of Adoption
1.	The Forest Ordinance	1907
2.	Land Development Ordinance	1935
3.	The Fauna & Flora Protection Ordinance	1937
4.	State Lands Ordinance	1947
5.	Soil Conservation Act	1951
6.	The Water Resource Board Act	1964
7.	The Land Grants Act	1979
8.	The Agrarian Services Act	1979
9.	Mahaweli Authority of Sri Lanka Act	1979
10.	The National Heritage Wilderness Act	1988
11.	National Environment Act	1989
12.	Title Registration Act	1998
13.	Soil Conservation (Amendment) Act	2004

1.7 The Consultative Process

Number of partnership agreements that have been concluded and / or are being initiated within the framework of the UNCCD

	Official Title of Partnership	Donor(s), International Organization(s), and / or Agencies of the UN System Involved	Date of (expected) Conclusion
1	Project on rehabilitation, restoration and conservation of degraded agricultural lands in two selected mini watersheds within the Randenigala watershed in the Upper Mahaweli Catchment Area (the project is under technical review by the UNDP)	UNDP / GEF	The proposal is under technical review by UNDP and is expected to commence its activities by mid 2007
2	There are a number of other projects implemented through partnership agreements by the line agencies of the focal point which have a large sum of activities related to land degradation. eg: Upper Watershed Management Project (UWMP) spent a substantial amount of money on soil conservation measures	ADB/WB	ended in end 2005

List of Consultative Meetings on UNCCD Implementation

Name of Consultative Meeting		Date/Year	Donor Countries Involved	International Organizations or Agencies of the UN System Involved
1.	National Workshop on Combating Desertification & Promoting Synergistic Implementation of Inter - linked Multilateral Environmental Conventions in Sri Lanka	31st July - 2nd August 2003	UNCCD	UNDP
2.	National Workshop on UNCCD / NAP Implementation & Partnership building in Sri Lanka	8th - 9th July 2004	UNCCD	UNDP

Country which has taken over the role of *Chef de file*

1.8 Name up to 10 projects currently under implementation which are directly or indirectly related to the UNCCD

Name of Project	Project Implemented within the Framework of the NAP/SRAP/ RAP? (Yes/No)	Project Implemented within the Framework of National Environment Policy & Caring for the Environment 2003 - 2007	Time Frame	Partners Involved	Overall Budget (Amount in million US\$)
1.Upper Watershed Management Project	No	Yes	1998 - 2005	Ministry of Environment	10.9 million
2.Forestry Resources Management Project	No	Yes	2000-2008	Ministry of Environment	17.2 million

3. Land Titling Project	No		2001 - 2004	Ministry of Lands	3.9 million
4. Dry Zone Livelihood support & Partnership Programme	No		from 2004	Ministry of Agriculture	0.24 million
5. Emergency Supply of Agriculture Inputs in Drought Affected Districts of Puttalam, Kurunegala & Anuradhapura	No		2004 - 2005	Ministry of Agriculture	0.2 million
6. Mahaweli Restructuring & Rehabilitation	No		1998 - 2003	Mahaweli Authority of Sri Lanka	41.7 million
7. Water Resources Management Project	No		2000-2006	Ministry of Housing & Infrastructure Development	13.9 million
8. NCP Rural Development Project	No		1996 - 2004	Ministry of Planning	12.7 million
9. Walawe Left Bank Irrigation, Upgrading & Extension Project	No		1996 - 2005	Mahaweli Authority of Sri Lanka	9.4 million
10. Pro-poor Economic Advancement & Community Enhancement Project	No		2003 -2010	Ministry of Agriculture	6 million

2.0 Strategies and Priorities Established Within the Framework of Sustainable Development Plans and / or Policies

This chapter focuses on major sustainable development plans / government's policy statements which incorporate elements of National Action Programme (NAP) for combating land degradation, and especially refers to national plans and strategies available in social and economic areas.

2.1 Vision 2010 –Sri Lanka – National Planning Department, Ministry of Finance and Planning

Vision 2010, is a comprehensive development plan prepared by the National Planning Department, Ministry of Finance and Planning in 2001 covering the period 2001 to 2010. The "Vision" spelt out strategies to make Sri Lanka an economically advanced and prosperous nation, with a stable and internationally competitive economy and, combining growth with equity. Specific strategies have been formulated for the different sectors such as agriculture, industry, tourism, economic infrastructure, poverty and unemployment and human resource development etc. to attain the objectives of the Vision 2010.

In relation to combating land degradation, Vision 2010 has given policy directions and strategies for promoting sustainable land use in Sri Lanka. The major policy directions and strategies include the adoption of the National Land Use Policy; relaxation of laws and regulations pertaining to land; expediting the title registration programme to develop more effective tenure system and the allocation of land in such a way as to optimize usage whilst maintaining an environmental balance for sustainable development.

The major proposals made by the Vision 2010, could be summarized as follows;

1. Finalize and adopt a land use policy as a pre-requisite to ensure that future land use activities will not increase the pressure on degraded lands.
2. Allocate land in such a way as to optimize usage, whilst maintaining the environmental balance for sustainable development.
3. Improve and strengthen institutional skills to effectively and efficiently plan and manage land resources.

2.2 1994 -Policy Statement of the People’s Alliance Government

The following proposals, among others, were made by the People's Alliance Political Party in their political Manifesto in 1994.

1. Since land is a limited resource, a proper land policy will be worked out to ensure proper use of land in meeting the needs of the rising population and national development needs.
2. A National Conservation Programme will be designed to protect the forest and fertile lands.

2.3 1995 – Policy Statement, of the Government of Sri Lanka on the Occasion of the Opening of Parliament

In the occasion of opening of Parliament, the government in 1995 made following statements.

1. Farmers will be encouraged to adopt a coordinated approach to land use on small farms, based on micro – catchments and integrate all activities in the farm into a single development work plan. The adoption of appropriate land and water management measures will be promoted as an integral part of the crop – stock production process.
2. A coordinated plan to develop the conjunctive use of surface, ground and run – off water will be implemented with due regard to environmental considerations.
3. Environmental guidelines will be developed and enforced through a combination of regulations and market incentives to ensure that land, water, forestry and fisheries resource are utilized in a sustainable manner.

2.4 2002 - Connecting to Growth: Sri Lanka’s Poverty Reduction Strategy

Sri Lanka’s Poverty Reduction Strategy (PRS) which was developed by the National Planning Department, Ministry of Finance and Planning in 2002 identified actions to be implemented to reduce poverty in Sri Lanka. The document presents *inter alia* 1.) A profile of poverty in

Sri Lanka and identifies the factors that cause and contribute to continuing poverty, 2). Strategy for macro economic and structural reforms aimed at achieving high and stable rates of economic growth 3). Strategies to develop human resources ensuring that suitable social services are available to the poor. The PRS also identified determinants of poverty such as slow growth in agriculture, lack of clear land tenure and environmental degradation that are closely related and collectively contribute to land degradation in the country. The major constraints identified in the document include the lack of clear private property rights in land, problems associated with laws and legislation on land management and the lack of resources and institutional capacity in implementing strategies to safeguard the environment. The strategic approach given in the PRS to reduce poverty especially in the rural areas is expected to reduce land degradation and include the following;

1. Shift of rural population from low productive primary product production into higher-productivity industrial and services sector.
2. To reverse the relentless fragmentation of agricultural lands into ever smaller plots, one option is to equip the rural population with the skills and ability to migrate to urban areas, where higher – productivity employment opportunities are more abundant. Government will promote rural- to –urban migration that does indeed reduce poverty by enhancing the quality of rural education and vocational training and by improving the quality of labor market information services.
3. Agriculture alone will not be sufficient to raise incomes in the rural areas. There is compelling evidence that those rural families that derive the greatest share of their income from off- farm income are able to work their way out of poverty the fastest.
4. Access to electricity is necessary for practically any off- farm activity. Without access to electricity, rural areas cannot host the industries and other off- farm income-generating activities that are essential to a pro-poor process structural change. By 2005, the Government aims to bring electrification to some 80 percent of the nation’s villages.
5. A range of alternative energy sources (solar, wind, mini hydro) will also be developed through community-based organizations and the private sector to expand rural electricity access, particularly in the more remote, dry zone regions.

6. The new social forestry policy aims to involve poor communities directly in the decision marketing process to safeguard protected forests and to provide these communities with funding to replant degraded forest areas, manage buffer zones, and develop timber farms while simultaneously adopting conservation- oriented farming practices (using strong dams, gully controlled measures and terracing).

2.5 2002 -Regaining Sri Lanka: Vision and Strategy for Accelerated Development, Government of Sri Lanka

Following Proposals were made by the United National Party (the present opposition party) in their Political Manifesto, in 2002;

1. Environmental degradation is becoming a serious issue. In the rural areas, key issues include deforestation and soil erosion, encroachment of agriculture into protected areas with adverse effects on bio-diversity, water pollution, coastal erosion, the mining of riverbeds and the use of wood as the main cooking fuel.
2. Insecure land use and usufruct rights and uncontrolled access to natural resources are two of the major causes of resource degradation. Socially disadvantaged groups tend to move to areas where they can access land or marine resources, adding pressure to a fragile resource base.
3. To provide more poor families with secure title to land, Government will reduce state control over land and will continue to provide for freehold ownership of alienated state lands by issuing Jayabhoomi grants to both men and women. Government will remove restrictions on farmland and remove restrictions on the sale, lease transfer, subdivision and mortgage of state lands in rural areas.
4. An integrated data management system for all of the agencies dealing with land will be created in order to make information on land tenure, land use and land capability transparent and accessible.

2.6 2004 - RATA PERATA - Five Fold Vision for the Future of Our Motherland. Manifesto of the United Parties' Freedom Alliance (UPFA)

Proposals made by the UPFA include the following proposals;

1. Rapid re-forestation of all gradient precipices mountain crest and essential land, including specially watershed areas will be undertaken immediately and legal steps will be taken to make them government reserves.
2. In every province, district and within the jurisdiction of every local authority, environmental committees will be established, comprising relevant state officials, representatives of environmental societies, and conservationists. Such committees will be given powers necessary to deal with environmental issues. Taking the theme “the sustenance of the communal life and development of this country depends on the conservation of environmental resources for long time use”, as the basic policy, conservation of environment and natural resources will be done. All public and private development projects will be implemented only after approval by the monitoring committee of this Ministry.
3. Steps will be taken to mould professional conservationists through inclusion of environment as a school subject and organizing degree and Diploma courses at the University level.
4. Provide opportunities to obtain professional qualifications to those engaged in various jobs in the field of environment, enabling them to rise up to the higher position in this field. A permanent unit of education will be set up in the Ministry, for the purpose of planning all these activities, coordination and implementation.
5. A national policy and plan, according to the national requirements, for the conservation and management of the natural resources and environment of the country will be formulated and implemented by the National Policy and Planning Council, with the collaboration of all parties concerned.

After selecting lands that need protection in view of their environmental importance under the National Policy and Planning on Land Use, such lands will be declared as reserves in fulfillment of relevant environment process within that area.

2.7 2005 -MAHINDA CHINTHANATowards a New Sri Lanka. Manifesto of President Mahinda Rajapaksha

Mahinda Chinthana which is the Government's manifesto, presents a development plan and strategies to make Sri Lanka an economically and socially prosperous country. The manifesto has given high priority to the development of the agricultural sector and the conservation and protection of the environment. The manifesto has also incorporated some of the issues identified in the UNCCD in combating land degradation in the country. It recognizes the need for an agricultural policy for the entire country that will lead to increase productivity in the agriculture sector. It also identifies the necessity of having a land use policy for the country. Mahinda Chinthana committed urgently to develop the needed policies and programmes to enhance the productivity and the economy of the country. Key elements of Mahinda Chinthana which carry elements of land degradation could be seen in the context of environmental conservation.

1. Steps will be taken to initiate a project named "Wana Piyasa" (Forest cover) in watershed up land areas in villages.
2. The "Harith Piyasa" (green cover) programme will be implemented to reforest the hill-country, slopes and protected watershed areas with species endemic to Sri Lanka.
3. Environmental development programmes will be implemented to protect the soil and bio diversity in the North and East Region.
4. Special environmental conservation projects will be commenced in Nuwara Eliya District.
5. A "Thuru Piyasa" (Tree Shelter) programme will be launched for conservation of water and prevention of soil erosion in the Uva Wellassa region.

2.8 Millennium Development Goals (MDGS) by 2015

Taking into consideration the importance given by the world community for MDGs, the government established a Millennium Development Secretariat within the Office of the President. H E the President of Sri Lanka, signed the UN Millennium Declaration together with 190 heads of states in September 2000. Starting in 2006, would be the 'decade for

development and achievement of MDGS' for Sri Lanka. Goal 07 of the MDGs for Sri Lanka sets 'ensure environmental sustainability' in which target 09 commits to "Integrate the principles of sustainable development into country policies and programmes and reverse the loss of environmental resources". The key indicators will be; (1) Proportion of land area covered by forests (2) Ratio of area protected to maintain biological diversity to surface area (3) Energy use (kg or equivalent) per \$ 1 GDP (4) Carbon Dioxide emission (per capita) consumption of ozone depleting substances and CFCs (ODP tons) (5) Proportion of population using solid fuels.

Goal 08 sets target for poverty be reduced by halve by 2015.

It is noteworthy that, major sustainable development plans and vision and policy statements identify environmental conservation, especially land resource as a major area of concern. Land resource has been identified as a vital resource to be preserved due to strong linkage that exists between poverty and land degradation.

3.0 Institutional Measures Taken to Implement the Convention, Including Legislative and Institutional Framework or Arrangements, Linkages and Synergies with Other Environmental Conventions and as Appropriate with National Development Strategies

3.1 NAPs as Part of the National Environment Protection Plans

This chapter highlights on the measures that are in existence to implement the Convention, basically the institutional frameworks, linkages and legislative arrangements. However, no specific policies or strategies have been formulated and carry the logo of NAP. Instead, the government has been deeply interested in addressing land degradation issues and this is evident from the proposals made to combat land degradation in the different national level and ministerial level environment related documents that have been put out within the recent past. These include, Environmental Action Plans, National Reports and Environmental Management Plans. These documents are presented in chronological order and the major proposals in each document pertaining to the combating of land degradation are summarized.

3.1.1 Caring for the Environment – 2003 – 2007

"Caring for the Environment" is an Environment Action Plan prepared by the Ministry of Environment and Natural Resources for the period 2003 – 2007. When undertaking development activities, the responsibility for taking action to safeguard the environment rests primarily with the line Ministries. The Ministries have their own development strategies and action plans, all of which have certain environmental dimensions. These environmental dimensions cannot be ignored; they have to be addressed through appropriate strategies and actions, which subsequently should be incorporated into the development programmes. The document reviews the adverse environmental impacts of development activities in the different sectors and develops strategies for counteracting these impacts. It is expected that these strategies will be adopted, as appropriate, by the different ministries, departments and statutory bodies.

It also sets out the environment- related action programmes (in the different sectors) for the period 2003 – 2007, for implementing the National Environmental Policy. The strategies set out in Chapter 5 of the document are expected to be implemented through the actions listed in Chapter 6. Both, the strategies and actions (in draft form) were derived through a careful study of the development programmes in the different sectors and close consultations with experts and high officials in the respective departments and corporations.

Major proposals found in Caring for the Environment document are as follows;

1. Review Sri Lanka's protected area network to identify gaps and ensure that the protected areas adequately represent the country's species, genetic and ecosystem diversity, and protect critical watersheds, while also recognizing the need to set up corridors between protected areas, and take action accordingly.
2. Promote conservation through education, communication and public awareness activities, focusing on schools, government officers, and the general public particularly in rural areas, through lectures, videos, posters, educational visits, building partnerships, etc.
3. Promote the rehabilitation of degraded areas through reforestation, involving local communities and the private sector.

4. Review, and revise where necessary, the Soil Conservation Act and the regulations made under the Act, and frame additional regulations if necessary to remove bottlenecks and improve implementation effectiveness.
5. Review existing institutional arrangements to combat soil erosion, sedimentation, land degradation and propose improved/new institutional arrangements and capacity building programmes.
6. Set up and activate Soil Conservation/Watershed Management units at provincial level for adopting soil conservation measures in all appropriate situations.
7. Formulate and implement a Watershed Management Policy.
8. Continue identification and gazetting of erodible areas (conservation areas).
9. Continue programme of identifying land users violating the Soil Conservation Act, and holding education and awareness creation programmes on soil conservation.
10. Promote soil conservation measures on village farm roads and foot-paths.
11. Adopt soil conservation measures at construction sites and roads, telecommunication, electricity, and other development projects.
12. Provide training and technical advice on the adoption of soil conservation measures to the technical staff of the Department of Agriculture (DOA) and other organizations.
13. Take legal action against those who continue to violate the provisions of the Soil Conservation Act.
14. Train technical staff of the Agriculture Department and the Land Use Policy Planning Division (LUPPD) and other relevant departments on land use planning.
15. Rehabilitate marginal and abandoned tea lands that are subjected to soil erosion.
16. Ensure sustainable management of tree resources in plantation estates.

17. Prepare GIS mapping database on land in relation to erodibility, proneness to landslides and other natural hazards, important geographical features, and landscape types.

3.1.2 Coastal Zone Management Plan – 1997 (Revised 2002)

A landmark event in coast conservation planning was the preparation of the first national Coastal Zone Management Plan (CZMP) in 1990, which addresses the problems of coastal erosion and the degradation and loss of critical habitats and sites of historic, cultural, scenic or recreational value within the coastal zone. A deficiency in the first CZMP was its failure to recognize the importance of a participatory role for local stakeholders in the management of coastal resources. The "Coastal 2000: Recommendations for a Resource Management Strategy for Sri Lanka's Coastal Region", produced in 1992 and endorsed by the Government in 1994, addressed coastal zone management more holistically by taking into account the social and economic factors in identifying measures to manage and conserve coastal resources (including lands) for sustainable use. The updated CZMP of 1997 addresses the issue of coastal erosion, conservation of coastal habitats and the control of coastal pollution among other issues. CZMP of 1997 recommends the formulation and implementation of Special Area Management (SAM) Plans for 21 selected coastal areas. In terms of coastal erosion, the Coast Conservation Department has identified the need for long-term and short-term measures to address this issue.

3.1.3 Biodiversity Action Plan – 1998

Habitat destruction poses a serious threat to the country's biological resources including its endemic plant and animal species. The overall national goal of biodiversity conservation therefore, is to conserve the biological diversity of Sri Lanka while fostering its sustainable use for the benefit for the present and future generations. The Biodiversity Action Plan is designed to achieve this goal.

The plan outlines the principles, goals and broad objectives of biodiversity conservation and submits proposals for action in the major eco-systems i.e. forests, wetland, coastal & marine systems and agricultural systems. One of the most vulnerable ecosystems is the forest ecosystem and hence an important objective of the plan is to ensure that threatened forest ecosystems and species are given adequate protection. The plan has therefore recommended that effective action be taken, to stop further encroachments on the wet zone forests; to

prevent the use of high-forest areas and fragile ecosystems for chena cultivation and to expand programs for afforestation, re-forestation and forest rehabilitation.

In order to get wider stakeholder participation to protect biological resources of the country, regional biodiversity action plans are being prepared. This involves wider participation of CBOs, NGOs, Farmer Organizations (FOs) and community organizations.

Since the Ministry of Environment is the focal point for three Rio Conventions CBD, UNFCCC and UNCCD, there is huge potential for synergistic implementation. Working relationships with other Ministries exists through the mechanism called CEPOM (Committee on Environmental Planning and Monitoring).

3.1.4 2002 - Sri Lanka's Middle Path to Sustainable Development in the 21st Century, "National Report of Sri Lanka" to the World Summit on Sustainable Development (WSSD)

Following proposals were made to the WSSD.

1. Since state structures become smaller and more policy oriented, their mandate for environmental conservation and natural resource management will grow in importance. The approach used for this is the privatization of public sector activities keeping regulatory functions to the government. Inter-agency co-ordination is essential in environmental management since it involves a large number of government institutions.
2. Community based institutions and non-government organizations have been recognized as key players of collaborative resource and environment management. The government must provide legal support for co-management of resources, for example, granting legal recognition to community participation. Non-government organizations (NGOs) should receive greater support and recognition from the government for environmental conservation.
3. The private sector is recognized as the largest employer and engine of economic growth. Private sector institutions therefore have a critical role in the pursuit of sustainable development. Environmental concerns must be institutionalized within the

trade as well as industrialized associations representing large, small and medium enterprise.

4. A large number of environment related policy documents are available. However, their effective implementation will occur only if the agencies involved take ownership.
5. Environmental legislations are often scattered in many overlapping statutes, which need to be simplified and codified. Regulations should be clear and consistent and uniformly enforced with effective dispute resolution mechanisms. Environmental standards should be developed after full consultation with those affected, be set at levels appropriate for the context and most importantly be enforceable. A scheme of rewards should be established for providing information and other assistance in detecting and preventing environmental offences. Economic incentives can be used to complement the traditional regulatory approach.
6. Among the large number of factors responsible for land degradation, non-existence of an accepted Land Use Policy and appropriate legislation have been identified as key issues in the sector. A draft National Land Use Policy was prepared in the mid 1990s by the Land Use Policy Planning Division in response to a policy directive from the then Ministry of Agriculture and Lands. The policy has not been finalized as yet and this delay has been one of the major reasons for persistence of poor land resource management in the country. Necessary steps are being taken at present by the Ministry of Lands to finalize the policy shortly. The National Land Use Policy will provide the necessary framework and guidelines for land use to meet the various ecological, social and economic needs of the country.
7. Once the national policy is finalized, appropriate strategies and legislation required should be formulated in order to achieve the objectives of the policy.
8. Adopt conservation measures (e.g. tree planting) in the catchments of major reservoirs, with special attention to the upper watersheds and move out encroachers from ecologically sensitive areas of the catchments.
9. Survey encroachments on state land, where necessary, and take action to eject encroachers from environmentally sensitive land and to rehabilitate such land to serve a conservation function.

It is evident that the issue of land degradation is incorporated in the overall sustainable development plans as given in para 2.0. The land degradation has been addressed *more comprehensively* and has been incorporated in to Environmental Action Plans as discussed above. They suggest strategies and actions whereas the sustainable development plans sets the broader framework.

3.2 Linkages Achieved with Sub Regional and Regional Action Programmes (SRAPs & RAPs)

The South Asia Sub Regional Action Programme (SA - SRAP) was completed by July 2004 with the participation of seven country parties at a workshop held in Colombo, Sri Lanka. The seven country parties included Afghanistan, Bangladesh, Bhutan, Nepal, Pakistan, India & Sri Lanka. The overall objectives of SA-SRAP was to promote sustainable land and ecosystem management in the sub region including the effective development and implementation of early warning systems for land degradation and drought and replicating successful practices and techniques in a participatory manner.

The SA-SRAP has to be implemented in a way that will be mutually supportive to the NAP implementation processes in respective countries of South Asia as well as Asia Region Action Programme to combat desertification and mitigate drought impacts which comprises six TPNs.

Two major programme areas have been identified under SRAP along with three cross cutting areas. The major programme areas comprise (1). Early warning systems for land degradation and droughts and, (2). Integrated ecosystem management.

In this context, it is worth to note that the NAPs in respective countries are complementary with the SA-SRAP and identifies common areas for action.

With reference to the linkages achieved with SA - SRAP, it is worth mentioning that the Department of Forests which comes under the purview of the NFP has been actively involved with TPN in India, specifically in the development and review of the forestry manual. However, the linkage is limited to a few identified actions. The relationship with other TPNs is fairly weak, due to weak communication, lack of funds for continued meetings, constant change of officers and many other reasons including capacity issues. (A separate study is

being done by the NFP to identify capacity issues that hinders implementation of the three Rio Conventions under the National Capacity Self Assessment Project, NCSA).

However, the national scientific network of experts and agencies maintain clear relationships with NFP. The key agencies who implement programmes that have direct links to land degradation have been brought under a common umbrella by the Ministry of Environment/NFP. An important milestone in bringing all the agencies to a single forum started with an important workshop held in 2005 to make an assessment stock take of activities of the agencies done in relation to land degradation. This effort can be considered as a sub set of the government's vision document towards environmental conservation and development which appears in "Caring for the Environment 2003 - 2007; Path to Sustainable Development". This document divides the major environmental sectors in to six main groups and identifies the responsibilities of the agencies which have environmental dimensions. It had been suggested to implement the programmes of action through a mechanisms called CEPOM (Committee on Environmental Planning and Monitoring) which ensures active participation of stakeholder agencies.

The National Action Programme (NAP), has been formulated to address the issue of land degradation within the country. It hardly contains elements of regional or sub regional character. However, in preparing the SA-SRAP, emphasis was paid to see that it complements with NAPs of representative countries. The relevant scientific networks especially at regional level have been limited to identified functions.

In this context, the linkage of NFP with other countries in the region has been limited to ad hoc number of activities. Therefore, a series of activities identified under the SRAP have to be implemented with mutual cooperation among countries in a coherent manner. Since their is weak relationship with the national actors and regional networks, it is timely to take actions to strengthen these relationships.

The government has officially adopted the NAP and a fair amount of money has been provided for NAP related activities, specially for tree planting programmes. However, a colossal sum of money has to be spent to arrest land degradation in the country.

3.2.1 Status of NAP Implementation

With its adoption in 2002, a series of activities have been implemented to meet the obligations of the Convention. It should be noted that Sri Lanka had implemented larger projects prior even to adoption of NAP, which contain aspects of NAP.

The land degradation in Sri Lanka is mainly caused by soil erosion, soil nutrient depletion, deforestation, coastal land erosion, salinization and water logging, occurrence of land slides and Dry Zone degradation due to salinity and encroachments.

As per the details given in the previous chapters, NAP components and elements are embedded in many donor funded projects in Sri Lanka. In addition the government agencies such as Department of Agriculture, Department of Export Agriculture, Tea Research Institute, Rubber Research Institute implement regular programmes through general treasury budgets.

Soil erosion is known to be the major cause for land degradation, especially in the central hill country (Annex III).

Following steps have been taken to arrest soil erosion in the hill country. (a). promotion of soil conservation measures among farmers. This is done basically through projects funded by donors (b). establish and maintenance of buffer zones in conservation areas (c). promotion of land use maps (d). promotion of environmental friendly land use practices (e). conducting of training and awareness programmes (f).implementation of the provisions of the Soil Conservation Act (g). demarcation of forest boundaries.

A medium sized project proposal on "Rehabilitation and Conservation of Two Watersheds in the Randenigala Catchment Area" has been developed by the NFP/ Ministry of Environment, to arrest land degradation in one part of the hill country. This has been forwarded to the Abudhabi Donor Conference and now it is under the technical review by the UNDP. This proposal focuses restoration of degraded lands and addresses socio - economic issues associated with it.

Another proposal to arrest land degradation in the Dry Zone of the country is under discussion by the Expert Committee.

The occurrence of landslides is another phenomena in Sri Lanka which is a type of land degradation. The available data goes as far back as 1869. The major disasters due to land slides amounts to more than 200 and more than 125000ha in the country is vulnerable to landslides as per the data available with National Building Research Organization (NBRO) in Sri Lanka.

The NBRO has taken action to map the land slide prone areas in the country. The government has been taking action to re-settle people in those areas. Disaster Management Plans have been prepared by NBRO. Further, the Government of Sri Lanka has taken measures to establish a Disaster Management Centre after the Tsunami Catastrophe. This has been established by the Disaster Management Act, 2005.

3.3 Institutional Framework for Coherent and Functional Desertification

Control

3.3.1 National Expert Committee on Combating Land Degradation and Mitigation of Drought

The Ministry of Environment as the national focal point reactivated the National Experts Committee on Combating Land Degradation and Mitigation of Drought in 2003 by appointing new members to the committee. The Committee meets regularly and discusses the issues related to the land degradation in the country. The Committee has no authority to implement activities in combating land degradation but advises the Ministry on the formulation and implementation of such activities. A fully authorized National Coordinating Body (NCB) that addresses land degradation issues in the country does not exist at present. Instead, the Ministry of Environment as the national focal point plays a role as a coordinating body to plan and implement activities to safeguard the environment including those connected to combating of land degradation. While implementing regulations for environmental safeguards, workshops, seminars, awareness programmes for different stakeholder groups are conducted regularly by the Ministry of Environment. The Ministry has also recognized the importance of participation of all stakeholders in combating land degradation in the country. The Ministry and the agencies coming under the Ministry have legislative powers vested from acts and ordinances. With the legislative powers vested with the Ministry, action is being taken to implement policies and activities, through circulars and regulations published through government gazettes. However, Soil Conservation Act is implemented by Ministry of Agriculture.

3.3.2. Secretaries Committee

As mentioned earlier, there is no National Coordinating Body (NCB) to centrally coordinate the activities related to land degradation issues in the country. However, the Secretaries of the Ministries forum, forms the highest administrative platform of the country. This forum is used to implement important development decisions taken by the respective Ministries. Any important decisions taken in relation to land degradation also could be disseminated and implemented through Secretaries Committee.

3.3.3 District Coordinating Committees

There are two committees addressing environmental issues at the district level i.e the District Environmental Committee and the District Land Use Committee. These Committees deal with matters pertaining to the environment and lands in the district. Under the direction of District Secretary (the administrative head of district), the Committees plan and implement activities to prevent land degradation and safeguard the environment including the conservation of soil and water resources. These Committees are able to make decisions within the respective districts.

3.3.4 Committees on Environment Policy and Management (CEPOM)

The Committees on Environment Policy and Management (CEPOMs) is a co-ordination mechanism aimed at integrating environment concerns into the development agenda at national level. Since its inception in 1999, it has established strong awareness on the need to consider environmental aspects in the development programmes of the agencies concerned. One of the CEPOMs deal with the subject of land and minerals. Taking into account the current issues and needs in the environmental sector, certain changes to the composition of the CEPOMs have now being made, so that adequate attention can be given to the environmental concerns in the related development activities of the sectoral agencies. Accordingly, the land CEPOM now covers agriculture, lands, mining and plantations. This can be viewed as a positive move in dealing with the complex issues of land degradation in the country. The arrangement will provide a basis to deal with the issue of land degradation as a whole, as most of the related areas of concern come under one Committee. The other CEPOMs cover; forestry and wildlife conservation; fisheries, coast and marine environment management; industry and tourism; energy and tourism; and health, sanitation and urban development. The

Secretaries in charge of the subject area concerned and the Secretary in charge of environment jointly chair the Committee. The CEPOMs can be considered as an effective forum in which matters of environmental concern pertaining to the sector can be discussed and policy decisions taken in consensus with all those concerned.

3.4 Coherent and Functional Legal and Regulatory Framework

3.4.1 Legislations Enacted to Address Land Degradation Issues in Sri Lanka

The government has adopted two strategies to address land degradation issues. One is to introduce legislation such as the Soil Conservation Act specifically intended to prevent or mitigate soil erosion/land degradation. The other is to incorporate environmental safeguards in legislative enactments pertaining to land and water resources development in Sri Lanka. Legislations with environmental safeguards pertaining to land and water resources development are Land Development Ordinance-1935, State Land Ordinance-1947, The Land Grants (Special Provisions) Act –1979, The Water Resources Board Act –1964, The Agrarian Services Act –1979, Mahaweli Authority of Sri Lanka Act –1979, National Environment Act-1989, Title Registration Act-1998, The Forest Ordinance - 1907(and Amendments), The Fauna and Flora Protection Ordinance of 1937 and subsequent Amendments, The National Heritage Wilderness Act –1988, and Sri Lanka Disaster Management Act - 2005. Since the Soil Conservation Act – 1951 and its Amendment – 1966, and the legislations incorporating environmental safeguards have been presented in the first and second national reports on the combating of land degradation in Sri Lanka, only the provisions of the Soil Conservation Act – 2004 (submitted to the Cabinet) and the Sri Lanka Disaster Management Act – 2005 are given below.

3.4.1.1 Soil Conservation Act – 2004 (Submitted to the Cabinet)

The Soil Conservation Act of 1951 was amended in 1996 to widen its scope to incorporate land degradation issue not limiting to soil erosion. In the Act the term "**soil erosion**" was replaced by "**land degradation**" and "**erodible area**" by "**conservation areas**". The Soil Conservation Act 2004 (latest version) submitted to the Cabinet repeals the act of 1951 and makes provision for the enhancement and sustenance of the productive capacity of the land through the conservation of soil; restoration of land degraded by soil erosion; protection and /or restoration of land against damage caused by salinity, alkalinity, water logging and fire; It should be noted that the new Act is effective over the entire country. Establishment of a Soil

Conservation Board comprising senior govt. officials, representatives from non governmental organizations engaged in activities related to soil conservation and land use and persons with special knowledge on subjects pertaining to the environment and the establishment of a Soil Conservation Fund are two important provisions in the new Act.

Functions of the proposed Soil Conservation Board under the Soil Conservation Act 2004 are;

1. to propose measures and to coordinate activities, research and programmes relating to the enhancement and the sustenance of productive capacity of soil, restoration of productive capacity of neglected degraded lands due to improper soil conservation, the protection of land vulnerable to degradation, and conservation of water and watersheds which are necessary for the conservation of soil and maintenance of land productivity.
2. to prevent soil erosion resulting from non-agricultural activities that lead to siltation or degradation of agricultural lands, siltation of water bodies and irrigation systems,
3. to administer and manage the Soil conservation Fund established under the Act and
4. to make recommendations to the Minister on the implementation of the provisions of the Act.

Under this Act, the Minister may make regulations to combat land degradation in all conservation sensitive areas or any specified conservation sensitive area.

In addition to the Soil Conservation Act Environmental safeguards pertaining to the soil and water resources development have been incorporated in several legislations introduced from time to time by the Government.

3.4.1.2 Sri Lanka Disaster Management Act 2005

Sri Lanka disaster Management Act makes provisions to establish the National Council for Disaster Management, the Disaster Management Center and for the appointment of a Technical Advisory Committees to prepare disaster management plans. The Act also provides for the declaration of a state of disaster and the award of compensation. The disaster management council has been established and is chaired by His Excellency the President of Sri Lanka. The main functions of the council are; 1).to formulate a national policy and

program on the management of natural and man induced disasters. 2). to formulate, implement and monitor the national disaster management plans and national emergency operation plans prepared based on the national policy on disaster management.

Even though the Act does not address directly the combating of land degradation, it nevertheless identifies disasters such as land slides, floods, droughts, urban and forest fires, earth quakes, tsunamis and coastal erosion which are related and contribute significantly to land degradation in Sri Lanka. The Act therefore incorporates some environmental safeguards pertaining to the land and water resources development.

The mission of the National Disaster Management Center (NDMC) established under the Act is to protect human life, property and the environment from natural disaster through awareness, prevention, preparedness, mitigation and coordination. By focusing on the protection of the environment NDMC covers various aspects of land degradation. The main activities carried out by NDMC include the planning/ implementing/monitoring of disaster management awareness and education programmes and, disaster mitigation programmes; research and development; legislation; preparing a national disaster mitigation plan and, establishing a data bank on disasters. NDMC has already planned to implement a number of activities, such as inter the setting up of Disaster Resource Centers at the district level; implementation of disaster mitigation programmes such as construction of rain water harvesting systems in drought prone areas; and setting up of disaster management coordinating committees at the divisional secretariat level as part of the Mahinda Chinthana programme.

3.4.1.3 Coast Conservation Act – 1981 and its Amendment – 1988

Coast Conservation Act – 1981 and its Amendment – 1988 make provisions for a survey of the coastal zone and the preparation of a coastal zone management plan, mainly to regulate and control development activities in the coastal zone, to make provision for the formulation and execution of schemes of work for coast conservation within the coastal zone and to make necessary amendments to the written laws. One of the main tasks identified in the Act is to prepare a report based on the survey of the coastal zone which includes *inter alia* sea erosion of the coast, and the assessment of land lost due to sea erosion. The Act gives due attention to the degradation of the coast due to sea erosion and human activities, and the land lost due to sea erosion etc. Coastal zone management plans were prepared based on the survey on coastal resources to conserve the coastal zone.

4.0 Participatory Process in Support of Preparation & Implementation of Action Programmes, Particularly Processes Involving Civil Society, NGOs & CBOs

4.1 Effective Participation of Actors in Defining National Priorities

The Ministry of Environment who is the principal stakeholder and the focal point for the implementation of UNCCD in Sri Lanka has identified several different groups that need to be encouraged to participate in environmental management. They include (a) users of natural resources such as land, forests, marine resources, sand and minerals, and water; (b) groups affected by environmental degradation such as the poor, relocates from sensitive lands and refugees of ecological disasters such as land slides, severe drought, etc.; (c) sections of civil society that are affected by particular forms of environmental degradation; and, importantly, (d) “controllers” who share responsibilities in managing different natural resources.

Most of the policy making and planning pertaining to land management is done by those in group D i.e. the “controllers”. The involvement of local communities in policy making and planning activities both as beneficiaries and stakeholders is minimal. On the other hand over the years, they have become increasingly involved in implementation activities, the opportunities for participation being provided by foreign funded projects. In some instances communities have also been provided the opportunity to get involved in project design under the guidance of government officials.

A good illustration of community participation in implementation activities was the Upper Watershed Management Project (1998-2005), funded by the Asian Development Bank. The project was designed to (a) promote conservation oriented farming systems by supporting through a participatory process appropriate vegetative and mechanical erosion control measures on lands given over to the cultivation of vegetables and upland agricultural crops and (b) the participatory rehabilitation and protection of forests by supporting the establishment of forest buffer zones, development of small timber farms and the establishment of multi-purpose home gardens. These activities were undertaken in the sub- watersheds of four major rivers in the country i.e Uma Oya (fairly large stream), Walawe Ganga (river), Kirindi Oya and Kalu Ganga which were severely damaged and needed rehabilitation. The beneficiaries included 270,000 persons distributed amongst 61,000 households. The project

was highly successful in obtaining community participation for sustainable land management, farmer training in soil enrichment and conservation and awareness creation.

The Land degradation that is taking place in the country, particularly in the hilly areas clearly indicates that the decisions taken by many of the land users have had adverse impacts on the land resources. Their attitudes and actions therefore will have to be changed if the sustainable management of land resources is to be promoted.

Encouraging farmers, particularly small holders to manage their land sustainably is not an easy task. This is because farmers will take steps to improve the productivity of the soil, build conservation structures etc only if he or she is confident of receiving future benefits either through enhanced yields or an increase in the value of land. Farmers should therefore be made aware of the benefits of conservation and trained to accept improved technical and management potions before they can be motivated to make the “transition” to sustainable land management.

A participatory approach has been adopted by several government agencies to create an awareness amongst farmers of the benefits of conservation and to train them in sustainable land management. This is being done both at the regional and local levels. The agencies include the Hadabima Authority, the Mahaweli Authority, the Department of Agriculture and Forest Conservation, the Tea and Rubber Research Institutes and the Land Use Policy Planning Division.

Awareness creation has not been limited to the land users. Steps have also been taken to enhance the perception of school children, the public and professionals on the need for conserving the environment and obtaining their active co-operation in caring for the environment. Environmental education has been incorporated in the primary and secondary school curricula since the 1970s. Environmental Brigades have been set up in schools and they are made aware of environmental problems, provided with poortunities to carry out environmental projects and made to participate in competitions aimed at increasing their knowledge on environmental aspects. Over the years, through the efforts of several government institutions and non-government organizations, teacher-training programmes were conducted and teaching material produced. Several state organizations have also conducted a variety of non-formal environmental educational programmes for school children and the public. Environmental science has also been introduced into the courses of several of the universities.

NGO's and CBO's have also been playing a role in encouraging the involvement of local communities as partners in the management of land resources. It has been observed that being close to the community they have a distinct advantage over government agencies in identifying community interests and needs. They are considered to have a considerable potential for supporting environmental conservation activities not only because they have a better understanding of local problems and opportunities but also because they are in a position to respond more quickly to environmental problems than government organizations, because of their location locally. Since Non-government organizations and Community based institutions have been recognized as key players of collaborative resource and environment management, they must be provided legal support for co-management of resources, for example by granting legal recognition to community participation. Non-government organizations (NGOs) should also receive greater support and recognition from the government for environmental conservation.

Although participatory approaches to the management of land resources have become popular in recent years, nevertheless the need to strengthen the process has been stressed. The Ministry of Environment and Natural Resources has emphasized the need to pay increased attention to the involvement of local communities both as beneficiaries and stakeholders and as partners in the management of natural resources. The Ministry has also pointed out that participation of several of the stakeholder groups in the management of natural resources goes a long way in minimizing environmental conflict. The benefits that could be achieved through such participation are (a) diverse public opinions are considered and duly recognized; (b) the beneficiaries, who are also the dependants on natural resources, will be more accountable if they are given the opportunity of deriving some benefits from the resource; (c) suspicion due to lack of transparency (in purely top-down management) could be avoided; and (d) the co-operation of the stakeholders could be obtained.

5.0 Consultative Process in Support of the Preparation and Implementation of National Action Programmes and Partnership Agreements with Developed Country Parties and Other Interested Entities, Particularly Mobilization and Coordination of Both Domestic and International Resources.

5.1 Effective Support from International Partners for Cooperation

Sri Lanka adopted UNCCD in 2002 and the international partners have involved in the NAP preparation process and initiation and finalization of the SA-SRAP. UNCCD has provided guidance and financial support in preparing the NAP. The NFP has mobilized local resources in finalizing and the among many other measures, the Ministry has taken action to appoint an Expert Committee to advise the Ministry on land degradation issues fulfilling a Convention requirement.

In the preparation of SA-SRAP, UNCCD has provided guidance and financial support. The seven country Parties along with the local experts finalized the SA-SRAP. UN organizations also participated in the workshops.

The participation by UN agencies occur through consultations, financial support and technical support. The Ministry being the GEF focal point, the projects related to GEF grants are constantly evaluated at the GEF meetings, chaired by NFP. Other than the normal GEF grants, the GEF small grant scheme has become a successful story mainly implemented through Non-Governmental Organizations (NGOs).

In relation to implementation of UNCCD, action has been taken to prepare a medium sized project to be implemented in the central hill country, with the continuous support from the UNDP. Especially, UNDP maintains a good relationship with the NFP. The proposed project is around US\$ one million.

As it has been extensively discussed in the text, the organizations coming under the NFP, have major projects under implementation and these projects carry aspects of NAP. Regular Consultative Meetings, Steering Committee Meetings and stakeholder meetings are being held usually with the chairmanship of NFP. The donor agencies take part in these discussions, and they have calendar of activities. As given in para 3.2, measures to strengthen technical

and scientific cooperation within the region has to be strengthened. In addition to the strengthening linkages between the countries in the region, there is need to enhance capacities of NFP and other agencies in the areas of project proposal preparation, environmental monitoring etc.,

A fair amount of money is being transmitted to NAP related activities by the general treasury. Attempts are being taken by the NFP to increase it.

6.0 Measures Taken or Planned within the Framework of National Action Programmes, Including Measures to Improve the Economic Environment, to Conserve Natural Resources and Promote Their Sustainable Use, to Rehabilitate Degraded Land, to Enhance Knowledge on Desertification and its Control, and to Monitor and Assess Desertification and Drought.

6.1 Adequate Diagnosis of Past Experience

The attention of the scholars, scientific organizations and government organizations started to focus on the issue of land degradation very recently. It emerged as an area of concern among the general public a few years back. However, a body of scientific knowledge has been in the agriculture/ environmental curricular in most of the Universities. The government agencies responsible for agriculture have been engaged in adopting measures to avoid soil erosion, the main source of land degradation. The ancient hydrolic civilization of the country that had been in existence for some 2500 years, has adopted soil / water conservation measures.

With the increasing population, the pressure on land resource has been extended. As a result the clearing of land in high attitude areas with high rainfall regimes and cultivation of erosive crops have resulted in soil erosion. The NGOs, the Government Agents (GA) in respective districts and academia brought this into the attention of the government. The erosion has impact on large reservoirs built to generate electricity and downstream water quality etc.,

In the light of the above, an attempt was taken through a workshop held in 2005 to identify the degree of intervention by the agencies in controlling land degradation including soil erosion. The workshop brought results depicting areas of intervention, degree of intervention, and geographical distribution and future / present programmes for interventions. The results

made a cross section of land degradation in the country and paved the way to identify the need for future interventions in controlling land degradation.

It is worth to note that the subject area of land degradation in Sri Lanka primarily focus on soil erosion and pay less attention to other diamentions of land degradation due to various reasons, like lack of understanding and funds etc.

There are constraints in data collection in the areas of water logging and salinization, acidification, alkalization etc., due to unavailability of funds for research.

6.2 Established Technical Programmes and Functional Projects to Combat Land Degradation

This chapter focuses on the technical measures currently being undertaken by the key agencies, under different subject areas.

6.2.1 Soil Erosion

6.2.1.1 Plantation Monitoring & Management Division (Ministry of Plantation Industries)

This unit that comes under the purview of the Ministry of Plantation Industries is adopting soil conservation methods and infilling and replanting of tea, conservation and commercial forests in plantation companies. The intervention is in mid and high grown tea estates. This is extremely important since the highest soil erosion is found in the seedling tea lands (see annexure III).

6.2.1.2 Hadabima Authority

This is an organization established to implement environment and development programmes in the central hill country. The authority conducts programmes in four districts, and involves in soil conservation and watershed management, home gardening programmes, soil rehabilitation programmes, horticulture development and nutrition programmes. Rainwater harvesting and utilization, farmer capacity building, are other areas of intervention by the authority.

6.2.1.3 Mahaweli Environment & Forest Conservation Division

This unit was set up under the Ministry of Agriculture, Irrigation & Mahaweli Development. The primary objective of this unit is to implement environment and forestry programmes within the Mahaweli catchment areas. The Mahaweli development scheme rests on Mahaweli river basin with multipurpose programmes, to generate electricity, provide irrigation facilities for crop lands, employment generation and so on.

Major conservation programmes involves implementation of biological and mechanical conservation measures, gully conservation measures, improvement of vegetation cover, promotion of conservation farming and riverbank conservation farming. This unit maintains GIS data base for management of natural resources and monitor hydrological behaviors of the upper Mahaweli catchment water resources.

6.2.1.4 The Department of Agriculture (DOA)

The DOA is mainly responsible for agricultural development especially crop production activities in the country. Major areas of concern by the DOA are, study on land use change by conversion to conservation farming and conservation to perennial fruits. In relation to soil conservation, the DOA provides technical services, demonstrations, training and exhibitions and implements Soil Conservation Act and make assesments on soil erosion. This agency is vested with the overall responsibility over Soil Conservation Act.

Provision of technical services and awareness creation on soil test based fertilizer and leaf colour based fertilizer applications for rice and making recommendations on the use of pesticides are other measures associated with DOA activities. The DOA conducts studies on fertility decrease or nutrient depletion and salinization and adopts measures to mitigate them.

6.2.1.5 Land Use Policy Planning Division (LUPPD)

This agency is basically responsible for preparation and implementation of National Land Use Policy, maintenance of land data bank, preparation of land use plans at different planning levels, preparation of divisional level atlases, and data books, conducting of special land use studies for other agencies, land suitability studies for tsunami affected areas. Studies on land use changes and making recommendations, preparation of land use maps for rehabilitated tanks, establishment of youth farming villages, establishment of district level land resource

information centers, maintenance of a comprehensive land resource information system, training on data base management system for land resource management, conducting of district level and divisional level land use planning committee meetings and mapping of degraded and vulnerable lands at the scale of 1:10,000 are other activities conducted by LUPPD.

6.2.2 Fertility Decline

This phenomena is associated with soil erosion and DOA implements programmes to arrest fertility decline. Studies suggest that loss of nutrient depletion due to soil erosion is high in the hill country. For example, a study conducted in Upper Mahaweli Catchment area has revealed that adjusted replacement cost due to soil erosion stands around Rs 953.34m /year. DOA provides technical services and training on suitable methods to reduce fertility decline for the farmers.

In addition, many other agencies involved in agriculture related development activities carry micro programmes to avoid nutrient depletion in croplands; eg. use of organic fertilizer, mulching and crop rotations etc.,

6.2.3 Salinization

It has been estimated in many studies that Sri Lanka experiences loss of productivity due to salinization. This is formed in the areas where seawater intrusion is occurred and in the Dry Zone where irrigated agriculture is practiced. The water is evaporated and salts are deposited in croplands especially in paddy fields.

This is an area where money has to be invested in and more research has to be carried out. The DOA carries out limited research and demonstrations activities to overcome the issue of salinization.

6.2.4 Deforestation

The Department of Forest Conservation is mainly responsible for taking steps to control deforestation. It is mandatory for them to protect forest cover in the country and is equipped with Forest Ordinance. The major programmes include establishment of forest plantations and maintenance, nursery maintenance, conducting of education and awareness programmes,

coastal belt planting, river and canal bank tree planting, Pinus under planting , mangrove rehabilitation and activities related to conservation of forests in hydrological catchments which includes strict reserves and reserves. Further, they maintain village forests.

Their activities are supported by the major projects in forestry i.e. Forestry Resources Management Project and Sri Lanka Australia Natural Resources Management Project.

In addition to the forest Department, many other agencies, including community organizations and NGOs are engaged in forestry related/ tree planting activities. The month of October has been declared as the 'tree planting month" and many activities are carried out with support from the state. This has been approved by the Cabinet of Ministers.

6.2.5 Sand Mining & Siltation

Sand mining in rivers in Sri Lanka has become an acute issue in present days. "sand" is required mainly for construction industry, road construction and other concrete structure preparation. Excessive sand mining that exceeds the rate of replenishment, has resulted in deepening of the river bed, damages to river banks and structures like bridges and, roads, lowering of the ground water table in the surrounding area which affects flora and so on.

The Geological Survey & Mines Bureau (GSMB) along with the Ministry of environment and has prepared a sand policy and regulatory measures. Studies are being done by the Bureau to identify sand deposits and amount that can be extracted. Studies have been entrusted to private sector companies for off-shore sand mining in the sea.

LUPPD too, has been involved in extensive studies in sand mining and making recommendations to the government in Deduru Oya (a river in North Western Province) which is seriously threatned by excessive sand mining.

Siltation of lowlands and especially the man - made reservoirs for generation of electricity and water supply has become an acute problem in the country. Siltation is basically occurred due to soil erosion in upper catchment areas. Soil particles are deposited in lowlands and reservoirs due to run off and making adverse effects on downstream water quality. It is estimated that electricity generation capacity is reduced 0.552gwh / year in Randenigala Reservoir, due to siltation.

The LUPPD, Department of Agriculture (DOA), Ceylon Electricity Board and Mahaweli Authority of Sri Lanka conducts studies on sediment transfer and slitation. LUPPD has done another study in Morayaya, on silted deposits.

6.2.6 Degradation due to Land Use Changes

The land in high altitude areas in the central hill country is degraded due to change of land use and this is basically due to change of forest lands and tea lands in to erosive potato and vegetable cultivations. The management of the tea states located in high altitudes (above 2000m) earlier owned by the government, was given to the private sector on long term lease agreements. As per the lease agreements, the plantation companies are allowed to change land use by 10%. The companies in order to make high profits, the lands have been converted to erosive potato and vegetable cultivations.

However, this situation still continues and measures taken to avoid potato and vegetable cultivation to the hill country are not sufficient to arrest the problem.

6.2.7 Research

Research plays a vital role in combating land degradation. A few agencies are involved in research.

The Tea Research Institute focus its attention on all tea growing areas, and make technical recommendations on land suitability classification, contour planting and SALT system, infilling vacancies and replanting, crop diversification, weed management, mulching and cover crops etc., Their research activities focus on developing soil specific fertilizer recommendations to minimize antagonistic effects and environmental pollution. Further, isolation of local species of the biological agents and their multification of bio control of pathogens to enhance bio conversion of organic materials are the subject areas of concern.

The Rubber Research Institute focuses its attention to rubber growing areas and involves in matters related to contour planting on steep lands, soil conservation measures and research activities related to new plant varieties, enrichment of soil fertility, methods to avoid soil erosion etc., The rubber estates record low soil erosion rates due to conservation measures.

The DOA, with its Natural Resources Management Centre carries out research related to crop varieties, plant nutrition, soil erosion, use of fertilizer, pesticides and weedicides etc., However, funds received by DOA is limited for research.

In this context, focus on research related to land degradation has to be strengthened through capacity development and provision of funds. The focus of the scholarly community has to be increased on land degradation. It is worth to mention that the Universities and individual researchers carry research on land degradation matters.

6.3 Integrated Projects to Combat Land Degradation

There are several major projects related to environmental sector which involves many aspects of land degradation.

Upper Watershed Management Project, UWMP (completed in 2005)

The major components of the project could be categorized in to (1). on farm soil conservation and (2). off farm soil conservation measures. On farm activities includes stone terraces, lock and spill, vegetative measures and leader drains. Off farm measures include gully conservation, check dams, agro roads, footpaths and stream conservation.

The rehabilitation activities of the project involved buffer zone planting, road side planting, stream reservation, public area planting homestead development, timber farms boundary demarcation, boundary planting, integrated management of micro catchments, livestock management, bee keeping, integrated pest management etc., which addressed socio-economical side of land degradation.

Forestry Resources Management Project, FRMP (2001-2007)

The Forest Resources Management Project (FRMP) has been designed in keeping with the policy and institutional reforms, long-term sector development priorities and investment strategies as envisaged by the National Forest Policy (1995), the Forest Sector Master Plan (1995), five year implementation programme and other recent development in the sector.

The project consists of three components, viz. participatory forest planning & management & awareness, sustainable forest resource development and management, and institutional

strengthening for improved sector performance. Participatory forest planning and management and awareness includes survey, delineation, demarcation and mapping, integrated management planning and awareness and extension etc., Sustainable forest resources development and management includes, community based agro forestry and social forestry development programmes, improved management of existing farmer woodlots and rehabilitation and management of degraded forest plantations, buffer zone development for multiple use forestry, enrichment planting of natural forests improved management of forest plantations and private sector pilot leasehold management of forest plantations etc.,

It is worth to note that, unlike traditional programmes implemented by the government agencies, the above mentioned projects aimed an integrated approach to combat land degradation taking in to consideration social and economic atmospheres. A substantial amount of money has been allocated to promotion of education and awareness programmes and capacity building of extension officers and farmers and community at large.

Energy Conservation in the Context of Land Degradation

Energy use by resource in Sri Lanka comprises, Hydropower 8.67%, Petroleum 43.36%, Biomass 47.92%. Research is being carried out by the Energy Conservation Fund in Sri Lanka for alternative energy sources. Some of the studies presently being carried out are "off grid renewable energy in Sri Lanka (on going- 2006)", and "the economic and environment impact of micro - hydro and biomass based electricity (on going - 2006)", to explore possibilities for alternative energy sources.

Emphasis has been paid by the government on mini hydro power plants, wind power and Dendro power in order to reduce pressure on fuel wood. There are about 17 mini hydro power plants in operation and a few projects in experimental basis producing Dendro power. However, emphasis on wind power has been limited to a few projects. It is necessary to note that more than 46% of imported fossil fuel is used for thermal power generation. Depending on biomass, keeps pressure on natural vegetations.

7.0 Financial Allocation from National Budgets in Support of Implementation As Well As Financial Assistance and Technical Cooperation Including Their Inflows. Processes to Identify Their Requirements, Areas of Funding and Setting Priorities.

The clientele that intervene in desertification control activities are drawn from the following segments (a) government (b) private sector (c) NGO / CBO (d) community stakeholders. The government sector financial allocations made by the general treasury is limited to routine institutional budgets. However, funds available for environment related agencies like DOA and Forest Department directly goes to environmental conservation activities. A substantial increase does not appear however in allocation of treasury funds. However, a fair amount of money has been allocated in 2005 and 2006 budgets specially for tree planting programmes by the government sector. The allocations for NAP implementation, therefore, is not fair enough to meet the programme objectives.

It should be noted that the private sector in Sri Lanka has not been involved in conservation efforts except in some instances. However, there are a few agencies, who spend money for soil conservation, tree planting and environmental conservation in general.

The GEF small grants scheme is implemented in Sri Lanka with the participation of NGOs. The comparative advantage they obtain over others is that NGOs own a village level network and more close relationships with communities than government agencies. They involve in forestry activities, soil conservation activities and economic enhancement activities that contribute to reduce land degradation.

8.0 Review of Benchmarks and Indicators Utilized to Measure Progress and an Assessment Thereof

The measuring of dynamics and processes of land degradation is extremely essential in order to adjust the programmes / policies where necessary to meet the country obligations of the Convention and mitigate land degradation.

The tools being used for monitoring activities is limited to a few. The Department of Meteorology regularly monitor daily weather and seasonal weather changes. However, this data is not sufficient to forecast droughts and devise mitigation plans. The recently established

Disaster Management Centre is working towards a more comprehensive system of drought forecasting. However, the Centre for Climate Change Studies (CCCS) provides necessary information for scientists to carry out research in climate change and related fields.

The Meteorology Department monitors tsunami during 24 hours and is affiliated to the Hawaii Tsunami Information Centre and Japan Meteorological Centre.

The national environmental monitoring systems comprise State of Environment Reports prepared by the Ministry where the land degradation phenomena come in. The baselines set out are not substantiated with detailed data, due to unavailability of the some environmental statements dominate these documents.

The different environment related projects maintain their own data bases and provides baseline data prior to implementation of the project and benefits are evaluated against the baseline data.

The continuous monitoring of resource degradation is not centrally coordinated. Instead, the sector agencies monitor their own resource dynamics. For example, change in forest resource has a clear impact on water resource. The resource degradation or resource dynamics could not be treated in isolation. Even, the calculation of surface albedo is done only in special circumstances due to lack of resources.

However, the data that stem from baseline studies done for donor funded projects are rather efficiently used for policy adjustments. However, this is an early stage to measure the impact on NAP implementation, since, we have not diverted substantial funds for NAP implementation. However, the establishment an early warning system for droughts mitigation has not yet been done and under discussion by the Experts Committee.

9. Conclusion

The progress made so far in relation to NAP implementation is limited to selected priority areas. Yet, the major issues associated with land degradation needs coordinated action by stakeholders. Strengthening of implementation of the Soil Conservation Act, structural adjustments in legal frameworks are necessary to expedite legal measures that are being taken. A multi disciplinary approach needs to be adopted in addressing these issues especially, the issue of soil erosion since social and economic dimensions are associated with

it. Mitigation of soil erosion is extremely necessary. In order to avoid impact on down stream dwellers, siltation of reservoirs, water quality, occurrence of land slides, coordinated effort and pumping money for conservation measures will be necessary.

Other forms of land degradation also needs focused attention. Dry Zone salinization has posed major threat to agricultural production where limited action is being taken. Occurrence of landslides has caused due to deforestation in environmentally sensitive high altitude areas. These are results of political decision making, poverty and marginalization of the poor in to unproductive lands.

The international cooperation especially in the region has to be strengthened in order to implement common programmes in the light of NAPs of respective countries. Scarcity of funds has weakened the working relationships.

Annexure I

UNCCD Country Profile

SRI LANKA

This UNCCD country profile has been provided by: Ministry of Environment

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Biophysical indicators relating to desertification and drought

Biophysical indicators relating to desertification and drought

1. Climate

1.1 Index of aridity¹ - 0.89

1.2 Normal rainfall - ranges between 900 - 5,500 mm / year

1.3 Rainfall standard deviation - 265 mm

Sub-national areas	mm
1. Wet Zone	> 2,500 mm
2. Intermediate Zone	1,750 - 2,500 mm
3. Dry Zone	< 1,750 mm

Source: Natural Resources Management Centre

¹The index of aridity is the ratio P/PET; P =Precipitation, PET =Potential evapotranspiration. Climate zone maps to be annexed if available in scale of 1/million.

2. Vegetation and land use

2.1 NDVI (normalized difference vegetation index) -

This index is not regularly calculated depending on the availability of resources.

Therefore, this as being calculated only in instances where specific projects need it.

2.2 Vegetation cover (% of total land area) - 59 %

2.3 Land use - 99.4%

Type	Extent (ha)	%
Arable Land	2,929,600	44.92
- Cultivated	1,641,100	
- Sparsely used	1,288,500	
Built up and Residential	810,500	12.42
-Built up & Associated non- agricultural lands	29,200	
- Homestead	781,300	
Forest Lands - Natural Plantations	1,759,800	26.98
Range lands	593,500	10.0
Wetlands	61,800	0.95
Barren lands	77,500	1.18
Water bodies	290,500	4.45

Source: National Environmental Action Plan (1988 - 2001), Ministry of Forestry & Environment

2.4 Surface albedo² - relevant data is not available

3. Water Resources

3.1 Fresh water availability - 131,230 million m³

3.2 Fresh water resources per capita (m³) - 31 L/ person/day

3.3 Agricultural water use (million m³) - 9.38 x 10³ million m³/ year

3.4 Industrial water use (million m³) - 0.19 x 10³ million m³/ year

4. Energy

Consumption

4.1 Energy use per capita (kg oil equivalent) - 400 kg OE per person (2003)

4.2 Agricultural energy use per hectare (million of BTU) - -

Production

4.3 Energy from renewable excluding combustible
renewable and waste (% of total supply) - 67.9 % (2003)

Renewables – Consumption by sector

4.4 Industry (% of total renewable consumption) - 24 % (2003)

4.5 Residential (% of total renewable consumption) - 51 % (2003)

4.6 Agriculture (% of total renewable consumption) - 25 % (2003)

5. Types of land degradation

Types of degradation	District	Extent as a percentage
1. Soil erosion	Colombo	2.3
	Gampaha	2.4
	Kilinochchi	8.0
	Kalutara	11.1
	Mulativu	14.6
	Mannar	17.1
	Kegalle	17.3
	Galle	20.6
	Jaffna	22.7
	Matara	24.4
	Kurunegala	26.5
	Vavuniya	28.2
	Puttalam	28.6
	Polonnaruwa	28.7
	Batticaloa	30.9
	Matale	38.1
	Ampara	38.9
	Kandy	39.7
	Anuradhapura	41.0
	Ratnapura	42.0
	Moneragala	42.5
	Hambantota	42.8
	Badulla	54.8
Tricomalee	55.0	
Nuwaraeliya	58.0	
	Total (Sri Lanka)	33.1
2. Water logging		
3. Acidification		
4. Salinization	Kirindioya irrigation & settlement Project	32.4 ds/m
	Inginimittiya	23 - 60 ds/m

	Major irrigation schemes	8.7 - 14.3 ds/m
5. Nutrient depletion	Kalutara	29.8
	Mulativu	21.8
	Mannar	28.7
	Kegalle	29.8
	Galle	48.3
	Killinochchi	53.4
	Jaffna	39.2
	Matara	42.6
	Kurunegala	79.2
	Vavuniya	40.5
	Puttalam	48.3
	Polonnaruwa	40.1
	Batticaloa	55.3
	Matale	49.9
	Amparai	49.1
	Kandy	51.9
	Anuradhapura	57.1
	Ratnapura	49.5
	Moneragala	33.2
	Hambantota	57.6
Badulla	57.0	
Tricomalee	46.7	
Nuwaraeliya	55.8	
	Total (Sri Lanka)	48.0
6. Toxic accumulation		

Source: N.B. Nayakekorala (1998)

6. Rehabilitation

Lands under rehabilitation	1990 - 1999	2000 - 2005
Rehabilitation of degraded crop land (km ²)	3 - 4	3 - 5
Rehabilitation of degraded rangeland (km ²)	8 - 12	10 - 15
Rehabilitation of degraded forest (km ²)	10 - 13	10 - 15

Source: Forest Department, Sri Lanka

Socio -economic indicators related to desertification and drought

7. People and economy

7.1 Population (total)		Over 19 millions (2002)
Population : Urban (percent of total)		- 8.8 % of TP (2003)
Population : Rural (percent of total)		- 59 % of TP (2003)
7.2 Population growth (annual %)		- 1.3 - 1.5 (2002)
7.3 Life expectancy (Years)	Male	- 70.1 (1991)
	Female	- 74.8 (1991)
7.4 Infant mortality rate (per 1,000 live births)		- 13 (2000)
7.5 GDP (current US\$)		- 947 US\$ (2003)
7.6 GNI per capita (current US\$)		- 841 (2002)
7.7 National poverty rate (% of population)		- approximately 25% of the population
7.8 Crop production (metric tons)	Paddy	- 3,246 mt ('000)
	Tea	- 317.2 kg mn
	Rubber	- 104.4 kg mn
	Coconut	- 2,515 nuts mn
7.9 Livestock production (metric tons)		
	Mutton Production	- 1300 MT/ year

Pork Production - 5,500 MT / year

Poultry meat Production- 88 million kg / year

Egg Production - 954 million/ year

8. Human development

8.1 Primary education completion rate (% age group)	29.9% (2003)
8.2 Number of women in rural development (total number)	-
8.3 Unemployment (% of total)	- 8.8 % (2002)
8.4 Youth unemployment rate (age 15 - 24)	- 66.0%
8.5 No Schooling	- 7.9% (2003/2004)

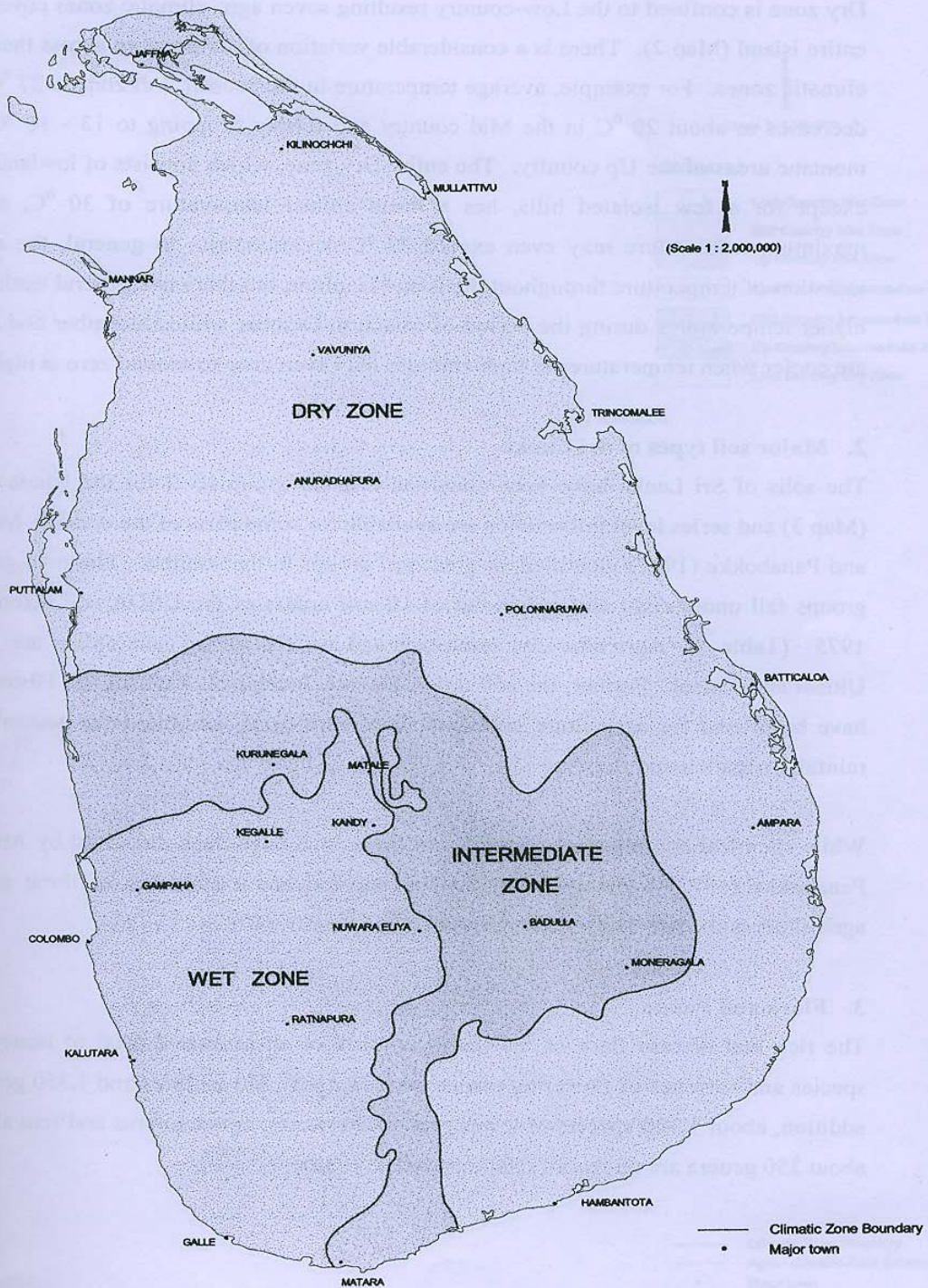
9 Science and technology

9.1 Number of scientific institutions engaged in desertification-related work (total number)

10. Data sources

- Department of Census & Statistics
- Central Bank of Sri Lanka
- Department of Forest Conservation
- Department of Meteorology
- Natural Resources Management Centre, Department of Agriculture
- Department of Animal Production & Health
- N.B. Nayakekorala (1998)

Map 1 : Climatic Zones of Sri Lanka



Compiled by : Natural Resources Management Centre.

Annexure III

Soil Erosion Rates in Different Agro-ecological Regions

Region	Crop Type	As a percentage of total land area
Mid Country Wet Zone (Peradeniya)	- Old seedling tea without conservation measures	40.00
	- Well managed clonal tea on contour with lateral drains at 110m intervals	0.24
	- Mixed home gardens with assortment of tree crops with heavy canopy	0.05
Hill Country Wet Zone (Talawakelle)	- Clean weeded one year old clonal tea	52.60
	- One year old clonal tea with multh	0.07
Mid Country Intermediate Zone (Hanguranketha)	- Tobacco without conservation measures	70.00
	- Capsicum without conservation measures	38.00
	- Carrot without conservation measures	18.00
Low Country Dry Zone (Mahailluppallama)	- Sorghum inter cropped with pigeon pea	21.00
	- Sorghum / pigeon pea with 1500 kg/ha multh	3.90
	- Cotton under clean cultivation	22.00
	- Cotton with multh 3500 kg/ha	2.00

Source: Stocking M. (1992)