





## THE STATE OF ERITREA

# Final Country Report of the LDN Target Setting Programme in Eritrea



UNCCD National Focal Point
LDN National Working Group
Ministry of Agriculture
Asmara, Eritrea

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The views and content expressed in this document are solely those of the authors of this document and do not necessarily represent the views of the LDN TSP or any of its partners.

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## LIST OF ACRONYMS

Community Based Organisations
Debubawi Keih Bahri
Department of Environment
Food and Agriculture Organization of the United Nations
Global Environment Facility
Government of Eritrea
Land Degradation Neutrality
Ministry of Agriculture
Ministry of Education
Ministry of Energy and Mines
Ministry of Finance
Ministry of Marine Resources
Ministry of Health
Ministry of Land, Water and Environment
Ministry of Labour and Social Affaires
Ministry of Public Works
Ministry of Tourism
Ministry of Transport and Communication
Ministry of Trade and Industry
National Action Program
National Adaptation Program of Action
National Biodiversity Strategy and Action Plan
National Convention Coordination Office
National Climate Change Committee
National Capacity Needs Self-Assessment
National Environmental Impact Assessment Guidelines and Procedures
National Environmental Management Plan
National Focal Point
Non-Governmental Organizations
National Union of Eritrean Women
Protected Area
Sustainable Development Goals
Semienawi Keih Bahri
Sustainable Land Management
Soil and Water Conservation
Target Setting Programme
Regional Administration
Sub-Regional or District Level Administration
United Nations Convention on Biodiversity Conservation
United Nations Convention to Combat Desertification
United Nations Development Programme
United Nations Environment Programme
United Nations Framework Convention on Climate Change

#### 1. SUMMARY

The Eritrean Government is promoting the proper utilization and protection of land resources as central contribution to agricultural development and to achieve multiple environmental and societal benefits, including food security, income equality, poverty alleviation, and resource availability.

The Government of Eritrea is also substantially investing its domestic resources in agriculture and activities related to sustainable land management (SLM). Notably, the Government is using social mobilization as an innovative approach to address one of its most compelling developmental challenges through SLM practices. This is engendering positive behavioral changes. The social mobilization strategy is proving to be an excellent way to increase and galvanize public support for the implementation of the United Nations Convention to Combat Desertification (UNCCD).

The Government joined Land Degradation Neutrality Target Setting Programme (LDN TSP) voluntarily because it forms part of its continued efforts for sustainable land management. Therefore, the Government of Eritrea will build upon and consolidate the past co-operation with development partners with the overall objective to create an enabling environment for increased financing and investments into SLM/LDN.

Consequently the Ministry of Agriculture has carried out the 10 steps LDN target setting process that provide operational guidance on how to define national LDN baselines and to identify voluntary LDN targets and associated measures. The first step is assessment of Government leadership and stakeholder engagement. The stakeholder engagement and development of leveraging plan was based on a thoughtful process, and included information that is specific to Eritrean vision and goals, and ability to oversee such a leveraging goal.

The LDN target setting leverage opportunities have been identified based on:

- why does LDN matter for Eritrea,
- what to leverage, and
- who to engage in the LDN target setting process.

The land degradation baseline assessment was done by analysing the three indicators separately.

- land cover;
- land productivity (metric: net primary productivity);
- carbon stocks above and below ground (metric: soil organic carbon (SOC) stock).

Based on the three indicators it is clear that 8% of the Eritrean land mass has declining trend of land productivity, and 16% show early signs of land productivity decline, while 12% of the land covers are stable but stressed. The total amount of the land cover whose land productivity is declining forms 36% and are primarily located in the western lowlands between Gash and Setit Rivers, and the southern part of Eritrea, where there is more intense farming. In addition the eastern escarpment and areas along the coastal are experiencing declining and early signs of declining of productivity.

Description of the interpretation of the national basic data using the LDN indicators and land degradation trends in Land Use Land Cover has also been carried out. Three key maps namely the vegetation cover map, agricultural sector and the agro-ecological maps have being used to analyze LD trends.

Once the trends of land degradation have been identified, located and quantified, and prior to defining measures to address the problem, two important steps were carried out to better understand land degradation dynamics at (sub) national level:

- i) analysis of the drivers of the degradation processes in the different parts of the country; and
- ii) assessment of the land management legal and institutional framework impacting LDN.

The main direct drivers contributing to land degradation in Eritrea are non-sustainable agriculture, overgrazing by livestock, overexploitation of forests and woodlands, urbanisation and resettlement and other natural causes. While the main indirect causes identified are population growth, poverty; land tenure; no war no peace and climate change as well as resettlement areas experiencing rapid population growth and density, which have shown evidence of land degradation.

The national policies and institutional environment that impact the success of LDN have being analysed based on relevant policies, laws and regulations related to land use, land tenure and economic development (agriculture, environment, climate change infrastructure development, land tenure and land use and land cover, mining etc.) and the UNCCD National Action Programme. The review has helped to develop an implementation strategy to integrate LDN in the identified selected national policies and commitment.

Eritrea has set LDN targets at **national scale** as well as Zoba level with ambition to reach LDN for the entire country in order to align to the 2030 Agenda for Sustainable Development (SDG target 15.3) taking into account all LDN indicators. Zoba level (Sub-national) LDN targets have also been set for achieving a neutral (no net loss) or improved (net gain) state allowing Eritrea to focus on areas that have been identified as major degradation "hot spots" and/or are considered to be a high-value priority in achieving LDN.

## LDN targets at the national scale

- LDN is achieved by 2030 as compared to 2015 and an additional 10 % of the national territory has improved (net gain)
- LDN (improved Adhanet stoves dissemination) is achieved by 2021 as compared to 2015.

#### LDN at the sub-national scale

- LDN is achieved in Maekel province by 2030 as compared to 2015 (no net loss)
- LDN is achieved in Debub province by 2030 as compared to 2015 (no net loss) and an additional 27% of the province has improved (net gain)
- LDN is achieved in Gash Barka province by 2030 as compared to 2015 (no net loss) and an additional 12% of the province has improved (net gain)
- LDN is achieved in Anseba province by 2030 as compared to 2015 (no net loss)

- LDN is achieved in Northern Red Sea (NRS) province by 2030 as compared to 2015 (no net loss) and an additional 10% of the province has improved (net gain)
- LDN is achieved in Southern Red Sea (SRS) province by 2030 as compared to 2015 (no net loss) and an additional 5% of the province has improved (net gain).

## Specific targets to avoid, minimize and reverse land degradation

- Improve productivity of 10,954 sq km of cropland by 2030.
- Improve SOC stocks of 17,803 sq km in cropland and grasslands by 2030 as compared to 2015.
- Rehabilitate 17,853 sq km of degraded and abandoned land for crop production by 2030
- Halt the conversion of forests and wetlands to other land cover classes by 2025.
- Restore 79 sq km of indigenous forest land.
- Increase forest cover by 10% by 2030 as compared to 2015.
- Reduce the rate of top soil loss (soil erosion) by 20% by 2030 as compared to 2015 estimate.
- Increase soil organic carbon by 10 t/ha in cropland achieved through SLM practices.

The associated measures to achieve LDN are primary means for the Eritrean government to communicate nationally and internationally and the steps it will take to achieve LDN in Eritrea. Policy measures adopted by the Government of Eritrea include the ratification of the three Rio environmental conventions as well as the national strategies elaborated to meet its obligations under those conventions.

The various national and sectoral policies and the various donor cooperation frameworks, some of which have been analysed above, provide common grounds for enhancing leveraging of resources for maximum impact.

The LDN target setting leverage opportunities have been identified and are based on the current realities in Eritrea. Strong justification has been established for leveraging efforts and resources in pursuance of LDN agenda as a vehicle for delivering on SDGs, in particular SDG 15.

In order to ensure sustainability of LDN, transformative projects and programmes and opportunities have been identified. These include short term and potential long term transformational projects that are environmentally, socially and economically sustainable. These new transformational projects are based from previous experience and lessons learned which can help inform design and implementation of interventions.

The most important concepts to be addressed through long-term action to achieve LDN include:

- 1. Land classification / land distribution
- 2. Renewable energy
- 3. Promotion of dry land products through sustainable land management and enhanced market access and trade
- 4. Role of Private Sector
- 5. Community Empowerment and Capacity Building, and

## 6. Financial Sustainability.

Finally the overall achievements and lessons learned of the LDN target setting process suggests that major transformation is required in addressing LDN. Consequently the Eritrean Government has set ambitious national voluntary LDN targets, established a LDN baseline, and formulated associated measures to achieve LDN.

The Eritrean Government committed to adopt LDN and set an ambitious national voluntary LDN target, which was submitted to the Global Mechanism on 27/07/2017.

#### 2. LEVERAGING LDN

## 2.1 Leveraging and commitment of Eritrea in implementing LDN

The Government engaged in the Land Degradation Neutrality Target Setting Programme (LDN TSP) voluntarily because it forms part of its continued efforts for sustainable land management. Therefore, the Government of Eritrea will build upon and consolidate the past co-operation with development partners with the overall objective to create an enabling environment for increased financing and investments into SLM/LDN.

Eritrea launched the Land Degradation Neutrality (LDN) target setting process with the elaboration of a country specific work plan and budget during August 2016 (Berhe, 2016). The LDN development process employed various consultations with a number of relevant stakeholders as well as data collection techniques during an inception workshop held on 5<sup>th</sup> October 2016 (MoA, 2016a).

Various sectoral policies promulgated by the Eritrean Government are in coherence with the objectives of SLM and therefore contribute to LDN. The environmental objectives and strategies of different policies at national and sector level give an indication of the level and magnitude of support they render to SLM and LDN interventions.

## 2.2 Link between LDN, achieving SDGs and country commitments

Although the Eritrean Government is committed to implementing and achieving all the SDG Goals, nevertheless it is focussed in implementing SDG's, which are directly linked with LDN. For example GOALS 1, 2, 6 and 7 are directly relevant to LDN as they are directly related to ending poverty, achieve food security and improve nutrition and promote sustainable agriculture by ensuring availability and sustainable management of water and sanitation and ensuring access to affordable alternate energy.

GOAL 3, 4 and 5 are also important as there is no way LDN could be achieved without ensuring healthy lives and inclusive and equitable quality education and promoting lifelong learning opportunities for all, by also achieving gender equality and empowering of all women and girls.

Relentless efforts is also been made to implement SDG Goals 13, 14 and 15 by combating climate change and protecting, restoring and promoting sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, and halt and reverse land degradation and halt biodiversity loss. But also implement GOAL 17 by strengthening the means of implementation and revitalizing the global partnership for sustainable development.

Eritrea is also a signatory to a number of Multilateral Environmental Agreements (MEAs) including the three Rio Conventions and has elaborated national strategies towards meeting its obligations under those conventions and other agreements. All these have targets on land use that are relevant to LDN.

A number of SLM / LDN related projects such as those in agriculture and natural resources management sectors implemented by the Government are supported by international

cooperating partners such as the UNDP (UNDP-GEF), FAO, EU, ADB, IFAD, GEF, GM, ICRC and IUCN. A number of these operational frameworks have objectives and strategies that are relevant to SLM or LDN.

## 2.3 Leverage opportunities identified

The development of the leverage plan was based on a thoughtful process, and included information that is specific to Eritrean vision and goals, and ability to oversee such a leveraging goal/project. The identification of appropriate stakeholders, resources available and barriers were very important in order to establish successful short/medium and long term strategies and goals to set LDN targets (MoA, 2016b).

The LDN process should be able to leverage based on the Government's national development priorities such as food security, education, health, access to potable water, roads and infrastructure development, environment and natural resources (including conservation of catchments areas, sustainable abstraction of surface and ground water resources, and concerns over land degradation), as well as restructuring of Government to improve service delivery, and information and communication technology.

In order to effectively tap this opportunity the following three questions were addressed, namely:

- why does LDN matter for Eritrea,
- what to leverage, and
- who to engage in the LDN target setting process.

The LDN target setting leverage opportunities have been identified and are based on the current realities in Eritrea. **Table 1** summarizes in a logical framework that best depict the leveraging opportunities, the actions to be undertaken in the process of leveraging and the responsibilities.

Leverage		Actions	Responsibilities		
Opp	ortunities				
		Why does LDN matter?			
1.	Creating multiple benefits	<ul> <li>Justify relevance of LDN to Eritrea's development agenda /MGDS</li> <li>Link LDN to achievement of other SDGs</li> <li>Multi-stakeholder involvement in LDN target setting programme.</li> </ul>	<ul> <li>Ministry of Agriculture</li> <li>Ministry of Land, Water &amp; Environment</li> <li>Ministry of National Development</li> <li>Consultant</li> </ul>		
2.	Fostering policy coherence	<ul> <li>Integrate LDN and other SDGs in the national development framework</li> <li>Review relevant policies to assess LDN coherence</li> <li>Integrate LDN into donor cooperation frameworks</li> <li>Mainstreaming of LDN into relevant policies and programmes.</li> </ul>	<ul> <li>Ministry of Agriculture</li> <li>Ministry of Land, Water &amp; Environment</li> <li>Ministry of National Development</li> <li>Ministry of Finance</li> <li>NFP/Consultant</li> <li>Donors</li> </ul>		
3.	Advancing climate action	<ul> <li>Integrate LDN into National Action Program</li> <li>Promote synergistic implementation of the three Rio Conventions</li> <li>Intensify implementation of NAPA.</li> </ul>	<ul> <li>Department of Environmental Affairs</li> <li>UNCCD NFP, CBD NFP and UNFCCC NFP</li> <li>NFP/consultant</li> <li>Donors</li> </ul>		

			All relevant sectors
4.	Tapping financing opportunities	<ul> <li>Build capacity to effectively utilize existing UNCCD funding windows</li> <li>Mobilization of internal sources of financing</li> <li>Mobilization of external sources of financing</li> <li>Mobilization of innovative financing.</li> <li>Develop fundable transformative LDN project proposals to access the LDN Fund.</li> </ul>	<ul> <li>Ministry of Agriculture</li> <li>Ministry of Land, Water &amp; Environment</li> <li>Ministry of Finance,</li> <li>Ministry of National Development</li> <li>Ministry of Energy and Mines</li> <li>Donors</li> <li>UNCCD NFP</li> <li>Other relevant sectors.</li> </ul>
	ı	WHAT to leverage?	- mer 1010 - mm 50000101
5.	National development programmes, priorities and objectives	<ul> <li>Sustainable Development Goals</li> <li>Other relevant sectoral policies</li> <li>LDN related programmes and projects</li> </ul>	<ul> <li>Ministry of Agriculture</li> <li>Ministry of Land, Water &amp; Environment</li> <li>Ministry of Finance,</li> <li>Ministry of National Development</li> <li>Relevant sectors.</li> </ul>
6.	Country commitments and engagements	<ul> <li>Three Rio Conventions</li> <li>National Strategy for Sustainable Development</li> <li>National Biodiversity Strategy</li> <li>National Adaptation Programme of Action (NAPA)</li> <li>National Action Programme (NAP).</li> </ul>	<ul> <li>Ministry of Agriculture</li> <li>Ministry of Land, Water &amp; Environment</li> <li>SLM Steering Committee</li> <li>Other relevant sectors</li> </ul>
	•	WHO to engage to create lever	rage?
7.	Senior government	<ul> <li>Minister for Finance</li> <li>Minister of Agriculture</li> <li>Minister of Land, Water &amp; Environment</li> <li>Director Generals of all relevant ministries</li> <li>Directors of all relevant ministries</li> </ul>	<ul> <li>Ministry of Agriculture</li> <li>Ministry of Land, Water &amp; Environment</li> <li>Ministry of Finance</li> <li>Ministry of National Development</li> <li>Relevant sectors.</li> </ul>
8.	National coordination mechanisms	SLM National Steering Committee	<ul> <li>Ministry of Agriculture</li> <li>Ministry of Land, Water &amp; Environment</li> <li>Ministry of Finance</li> <li>NFP</li> <li>National Consultant</li> </ul>
9.	International development partners	<ul> <li>United Nations Development Programme</li> <li>Food and Agriculture Organization</li> <li>European Union</li> <li>IFAD</li> <li>GEF</li> <li>GM</li> </ul>	<ul> <li>Ministry of Agriculture</li> <li>Ministry of Land, Water &amp; Environment</li> <li>Ministry of Finance</li> <li>NFP</li> <li>Consultant</li> </ul>
10.	National and International non- governmental stakeholders	<ul> <li>ICRC</li> <li>IUCN</li> <li>National Union of Eritrean Women</li> <li>National Confederation of Eritrean Workers</li> <li>National Union of Eritrean Youth and students</li> </ul>	Consultant
11	Private Sector Institutions	<ul> <li>Financial Institutions (Micro-credit Agencies; Development Banks)</li> <li>Private Sector - Mining Companies, Farmers &amp; Service givers</li> </ul>	Consultant
12	Academic and Research institutions	<ul> <li>Hamelmalo College of Agriculture</li> <li>Mai Nefhi Institute of Technology</li> <li>Adi Keyh College of Social Sciences</li> <li>Higher Education Commission of Eritrea</li> </ul>	UNCCD NFP Consultant

Table 1: Framework for National LDN Target Setting Leverage Plan

## 2.4 LDN Working Group – issues discussed and agreed upon

In order to undertake the huge task to promote SLM – LDN there is a need to enhance the institutional capacity of relevant stakeholders by more efficient use of already available human and financial resources. Consequently it was agreed to set up Working Groups mainly composed of a National SLM-LDN Steering Committee as well as Technical Steering Committees at National and Zoba levels based on the agreement reached at the Land Degradation Neutrality (LDN) Inception Workshop held at Asmara on 5 October, 2016

It was agreed that the National Steering Committee should be represented by about 20 Director Generals and representatives of other agencies, who are accountable to their line ministries and agencies and that all the relevant ministries should be represented at National Steering Committee level to leverage LDN. However it was agreed that the number of the Technical Steering Committee members should not be more than 8 – 10, and that they should have the necessary skills to contribute to the successful implementation of the LDN target setting process. It was also agreed that selected development partners be included in the National Technical Committee. Finally the mandates and terms of reference (ANNEX 1) of the National Steering and Technical Committees were discussed and agreed upon. The list of Working Group members in Eritrea are shown in ANNEX 2.

The Working Group identified all the relevant stakeholders such as Ministries, the Branch Government offices, the local communities, civil society organizations and bilateral and multilateral donor agencies, the private sector / financial institutions and institutions of higher education.

Since there was an ineffective national and inter-institutional coordination mechanism of various Environmental Natural Resource (ENR) sub-sectors in different ministries, it was agreed to:

- Put in place guidelines for integration of SLM, LDN and Multilateral Environmental Agreements (MEAs) into national and district development plans and policies.
- Set up a powerful inter-institutional committee to set priorities, and
- Revitalize the existing SLM secretariat.

The main action plan and agreed mutual commitments to implement successfully the LDN target setting process by the working group is as follows:

- 1. Government leadership and stakeholder engagement ensured.
- 2. Help develop guidelines and directives for implementation of SLM/LDN.
- 3. SLM/LDN baselines established and mapped. Data collection from Ministries and Zobas at National and Regional level.
- 4. SLM-LDN indicative target setting up to 2030 and associated measures defined.
- 5. SLM-LDN mainstreamed in selected policies and commitments.
- 6. Up-Scaling Up SLM/LDN best practices.
- 7. LDN transformative projects/programmes prepared to tap innovative financing.

#### 3. ASSESSING LDN

#### 3.1 LDN baseline

#### 3.1.1 Indicators for LDN baseline assessment

The LDN baseline (MoA, 2017a) has been mapped by analysing the three indicators separately.

- land cover;
- land productivity (metric: net primary productivity);
- carbon stocks above and below ground (metric: soil organic carbon (SOC) stock).

These indicators correspond to the UNCCD progress indicators and have been recommended as sub-indicators for the indicator 15.3.1, "Proportion of land that is degraded over total land area "adopted to measure progress toward the SDG target 15.3.

#### 3.1.2 Interpretation of baseline changes

In the absence of nation-wide regional studies on land cover / land use studies as well as SOC/land productivity, it was decided to use global default data provided by the UNCCD Secretariat through the LDN TSP. However comparable national data sets such as agroecological zoning and natural resources / environmental setting were used for validation purposes using site-specific data / information at national and sub-national level. In addition, discussions were held within the LDN working groups, the NFP and staff of the Ministry of Agriculture and other stakeholders. The LDN baseline has been technically validated by relevant stakeholders during a national workshop during 19-20 May 2017 and was adopted by the Government on 27 July 2017 (MoA, 2017b).

Comparison of the land cover map of the two epochs (2000 and 2010) shows clearly that there were no net changes at a regional level in Eritrea, however it is believed that changes have happened at local level based on the fact that the Government of Eritrea and local communities have been implementing various land conservation and environmental recovery activities, nevertheless these interventions are miniscule compared to the land degradation problems facing the country.

Based on the three indicators it is clear that 8% of the Eritrean land mass has declining trend of land productivity, and 16% show early signs of land productivity decline, while 12% of the land covers are stable but stressed. For example, forest areas account for 129.33 sq km during 2000 and 2010, with no net loss during the period; however 9 sq km area of the 'remaining forest' has declining net land productivity (**Table 2**).

The total amount of the land cover whose land productivity is declining forms 36% and are primarily located in the western lowlands between Gash and Setit Rivers, and the southern part of Eritrea (**Figure 1 inset**), where there is more intense farming. In addition the eastern escarpment and areas along the coastal are experiencing declining and early signs of declining of productivity. The main reason for the decline of productivity is intense erosion along the escarpment due to deforestation and limited farming activities mainly in the northeastern part of the Eritrean escarpment.

Trends in Net LPD according to combinations of land use/cover in 2000 and 2010, show that 2.46% of areas (2996 sq km), which are formed of 'shrubs, grasslands, and sparsely vegetated' areas indicate declined land productivity, while 3.16% show early sign of decreasing land productivity representing ~ 3853 sq km.

In the absence of a national SOC database, it was recommended by the LDN working group to use the SOC 0-30 cm stock product derived from SoilGrids250m as a stand-in for baseline 2000 SOC stock. Based on this data a total SOC of 47.1 tons/ha has been estimated for the 'forest 'area cover, and 28.3 tons/ha has been estimated for the 'shrubs, grasslands, and sparsely vegetated area cover', while 42.0 tons/ha has been estimated for the 'cropland'. The average national soil carbon stock is estimated to be 30.2 tons/ha.

The national estimates of the indicators for the period 2000-2010 are provided as numerical values. **Table 2** summarizes the national basic default data for Eritrea and contains the area of each land use/cover category for 2000 and 2010, the net change in area for each, the net Land Productivity Dynamics (NetLPD) and the SOC stock baseline for the year 2000. The Trends in Net Land Productivity Dynamics is shown in **Table 3**.

LDN Target Setting Programme		_								
Table 1 - Presentation of national basic data using the LDN	indicators	tramewo	ork							
Land Use/Cover Category	Area (2000)	Area (2010)	Net area change (2000-2010)	Net land productivity dynamics (NetLPD)** (sq km)				Soil organic carbon (2000)**		
	sq km*	sq km	sq km	Declining	Early signs of decline	Stable but stressed	Stable not stressed	Increasing	No Data***	ton/ha
Forest	129.33	129.33	0	9	41	25	50	0	5	47.1
Shrubs, grasslands and sparsely vegetated areas	29811.15	29811.15	0	2996	3853	3983	15048	9	3922	28.3
Croplands	33877.26	33877.26	0	3536	7418	6313	16565	21	24	42.0
Wetlands and water bodies	941.94	941.94	0	11	14	9	38	0	870	19.8
Artifical areas	61.56	61.56	0	6	17	3	28	0	7	65.9
Bare land and other areas	57171.51	57171.51	0	3237	7760	3762	4938	0	37473	24.2
SOC average (ton/ha)										30.2
Percent of total land area				8%	16%	1 <b>2</b> %	30%	0%	35%	
Total (sq km)	121993	121993		9795	19103	14095	36667	31	42302	

Table 2 summarizes the national basic default data for Eritrea and contains the area of each land use/cover category for 2000 and 2010,

## Table 3:

Negative Trend	Area in sq km	Corrective measure		
			Area in sq km	Timeframe
Forest showing declining and early signs of decline in productivity	50	<ul> <li>Agroforestry, soil and water conservation, enclosure development.</li> <li>Avoid further decline of forest through economic incentives.</li> </ul>	50	2030
Shrubs, grasslands and sparsely vegetated areas showing declining and early signs of decline in productivity	6849	<ul> <li>Physical and agronomic measures of SWC.</li> <li>Afforestation, improved seed and cut and carry system.</li> </ul>	6849	2030
Croplands showing declining and early signs of decline in productivity	10954	<ul><li>Agroforestry</li><li>Soil fertility enhancing practices</li><li>Use of improved crop seeds</li></ul>	10954	2030
Bareland and others showing declining and early signs of decline in productivity	10997	Afforestation, soil and water conservation	10997	2030
Low Soil Organic Carbon in Cropland	42 (ton/ha)	<ul> <li>Physical and agronomic measures of SWC.</li> <li>Afforestation</li> <li>Soil fertility enhancing practices</li> </ul>	52 (ton/ha)	2030

### 3.1.3 LDN hotspots

Based on available data from the Ministries of Agriculture, Land, Water and Environment, the regional Governments, experts and land user's opinion and using LDN indicators, including: i) land cover; ii) land productivity; and iii) carbon stocks above and below ground (soil organic carbon (SOC)) it was possible to identify areas that have experienced severe land degradation that can be used to assess possible land degradation hotspots.

A schematic map of trends of land degradation has being prepared, and was compared with the LDP map (**Figure 1**), which made it possible to subdivide the Eritrean landscape into areas that are highly degraded, least degraded and areas that are in the process of being rehabilitated. This has helped in the identification of 'Hotspots'.

23 major hotspot areas (**Figure 2**) have been identified, which will be addressed at national level; however there are hotspot areas, which are limited in size and can easily be rehabilitated and addressed as part and parcel of soil and water conservation activities within the sub-regional level. These small hotspot areas are mainly concentrated in 3 Zobas / Provinces namely Zoba's Maekel, Anseba and Southern Red Sea region.

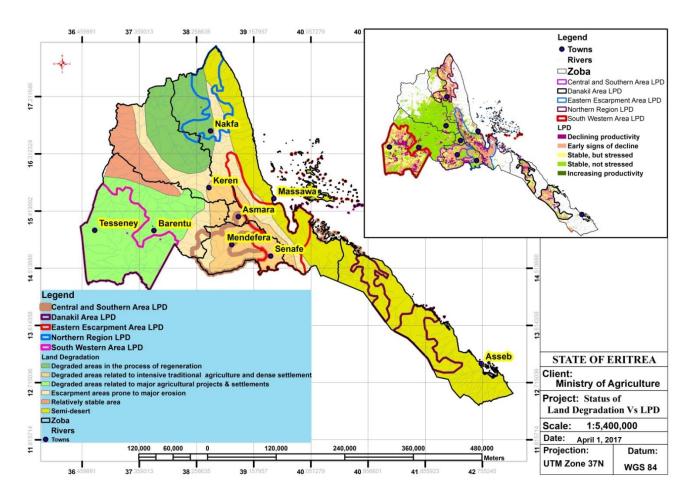


Figure 1: Comparison of land degradation trends with LPD

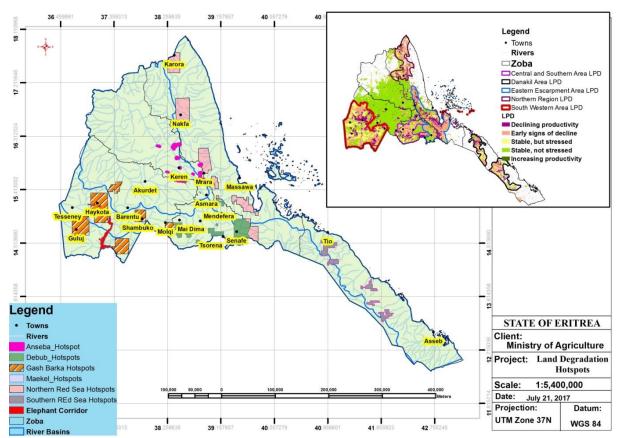


Figure 2: Land degradation hotspots

#### 3.2 LDN trends and drivers

#### 3.2.1 Assessing trends using the indicators

Three key maps namely the vegetation cover map, agricultural sector and the agro-ecological maps have being used to analyze LD trends (MoA, 2017c) in conjunction with:

- 1. **Land cover change map,** which shows what are the most active negative trends occurring and where in the country, and in which land use pattern.
- 2. **Land productivity dynamics map,** which helps identify areas, where biomass activity is declining. Taking into account the land cover maps 2000 and 2010, the main land use patterns affected by productivity decline can be located (red-colored dots).
- 3. **SOC map** analysis can be carried out in two ways:
  - ✓ negative land cover changes occurring in high or low carbon content soils; and
  - ✓ where are the poorest SOC areas located and what is their land cover status.

#### 3.2.2 Trends in Land Use Land Cover

Based on the interpretation of the available data related to the LDN indicators has shown the following land degradation trends in Eritrea (**Figure 1**; **MoA**, **2017c**):

#### LD Trends in Southwestern Lowlands of Eritrea

Comparison of the vegetation cover (**Figure 3**) with the LPD shows that the Southwestern Lowland area is dominantly located within the declining LPD and in areas with early signs of LDP decline. Similarly the areas with declining LPD and areas with early signs of LDP decline are located dominantly within the agricultural and agro-pastoral areas of the Southwestern Lowlands (**Figure 3**). This is an area where commercial farming is being carried out. Hence it may be concluded that the Southwestern Lowland areas is in transition from natural or semi-natural land cover classes to cropland or settlements and hence if care is not taken it **may be characterised as negative when contextualised with national or local information.** 

#### LD Trends in Central and Southern Eritrea

Comparison of the vegetation cover map with the LPD (**Figure 3**) shows that the Central and Southern part of Eritrea is dominantly located within the declining LPD and in areas with early signs of LDP decline, where there is small scale farming. Hence it may be concluded that the Central and Southern part of Eritrea, which is predominantly covered by Cropland and Open Brush Savannah has made the transition from natural or semi-natural land cover classes to cropland or settlements / urbanisation and hence if care is not taken it may be characterised as negative when contextualised with national or local information.

#### LD Trends in Northern Eritrea

Comparison of the vegetation cover map (**Figure 3**) with the LPD shows that the northern part of Eritrea is dominantly located within the declining LPD and areas with early signs of LDP decline.

There has been a regeneration through bush and tree encroachment since the dawn of Independence in the northern part of Eritrea. Hence it may be concluded that the northern part of Eritrea, although highly degraded is making the transition to semi-natural land cover, which may be characterised as negative to a positive one when contextualised with national or local information.

#### LD Trends in Eastern and Southeastern Escarpment area

Comparison of the LC2010 land cover map with the Eritrean vegetation map (**Figure 3**) shows clearly that the Eastern and Southeastern Escarpment part of Eritrea is covered with limited forest cover within the Mirara / Semienawi Bahri Green Belt and is also covered with grasslands and in places is bare land due to erosion along the steep slopes of the escarpment.

#### LD Trends in the Danakil Region

The LC2010 land cover map (**Figure 3**) of the Danakil Region or Zoba Debubawi Keyh Bahri shows that it is dominantly bare land with limited grasslands and shrubs in mountainous areas. Although the region is semi-desert, the Afar community lives sustainably and has protected the limited vegetation land cover; however deforestation has started in earnest during the last decade for fuelwood collected.

Based on **figure 3** the Danakil Region shows a decline of land productivity and in most places shows early signs of decline of productivity.

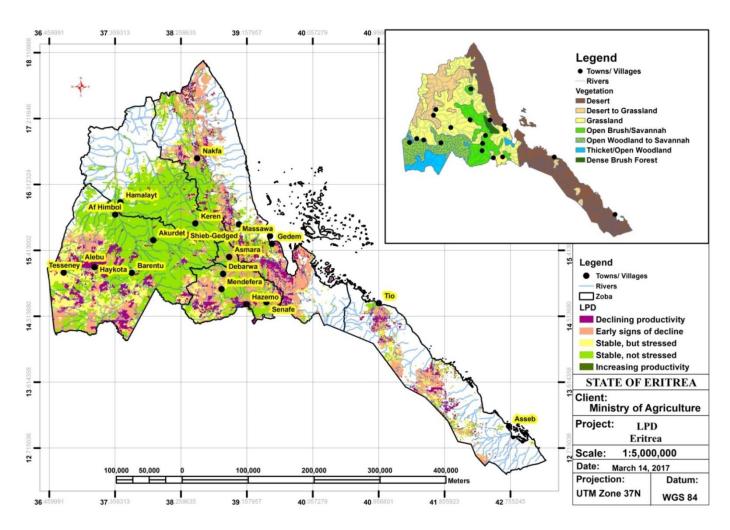


Figure 3: Comparison of the Land Productivity Dynamics Cover map with vegetation map of Eritrea.

## 3.2.3 Analysis of land degradation drivers

Once the trends of land degradation have been identified, located and quantified, and prior to defining measures to address the problem, two important steps were carried out to better understand land degradation dynamics at (sub) national level:

- i) analysis of the drivers of the degradation processes in the different parts of the country; and
- ii) assessment of the land management legal and institutional framework impacting LDN.

#### Direct drivers

The main direct drivers contributing to land degradation in Eritrea are non-sustainable agriculture, overgrazing by livestock, overexploitation of forests and woodlands, urbanisation and resettlement and other natural causes (**Table 4**). The need to produce more food for the rapidly increasing population has led to the rapid expansion of agricultural land and the shortening of the fallow periods in traditional, extensive land-use systems, which have reduced the regeneration of soil fertility through natural processes.

In addition resettlement of communities in order to give them basic social services in selected areas has meant that there is more pressure on forests and woodlands for firewood as well as grazing. Rangelands are also experiencing high grazing pressure, which affects overall rangeland productivity, which leads to rapid decline in tree cover.

#### Indirect drivers

Beside the direct drivers of land degradation, there are indirect causes such as population growth, poverty, land tenure and climate change (**Table 4**). Most resettlement areas experiencing rapid population growth and density have shown evidence of land degradation due to increased pressure on natural resources leading to land degradation in various forms.

Recent studies have shown that climate change also contributes to land degradation. For example, the 2011 drought in East Africa, had affected directly millions of people in Eritrea, Ethiopia, Kenya and Somalia, which shows that Africa is the continent most vulnerable to climate change.

**Table 4:** Main direct and indirect drivers of land degradation.

Direct drivers of land degradation	Indirect drivers of land degradation
perennial, scrub and tree crops  Deforestation and removal of natural vegetation  Over-exploitation of vegetation for domestic use  Overgrazing  Urbanisation and infrastructure	<ul> <li>Population pressure</li> <li>Land tenure</li> <li>Poverty/wealth</li> <li>Labour availability</li> <li>Inputs (including access to credit/financing) and infrastructure</li> <li>Education, access to knowledge and support services</li> <li>War and conflict</li> <li>Governance, institutional settings and policies (including taxes, subsidies, incentives)</li> </ul>

The study on trends in land degradation and drivers of LD has shown clearly that the forest cover of Eritrea has declined drastically during the past few decades and yet the people of Eritrea continue to be directly reliant on forest products, most particularly for their cooking and heating fuel and household construction materials (though less so now than historically). Hence decisive measures are needed to reverse the dynamics that cause continuing degradation of the natural resource base.

## 3.3 LDN institutional and legal environment

### 3.3.1 Review of institutional and legal environment

The national policies and institutional environment that impact the success of LDN have being analysed based on relevant policies, laws and regulations related to land use, land tenure and economic development (agriculture, environment, climate change infrastructure development, land tenure and land use and land cover, mining etc.) and the UNCCD National Action Programme (MoA, 2017d).

The review has being divided into three components namely

- 1. National policies and socio-economic strategy documents that influence SLM LDN
- 2. Sectoral laws and regulations that influence achievement of LDN
  - ✓ Cross-sectoral environmental regulatory framework
  - ✓ Sector specific regulatory framework.
- 3. International treaties influencing the achievement of LDN targets

In addition laws governing private sector and communities and its impact for LDN targets have being reviewed.

## 3.3.2 Constraints of the legal and institutional policies that influence the achievement of LDN

Although a start has been made there is limited protection for woodlands that contain 1-3% of Eritrea's terrestrial carbon stocks, which form an important source of fuel wood for rural households.

The powers and responsibilities of government institutions concerning environmental management in general and national parks and protected areas in particular have not yet been formally defined and proclaimed and there appears to be some gaps in this respect.

Another negative element that should be addressed is the lack of cross-referencing among policies and laws promoting environmental management and those promoting food security, job creation and poverty alleviation.

The existing institutional arrangements need improvement and it is hoped that the experience gained, lessons learned, gaps and constraints identified to date will unequivocally form the basis to enhance the LDN study and start implementing adaptation measures in Eritrea.

## 3.3.3 Develop an implementation strategy to integrate LDN in the identified selected national policies & commitment

To develop an implementation strategy a diverse range of interventions are required. First, the policy, legal and institutional frameworks for environmental regulation in Eritrea need to be streamlined. Secondly, for the effective implementation and operation of the laws and regulatory frameworks, the capacity of the regulators needs to be enhanced through a capacity building programme.

The sectoral laws will need to be to be revised in order to align their provisions to the provisions of the basic Environment Proclamation.

There is also a need to establish and strengthen appropriate institutional arrangements involving strong participation of stakeholders for the effective updating of land degradation on a continuous basis.

The mandates and responsibilities of the respective LDN working groups should also be urgently developed and adopted so that they will spearhead the implementation of the objectives of LDN.

#### 4. SETTING LDN TARGETS

## 4.1 LDN targets

Eritrea has set LDN targets at **national scale** as well as Zoba level with ambition to reach LDN for the entire country in order to align to the 2030 Agenda for Sustainable Development (SDG target 15.3) taking into account all LDN indicators (**MoA, 2017e; Tables 2 and 3**). Zoba level (Sub-national) LDN targets have also been set for achieving a neutral (no net loss) or improved (net gain) state allowing Eritrea to focus on areas that have been identified as major degradation "hot spots" and/or are considered to be a high-value priority in achieving LDN. Zoba level administrations will also be able to give priority for land cover, land use, land productivity and soil organic carbon in their region but also engage in priority hotspots areas within their provincial boundaries.

Relevant **stakeholder** groups have also been involved in the LDN target setting process through the LDN national working groups in order to ensure ownership and evaluate trade-offs early on in the planning process. Effort has also been made to ensure that all targets set are **measurable** according to the LDN indicator framework endorsed at national and global levels. All targets were **validated** by the national LDN working groups and **endorsed** by the Government at the highest possible level.

## LDN targets at the national scale

- LDN is achieved by 2030 as compared to 2015 and an additional 10 % of the national territory has improved (net gain)
- LDN (improved Adhanet stoves dissemination) is achieved by 2021 as compared to 2015.

#### LDN at the sub-national scale

- LDN is achieved in Maekel province by 2030 as compared to 2015 (no net loss)
- LDN is achieved in Debub province by 2030 as compared to 2015 (no net loss) and an additional 27% of the province has improved (net gain)
- LDN is achieved in Gash Barka province by 2030 as compared to 2015 (no net loss) and an additional 12% of the province has improved (net gain)
- LDN is achieved in Anseba province by 2030 as compared to 2015 (no net loss)
- LDN is achieved in Northern Red Sea (NRS) province by 2030 as compared to 2015 (no net loss) and an additional 10% of the province has improved (net gain)
- LDN is achieved in Southern Red Sea (SRS) province by 2030 as compared to 2015 (no net loss) and an additional 5% of the province has improved (net gain).

#### Specific targets to avoid, minimize and reverse land degradation

- Improve productivity of 10,954 sq km of cropland by 2030.
- Improve SOC stocks of 17,803 sq km in cropland and grasslands by 2030 as compared to 2015.
- Rehabilitate 17,853 sq km of degraded and abandoned land for crop production by 2030

Halt the conversion of forests and wetlands to other land cover classes by 2025. Restore 79 sq km of indigenous forest land.

- Increase forest cover by 10% by 2030 as compared to 2015.
- Reduce the rate of top soil loss (soil erosion) by 20% by 2030 as compared to 2015 estimate.
- Increase soil organic carbon by 10 t/ha in cropland achieved through SLM practices.

#### 4.2 Associated measures to achieve DLN

The associated measures to achieve DLN (MoA, 2017f) are primary means for the Eritrean government to communicate nationally and internationally and implement steps to achieve LDN in Eritrea. The LDN targets reflect Eritrea's ambition for achieving LDN taking into account domestic circumstances and capabilities to apply the LDN response hierarchy (avoid, reduce, and reverse).

Policy measures adopted by the Government of Eritrea include the ratification of the three most important environmental conventions namely: the United Nations Convention to Combat Desertification (UNCCD), the United Nations Framework Convention on Climate Change (UNFCCC) and the United Nations Convection on Biological Diversity (UNCBD), thereby confirming its strong commitment to environmental issues. It has also elaborated national strategies towards meeting its obligations under those conventions such as the National Strategy for Sustainable Development, the National Biodiversity Strategy, the National Adaptation Programme of Action (NAPA), the National Action Programme (NAP), the National Agricultural Development Strategy and Policy document. Poverty Reduction and Food Security strategic documents also provide strategic and policy guidance on how to develop and manage agriculture without impacting adversely the environment. All these policies and strategies have targets on land use that are relevant to LDN (see above) and and are closely linked with the national SDG process and other national commitments related to LDN.

LDN cuts across many sectors, chief among them are the line Ministries that mainly deal with natural resources such as Ministry of Agriculture, the Ministry of Land, Water Resources and Environment, the Ministry of Energy and Mines and the Ministry of Local Government. The Ministers responsible for Land, Water Resources and Environment, and the Ministry of Agriculture, under which the UNCCD Focal Points reside, as well as the Ministry of Local Government provided political support during the LDN target setting process and are influencing Ministries to support LDN initiatives.

The various national and sectoral policies and the various donor cooperation frameworks, some of which have been analysed above, provide common grounds for enhancing leveraging of resources for maximum impact.

It is also widely recognized that land degradation is a serious and enormous problem that governments alone cannot tackle. Consequently strong technical and financial support from partners is required, if the LDN implementation is going to succeed. Hence there are a number of 'Investment Programmes and Initiatives' directly related to SLM/LDN, which are

supported by different international development partners such as the UNDP, FAO, EU, IFAD, GEF, GM and ADB and others. However innovative financing such as the Climate change adaptation and mitigation financing (multilateral and bilateral), Drylands Fund, Incentives for adoption and investment in SLM practices for income generation; innovative finance (eco-tourism, private and community wood lots, carbon trading), and the Private sector such as Mining Companies, Agribusiness and Farmers and Service givers will also be important to achieve LDN. Public private partnerships and investment by Diaspora are also important source of finance.

In order to use available resources more efficiently it is also recommended that a coordination mechanism is being put in place that will ensure a better flow of information and coordination of projects and funding for SLM/LDN. This mechanism can be facilitated by the SLM Secretariat but should involve stakeholders such as ministries, technical institutions, CSOs and partners.

It could also be helpful to promote mechanisms that enable those who benefit from environmental services to pay for them and also provide economic incentives to encourage farmers and other land users to adopt more SLM / LDN practices and invest in environmentally friendly technologies. Incentive and market based mechanisms can be used to facilitate such incentives and compensations to encourage SLM / LDN and the restoration of degraded land.

Technical measures mainly address the direct drivers of land degradation such as non-sustainable agriculture, overgrazing by livestock, overexploitation of forests and woodlands, urbanisation and resettlement and other natural causes. The technical measures adopted include Soil and Water Conservation in almost all Zobas involving active participation of communities in catchment treatment, which includes construction of terraces, establishment of enclosures and nurseries, tree planting, dissemination of improved seeds, land leveling, sustainable land management programmes, construction of dams, micro-dams and ponds and promoting energy saving alternate energy sources. Improve the ecosystem through natural regeneration by promoting the development of non-wood forest products and promoting modern irrigation systems (MoA, 2017f).

Since the technical measures adopted vary across the nation, the measures adopted for each region is summarised below:

#### 1: Western Lowlands of Eritrea

✓ Restoration by using sustainable agricultural practice to improve productivity.

## 2: South central highlands and Southwestern Lowlands of Eritrea

✓ Restoration and rehabilitation by using SLM practices to improve cropland productivity.

## 3: Eastern Escarpment (Mirara area) and Riverine Forest of Gash-Setit Catchments, Southwestern Lowlands of Eritrea

✓ Reforestation and promotion of commercial tree plantations and enhance community forestry.

## 4: Northern Highlands and Eastern Coastal Plains of Eritrea

✓ Reclamation and cultivation: Conservation approaches and sustainable land management measures.

Finally it is suggested that the Eritrean Government will have to continue to call on the private and other stakeholders to contribute their part to achieve LDN by 2030.

#### 5. ACHIEVING LDN

## 5.1 Leverage already achieved

The LDN leverage opportunities have been identified and are based on the current realities in Eritrea. Strong justification has been established for leveraging efforts and resources in pursuance of LDN agenda as a vehicle for delivering on SDGs, in particular SDG 15.

The Government is committed to promote interventions on sustainable development in line with various global and regional frameworks and has elaborated national strategies towards meeting its obligations under those conventions and other agreements. Various sectoral policies promulgated by the Eritrean Government are in coherence with the objectives of SLM and the principles of LDN.

There is coherence of development partners' cooperation frameworks because a number of 'Investment Programmes and Initiatives' directly related to SLM/LDN are supported by different international development partners.

The Ministries responsible for Land, Water Resources and Environment, and the Ministry of Agriculture provide political support and influence ministries to support LDN initiatives. At national policy and planning level the line Ministries that mainly deal with national planning, financing and investment issues and international relations such as Ministry of Finance, and National Development are responsible in ensuring that SDGs and LDN are mainstreamed in the national development planning framework and sectoral policies and programmes.

Finally Eritrea has committed to the LDN Target Setting Process voluntarily because it forms part of its continued efforts to promote SLM.

In addition the Working groups that were formed during the LDN target setting process have created the foundation for the national coordination mechanisms for the effective implementation of LDN.

#### 5.2 LDN transformative projects and programmes opportunities identified

New project concepts of the most important transformational projects that are environmentally, socially and economically sustainable are proposed (MoA, 2017g). These new transformational projects are based on previous experience and lessons learned which can help inform design and implementation of interventions.

#### **Potential Short term actions concept**

The short term actions are to:

- enhance and galvanize the social mobilization (greening campaign) towards addressing land degradation;
- enhance/support existing community forest nurseries;

- rehabilitate degraded landscapes through afforestation, enrichment planting, and enclosure establishment;
- create community managed sustainable forest and woodlots;
- encourage individual households in a community to plant and own trees and produce sustainable wood and fodder;
- increase the local wood supply through the establishment of wood lots; and
- promote sustainable utilization of the land resources for various uses.

### **Potential long term actions concept**

## A) Land classification / land distribution

One of the main pillars for the success of meeting LDN is to ensure:

- ✓ That land is classified according to its potential use for sustainable development,
- ✓ Provide geographical information for agricultural or other development planning,
- ✓ Identify environmentally sensitive areas that may require protection against misuse or destruction,
- ✓ Help in implementing equitable and sustainable land distribution and allocation for agricultural, urban and industrial purposes.

Based on Sustainable Land Management (SLM) Pilot project, which was conducted in Serejeqa, Zoba Maakel during 2010-2015 (MoA, 2017h) it is recommended to upscale and replicate land distribution nationwide. This can generate spill over effects on multiple sectors of the economy, including broader changes that increase government effectiveness or stimulate private investment; resulting to a higher and/or more sustainable development path.

#### B) Renewable Energy

Since energy is a crucial issue related to SLM/LDN, rural communities should also be encouraged to adopt improved energy utilization technologies such as the improved stove (Adhanet Mogogo) and solar stoves.

Solar, wind energy, biogas, and briquetting (from biomass) should be introduced at a lower level and scaled up in stages in order to ensure protection of forests and biodiversity.

# C) <u>Promotion of dry land products through sustainable land management and enhanced market access and trade</u>

The dry land ecosystems of the western lowlands are among the Government's priority area of natural resources and biodiversity conservation.

Opportunities for small-scale private sector activities of Doum Palm (*Hyphaene thebaica*), Gum Arabica and Olibanum (frankincense) and Moringa dry land products could create the necessary incentives to protect forests (**MoA**, 2013).

#### D) Role of Private Sector

At present there are no commercial farms in Eritrea or substantial foreign direct investments (FDI) that could fulfil help farmers to sustain and improve yields as well as food quality

using practices that are compatible with SLM. However within their limited capacity they can support low income farmers by donating funds or, in the case of commercial farmers, help by donating high yield seeds, cleaning and processing of grain and/or dry land products and marketing their produce nationally and internationally.

So far there is an increase in FDI in the mineral sector. The mineral industry as part of its corporate responsibility and based on the requirements of the Eritrean Government has to carry out a Social and Environmental Impact Assessment (SEIA), which includes setting up a Community Development Programme and Environment Management Plan to reduce the pressure on the environment. Hence linkages can be established to help in SLM projects as well as ensuring that the mining companies' own operation are compatible with SLM..

Hence it is suggested that the Eritrean Government will have to continue to call on the private sector and other stakeholders to contribute their part to achieve Land degradation neutrality by 2030.

## E) Community Empowerment and Capacity Building

### Community Empowerment

Since implementation of SLM-LDN is best achieved through community-driven development processes, communities should be actively involved in identifying potential problems and solutions related to land tenure, land use and animal feed. A particular focus will therefore be on awareness and training in relation to women's associations and in the production of gender-sensitive educational materials.

#### Capacity Building

There is a need of capacity needs assessment for the Zoba level experts to strengthen their capacity, efficiency and enthusiasm of the Working Groups as well as run training session in Environmental Information Management System, Environmental Impact Assessments (EIA) and writing of project proposals.

#### Strengthening of Working Groups

A National Working Group composed of 20 Director Generals and representatives of other agencies and Technical Steering Committees / Working Groups have been set up at Zoba/Provincial levels and in order to undertake the huge task of LDN. Hence there is a need to enhance their institutional but also agree on a proposal of capacity building project at Zoba/Provincial level.

#### F) Financial Sustainability

In order to facilitate transformational change, a strategy has to be developed for attaining financial sustainability, which is a key factor that needs to be achieved by harnessing market forces to drive and expand the desired environment-friendly impacts. The dryland products and introducing innovative technology for farmers will ensure financial sustainability. Otherwise there will be dependency of communities, who wait for government budgetary support or funding from international partners to continue funding the programs and activities established by the project.

Furthermore, there is a growing potential to mobilize additional funding for UNCCD implementation through non-traditional sources using innovative financial strategies (MoA, 2013).

#### 6. CONCLUSIONS

## 6.1 Overall achievements and lessons learned of the LDN target setting process

Major transformation is required in addressing LDN. The Eritrean Government has set ambitious national voluntary LDN targets, established a baseline, and formulated associated measures to achieve LDN.

Lessons learned suggest that the only way to establish important drivers of change is to address the following lessons learned:

- Establishing an effective transformational mechanism by land distribution and empowering local communities that will create a mechanism for up scaling and expanding the activities supported by the intervention.
- There is a need to implement the projects based on the quality of project design, with high level supervision and assistance by the implementing agency.
- There is no doubt that a strong private sector is important to achieve fully the transformation to achieve LDN by 2030.

#### **6.2 Recommendations**

Further assessment of selected hot spot areas may be required to fully understand the historical and current drivers behind observed land degradation dynamics using additional indicators, data sources, including field assessment and consultation visits. There is also a need to speed up funding requirements for fieldwork for assessment of hotspots, since in due course LDN hotspots may become a priority for action to achieve LDN through LDN transformative projects.

The limitations mentioned above suggest that there is a need to establish and strengthen appropriate arrangements involving strong participation of stakeholders for the effective implementation of LDN on a continuous basis.

Although the Ministry of Agriculture has an on-going programme of Conservation Agriculture, it is suggested that it has to strengthen food security by establishing good conservation agriculture and agro-forestry practices, which can be up scaled to other areas of Eritrea. It is expected that this will lead to programmatic and structural change of the Eritrean farming system in those areas that have potential for increased cereals food crop production.

Finally LDN can only be successfully achieved, if decisive measures are implemented to reverse the dynamics that cause continuing degradation of the natural resource base in the defined hotspots. There is a need of continuous public awareness of soil and water conservation and sustainable use of natural resources to mitigate the effect of land degradation.

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# ANNEX 1: MANDATES AND TERMS OF REFERENCE OF THE NATIONAL STEERING AND TECHNICAL COMMITTEES

The main objective of the SLM-LDN National Steering Committee is to guide, co-ordinate, mobilize resources / funding and evaluate all activities of SLM-LDN at national and community level. This body should be well equipped with well-defined structure, skilled manpower and financial resources.

It was agreed that an 8-10 member Technical Steering Committee should be set up at Zoba/Provincial levels. It was decided that the number of only the most relevant local Government ministries should be represented at the Technical Steering Committee level but also agreed that the structure be as follows: the Director General to Chair the Technical Steering Committee and that a Secretary / team leader be nominated who is an expert and a team player to help guide the implementation of the mandate of LDN, but also to report back the findings and accomplishments to the National Steering Committee.

The National Steering Committee will establish the necessary institutional and financial instruments to carry out its tasks. This will have to be carried out by two committees, namely the Technical / Capacity Building and Fund Raising committees. The SLM-LDN National Steering Committee will directly cooperate with existing National Committees/Focal Points for Biodiversity, Climate Change, and Land Degradation and Desertification.

In order to use available resources more efficiently it is also recommended that a coordination mechanism is being put in place that will ensure a better flow of information and coordination of projects and funding for SLM-LDN. This mechanism can be facilitated by the SLM-LDN National Steering Committee, but should involve stakeholders from the different organisations that carry out or fund SLM-LDN activities, such as ministries, technical research institutions, development partners, land users, CSOs and private service providers.

It was agreed that assessment of experts has to be taken into consideration when electing members of the Technical Steering Committee's since they should have appropriate / relevant technical expertise.

## Mandate / Terms of Reference of National Steering Committee

- Approve the Mandates / Terms of Reference for the three steering committees that is SLM/LDN National Steering Committee, Technical Steering Committee at national level and Technical Steering Committee at Zoba / provincial level.
- Enhance Government leadership and coordination across line ministries to tap leverage potential of LDN target setting process.
- Liaise with donors and concerned government officials in order to access funds and ensure efficient use by establishing the institutional and financial instruments necessary in order to be able to coordinate and mobilize resources.
- Organise 'high level meeting' of the National Steering Committee with UNCCD.
- Facilitate and approve annual country work plans, including deliverables, deadlines and budget.
- Mainstream National Action Plan (NAP) and up-scale SLM/ILM practices.
- Review the SLM-LDN programmatic ideas proposed during the LDN Inception Workshop held on 5th October 2016.

- Review the SLM-LDN Indicative Action Plan for the short and medium terms to be undertaken on the selected intervention areas.
- Enhance best practices and establish Awards for best practices and encourage private sector.
- Provide scientific findings and information for decision makers and facilitate training projects.
- Present their findings for approval by the Central Government.
- The National Steering Committee to meet every six months to assess on-going projects and set policy guidelines for sustainable implementation of SLM-LDN.

# Mandate / Terms of Reference of National Technical Steering Committee

- Help develop guidelines and directives.
- Follow up the work of the Zoba Technical Steering Committees.
- Regular follow up and evaluation of SLM-LDN projects.
- Mainstream National Action Plan (NAP) and up-scale SLM/ILM practices.
- Regular correspondence and share information with stakeholders.
- Enhance best practices and establish criteria and ToR of Awards for best practices.
- Provide scientific findings and information for decision makers.
- Facilitate and co-ordinate training projects and continue awareness raising at all levels.
- Facilitate the preparation of bankable projects and submit them to National Steering Committee.
- Follow up of day to day activities and keep minutes.
- Meet quarterly and present findings to the National Steering Committee.

# Mandate / Terms of Reference of Zoba Technical Steering Committees

- Regular follow up and evaluation of SLM-LDN projects.
- Targeted policy and institutional support, including development of incentive mechanisms for SLM –LDN adoption and income generation at the local level.
- Regular correspondence and share SLM-LDN information with local communities.
- Run training courses for farmers.
- Consistent effort to increase awareness of environmental problems and possible solutions at local levels.
- Enhance best practices and select candidates / communities' for SLM-LDN Awards.
- Follow up of day to day activities and keep minutes.
- Meet quarterly and present findings to the National Technical Steering Committee.

# ANNEX 2: LIST OF WORKING GROUP MEMBERS IN ERITREA

# A): List of WG members from Government Agencies

Name of organisation Name of representative		Sector	
National Working Group			
Mr Heruy Asgedom	Director General, Agricultural Extension		
Mr Mogos Woldeyohannes	DG, Department of Environment, Ministry of Land, Water and Environment, Zoba Maekel	Government	
Mr Tseggai Teamrat	DG, Department of Land. Ministry Land, Water & Environment. Zoba Maekel	Government	
Mr Mebrahtu Eyassu	DG, Department of Water; Ministry of Land, Water and Environment, Zoba Maekel	Government	
Mr Alem Kibreab	DG, Ministry of Energy & Mines, Zoba Maekel	Government	
Dr Iyassu G/tatios	DG, National Agricultural Research Institute (NARI), MoA, Zoba Maekel	Government	
Mr Mahmoud Heruy	Director General, Ministry of Local Government	Government	
Mr Tekleab Mesgena	Mr Tekleab Mesgena  DG, Regulatory Service Department MoA, Zoba Maekel		
Mr Taddesse W/Yohannes DG, Ministry of Trade and Industry, Zoba Maekel		Government	
Mr Afeweki Tesfai	Mr Afeweki Tesfai  Director, Ministry of National Development, Zoba Maekel		
Mr Mekuria Woldu	Director, Ministry of Information	Government	
Mr Michael Berhane	SWC Unit Head, MoA, Zoba Maekel	Government	
Mr Suud Berhanu	Suud Berhanu Head, Ministry of Finance, Zoba Maekel		
Maekel / Central Administra			
Mr Yemane Abay	Director General, Land & Agriculture, Zoba Maekel	Government	
Mr Asrat Haile	Head, Crop production, MoA, Zoba Maekel	Government	
Mr Kesete G/Giorgis	Head, SWC and Irrigation, MoA, Zoba Maekel	Government	
Mr Abraham Teklu  Head, Forestry Development, MoA, Zoba Maekel		Government	
Mr Abraham Daniel Director, Agriculture Infrastructure, Zoba Maekel		Government	
Mr Mussie Robel Eritrean Wildlife & Forestry Authority, MoA, Zoba Maekel		Government	
Mr Eyob G/meskel  Dam & Diversion Unit Head, MoA, Zoba Maekel		Government	
Mr Hadgu G/Indrias	Planning Unit Head, MoA, Zoba Maekel	Government	
Ms Segen Debesay	Irrigation expert, MoA, Zoba Maekel	Government	

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Northern Red Sea Administr	rative Region Working Group			
Mr Kesete Tsegay  Director General, Land & Agriculture, MoA,  NDS Parison				
Wil Kesete Tsegay	NRS Region	Government		
Mr Bereket Kidane	Head, Land Division. MoLWE, NRS Region	Government		
Mr Habtesion Berhane	Head, Water Division, MoLWE, NRS Region	Government		
Mr Semere Yohannes	Head, Environment Division, MoLWE, NRS			
TVI Semere Tonumes	Region	Government		
Mr Tesfit G/Egziabher	Head, Crop Production Division, MoA, NRS Region	Government		
	Head, Soil and Water Conservation Division,	Government		
Mr Yohannes Tesfay	MoA, NRS Region	Government		
	Unit Head, Ministry of Local Government, NRS	Government		
Mr Tesfay	Region Region	Government		
Mr Yonas Woldu	Unit Head, Ministry of Local Government, NRS			
Tim Tomas Troida	Region	Government		
Mr Mohammed Said Mantay	Unit Head, Ministry of Local Government, NRS Region	Government		
	NKS Region	Government		
Debub / Southern Administr	rative Region Working Group			
Mr Hailemicael Eyob	Director General, Land & Agriculture, MoA	Government		
Mr Teklehaymanot Zerai	Director, Land & Agriculture, MoA	Government		
•	Director, Crop & Livestock Development,	Government		
Mr Teklu Beraki	MoA	Government		
Eng Tesfamariam Tekle	Soil & Water Conservation, MoA	Government		
Eng. Major Berhane	Soil & Water Conservation, MoA	Government		
Mr Gebresellassie Semere	Soil & Water Conservation, MoA	Government		
Mr Gebremichael Berhe	Head, Forestry & Wildlife Authority			
Gash Barka/ Southwestern A	Administrative Region Working Group			
Mr Eyasu Atsbha	Director General, Land & Agriculture, MoA	Government		
Mr Bahlbi Goitom	Land Resources & Environment Expert, MoA	Government		
Mr Abraha Gebreamlak	Head, Environment Branch MoLWE	Government		
Mr Amanuel Gebregziabher	Unit Head, Water Resources Department,			
	WRD	Government		
Mr Kiflom Adhanom	Head, Plant Protection, MoA	Government		
Mr Zienawi Tesfabirhan	Head, Crop Production Unit, MoA	Government		
Mr Daniel Frezgie	Branch Head, MoA	Government		
Mr Tesfamichael Mehari	Soil & Water Conservation Expert. MoA	Government		
Mr Goitom Semere	Ministry of Agriculture (MoA)	Government		
Anseba Administrative Regi	on Working Group			
Mr Gebreslassie Aradom	Director General, Land & Agriculture, MoA	Government		
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Mr Kiflay Woldu	Soil & Water Conservation, MoA	Government		
Mr Awet Bahta	Soil & Water Conservation, MoA	Government		
Mr Dawit Kibreab	Head, Environment Division, MoLWE	Government		
Mr Gebremeskel Tewolde	Agricultural Infrastructure Division	Government		
Mr Zeray Nor	SWC & Irrigation Development, MoA	Government		
Mr Zere Weldetinsae	Water Resources Division, MoLWE,	Government		
Ms Hisabu Tesfay	Land & Agriculture, GIS Expert	Government		
		•		
Southern Red Sea Administr	Southern Red Sea Administrative Region Working Group			
Dr Yonas Woldu	DG, Land & Agriculture, Southern Red Sea Region			
Mr Omar Mahomoud	SWC Expert, Land & Agriculture, Southern Red Sea Region	Government		
Mr Negusse Girmay	Crop production, Land & Agriculture, Southern Red Sea Region			

# B): List of WG members from Higher Education Institutes

Name of organisation	Name of representative	Sector
Dr Tadesse Mehari	Director, National Commission of Higher Education (NCHE)	Science
Dr Bissrat Ghebru	Director, National Commission of Higher Education (NCHE)	Science
Dr Gebrehiwot Medhane	Mai Nefhi Institute of Technology	
Mr Semere Amlosom	Dean, Hamelmalo Agricultural College	Science
Dr Berhan Kelati	Dean, Adi Keyh College of Arts & Social Sciences	Science
Dr Woldeslasse Ogbazghi	Hamelmalo Agricultural College	Science

# C): List of WG members from Civil Society

Name of organisation	Name of representative	Sector
Mr Saleh Ahmed	Unit Head, National Union of Eritrean Youth & Students (NUEYS)	Civil Society
Mr Tekle Yigzaw	Unit Head, National Union of Eritrean Workers (NCEW)	Civil Society
Ms Tibe Kindia	Unit, Head National Union of Eritrean Women (NUEW)	Civil Society

# D): List of WG members from Private Sector

Name of organisation	Name of representative	Sector	1
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Mr Amanuel Arefaine	General Manager, Asmara Mining Share Co (AMSC)	Mining
Mr Yosief Tadesse Kidane	Exploration Manager, Zara Mining Share Co (AMSC)	Mining
Mr Tadesse Haile	Manager, Eritrean Development and Investment Bank	Business
Mr Yohannes Yosief Teklu	Manager, Commercial Bank of Eritrea	Business
Mr Tafla Asmerom	Manager, Savings & Micro-credit Programme (MEWIL)	Business

# E): List of WG members from International Development Partners

Name of organisation	Website	Name of representative	Sector
Mr Adam Habteab	http://www.er.undp.org/ and TheGEF.org	UNDP- GEF	International partners
Ms Alganesh G/Kinfu	http://www.fao.org	FAO	International partners
Mr Claude Mainge	https://eeas.europa.eu/delegations/eritrea_en	EU	International partners
Ms Geertrui Louwagie	https://eeas.europa.eu/delegations/eritrea_en	EU	International partners
Mr Yosief Kahsay	https://eeas.europa.eu/delegations/eritrea_en	EU	International partners
Mr Nerayo Semere Petros	https://www.ifad.org/Eritrea	IFAD	International partners
African Development Bank	www.afdb.org	AFDB	International partners
Mr Desale Hadgembes	https://www.icrc.org/en/document/eritrea	ICRC	International partners

# ANNEX 3: WORKING GROUP MEETINGS AND SCOPE OF MEETING

**4 October 2016** 

Location: Ministry of Agriculture (MoA) office in Asmara

The LDN Working Group (WG) met to review the LDN leverage plan that was presented by the National Consultant. Additional leveraging opportunities were suggested that will lead to the development of leveraging plan with a buy in from the main national and international stakeholders in the country.

#### **5 October 2016**

Location: Emba Soira Hotel Conference Hall, Asmara, Eritrea

The main objectives of the Land Degradation Neutrality (LDN) Inception Workshop were:

- Launch the LDN target setting process for participants,
- Make participants familiar with the concept of LDN,
- Discuss the scope and implementation arrangements of the programme,
- Review methodologies proposed to be used in the LDN target setting process,
- Facilitate the elaboration of draft country work plans, including deliverables, deadlines and budget, and
- Facilitate the establishment of National Steering Committee.

#### 20 October 2016

Location: Massawa, Northern Red Sea Region

A meeting was organised to meet relevant staff members of the Regional Government in Northern Red Sea Region (NRS), with the aim of setting up a regional Working Group (WG) and to review the aims and objectives of LDN-TS.

Discussion focussed on updating the baseline data as well as help in setting up Database Management System. Assessment of suggested hotspots and the challenges of land degradation and the need for capacity building were discussed. Finally a Steering Committee of the WG were elected at Zoba level.

#### **14 November 2016**

Location: Mendefera, Zoba Debub (Southern) Region

A meeting was organised to meet relevant staff members of the Regional Government in Zoba Debub (Southern Region), with the aim of setting up a regional Working Group (WG) and to review the aims and objectives of LDN-TS.

Discussion focussed on updating the baseline data as well as help in setting up Database Management System. Assessment of suggested hotspots and evaluation of Greening campaign over the last 10 years and the role of Students Green clubs was assessed.

The challenges of land degradation and the need for additional staff and training requirements were also discussed. Finally a Steering Committee of the WG were elected at Zoba level.

#### **23 November 2016**

**Location**: Global Resources Consultants Office, Asmara

The scope was to assess the Capacity Building needs of relevant staff of MoA to enable them to implement LDN successfully. It was agreed that capacity needs are required in the following subjects:

- ✓ Training needs assessment
- ✓ Planning and budgeting
- ✓ Climate change✓ Hydro meteorological surveys
- ✓ Database management
- ✓ Remote Sensing GIS

#### **24 November 2016**

Location: Barentu, Zoba Gash Barka (Southwestern) Region

A meeting was organised to meet relevant staff members of the Regional Government in Zoba Gash Barka Region, with the aim of setting up a regional Working Group (WG) and to review the aims and objectives of LDN-TS.

Discussion focussed on updating the baseline data as well as help in setting up Database Management System and training requirements in GIS and Land classification and assessment of suggested hotspots and their validation.

Institutional challenges were also discussed such as transport to carry out SWC and follow up work in the Zoba. Finally a Steering Committee of the WG were elected at Zoba level.

### **25 November 2016**

Location: Ministry of Agriculture (MoA) office in Asmara

Based on request of the Soil Leadership Academy Project, of the UNCCD the WG discussed and filled a capacity building needs assessment survey questionnaire.

# **21 December 2016**

Location: Ministry of Agriculture (MoA) office in Asmara

- Review of lessons learned on community contribution in SWC and afforestation.
- Comparative assessment was also done vis a vis land allocation for communities and the youth, which was carried out in Namibia and Egypt.

#### **26 December 2016**

Location: Ministry of Agriculture (MoA) office in Asmara.

- Review of proposals of LDN Science Policy Interface (SPI).
- Impact of interventions and alternate energy solutions was assessed.
- Agreed on the need for documenting good SLM practices in Eritrea by involving the Ministry of Information to help in documenting using video clips.

# 8 February 2017

Location: Ministry of Agriculture (MoA) office in Asmara

The LDN Working Group (WG) reviewed draft report on LDN drivers, trends and SWOT analysis.

Limitation of land cover and land use maps to support the LDN study was discussed and it was agreed on the need of buying satellite images to implement LU / LC maps.

## **15 February 2017**

Location: Ministry of Agriculture (MoA) office in Asmara

- Terms of Reference (ToR) of the Working Group including mandates and structure of the WG were discussed. Action plan topics were adopted by the WG. Deadline of collating the final membership of the WG was agreed.
- Documenting of Zoba level projects identified and documented. However the costs of the ongoing projects were not fully known. This would have enabled on whether they were finished within budget. The problem identified that community's free labour contribution was not monetised.
- Serejeka pilot project of land allocation to the community was assessed to be very successful and it was recommended that it should be replicated nationwide.
- The need of involving the Media and the need of awareness creation about land degradation for members of the Ministry of Defense was considered very important.

### 15 March 2017

Location: Ministry of Agriculture (MoA) office in Asmara

The WG reviewed the LDN Baseline draft report. It was agreed that it should be updated once the final validation is done and agreed upon by the national working group

## 30 March 2017

Location: Ministry of Agriculture (MoA) office in Asmara

- Discussion held on COP 13 and technical support required for the target setting process and the need to upgrade the land cover, and soil classification maps of Eritrea.
- Recommended to ask FAO to make available all data on Eritrea spanning from 1997 up to 2004
- Agreed to solicit funds required to enhance the work of all WG at Zoba level.

#### 6 April 2017

Location: Ministry of Agriculture (MoA) office in Asmara

- Reviewed draft report on Land Degradation Neutrality Trends and Drivers in Eritrea.
- Valuable suggestions made about current conditions and made decisions about potential intervention measures and priorities.

## 19 April 2017

Location: Ministry of Agriculture (MoA) office in Asmara

- Discussion about progress of WG meeting and the need for backstopping at Zoba level to enhance WG capacity.
- Preparation of National Greening Day on 15 May 2017, to help ensure awareness of LDN-TS by the public.

• Preparation meeting for **Target Setting and Drivers Workshop** that is going to be held on 19-20 May, 2017.

# 28 April 2017

Location: Ministry of Agriculture (MoA) Regional office in Asmara

- Meeting to help set up Working Group in Zoba Maekel and strengthening capacity of the WG.
- Participants presented progress report of SWC / re-afforestation and closure projects.

# 13 May 2017

Location: Ministry of Land, Water and Environment (MoLWE) office in Asmara

Meeting organised with the Director General and GIS staff of Department of Land. Reviewed the Land cover / land use maps of three provinces namely Northern Red Sea, Southern Red Sea and Zoba Debub. The maps were based on time series satellite interpretation and validated by fieldwork. The data was made available to the LDN-TS project.

# 15 May 2017

Location: Ministry of Agriculture (MoA) office in Asmara

WG participated during the National Greening Day organised by the MoA.

All Zoba experts presented their annual accomplishments: status of agriculture, SWC and reafforestation programme, which was helpful for the LDN study.

## 18 May 2017

Location: Ministry of Agriculture (MoA) office in Asmara

Representatives from relevant stakeholders' met to discuss our understanding of hotspots and baseline data. There was a debate about problems of land tenure, and lack of soils data and definition of forest cover. The issue was whether the 3% or 1% vegetation cover could be considered as forest cover. It was agreed that the default data made available by the UNCCD Secretariat is acceptable and that the soil classification could be as defined by IPCC.

It was noted that limited ground verification studies were carried out of Hotspot areas, because of lack of funds.

### Recommendations by the WG:

- 1. Default data accepted in the absence of other reliable data.
- 2. Extent of cropland as defined in the baseline data to be re-visited.
- 3. More hotspot areas to be included.
- 4. SOC data to be researched.
- 5. Land use types to be harmonised.
- 6. GEF fund to be sourced to enable data integration.

#### 19-20 May 2017

Location: HACOSE Conference Hall, Asmara, Eritrea

Validation workshop of: Baseline, trends and drivers of Land Degradation Neutrality (LDN).

## 5 June 2017

Location: Ministry of Agriculture (MoA) office in Asmara

- The LDN WG reviewed preliminary data on Target setting.
- Recommended additional data that need to be incorporated.

#### 26 June 2017

Location: Ministry of Agriculture (MoA) office in Asmara

The LDN WG reviewed draft report on 'Key policy/technical measures to achieve LDN'.

# 4 July 2017

Location: Ministry of Agriculture (MoA) office in Asmara

- Meeting to enhance target setting data.
- Reviewed costing of target setting programmes and norms established by MoA for SWC to help write project proposals.

## 10 July 2017

Location: Ministry of Agriculture (MoA) office in Asmara

Review was made of hotspot areas namely of Zoba Maekel, Southern Red Sea and Anseba Regions.

#### 18 July 2017

Location: Ministry of Agriculture (MoA) office in Asmara

The WG reviewed draft report on "LDN included in selected national policies and commitments".

# 21 July 2017

Location: Ministry of Agriculture (MoA) office in Asmara

The WG reviewed draft report on Target setting. Approved the report and recommended for the Minister of Agriculture to review the document.

# 25 July 2017

Location: Ministry of Agriculture (MoA) office in Asmara

The WG reviewed draft report on "Governmental high-level note of measures to achieve the national LDN targets". It was recommended for the Minister of Agriculture to review the document.

## 26 July 2017

Location: Ministry of Agriculture (MoA) office in Asmara

- Meeting with Minister on the way forward and acceptance by Eritrea of LDN targets
- Discussed long term action plans plus lessons learned from international experience.
- The Eritrean Government committed to adopt LDN and set an ambitious national voluntary LDN target, which was submitted to the Global Mechanism on 27 /07/2017.

#### 15 October 2017

Location: Ministry of Agriculture (MoA) office in Asmara

WG reviewed LDN transformative project development in Eritrea, consistent with ongoing national strategies, plans and frameworks for sustainable development in order to translate the LDN

conceptual framework into practice and to ensure commitment of the Eritrean Government to achieve Land Degradation Neutrality targets by implementing **Transformative LDN projects/programmes** and innovative financing to achieve **LDN** by 2030.

# ANNEX 4: SELECTED PICTURES FROM LDN INCEPTION WORKSHOP MEETING - OCTOBER 2016.





ANNEX 5: SELECTED PICTURES FROM LDN BASELINE VALIDATION WORKSHOP- 19-20<sup>th</sup> May 2017.





















# ANNEX 6: LIST OF LDN REPORTS SUBMITTED

- 1: Country Work plan LDN Activity Schedule and Budget Eritrea. Submitted by Seife M. Berhe. November 2016. p11.
- 2: Eritrea National Land Degradation Neutrality Target Setting Leverage Plan. October 2016, p 26.
- 3: Land Degradation Neutrality (LDN) Stakeholder Engagement at Zoba / Provincial Level in Eritrea. Held between 20th October 30 November 2016. Submitted by Seife M. Berhe. November 2016. p11.
- 4: Proposed Organisational Setup of SLM-LDN Working Groups in Eritrea. 15 February 2016. p 6.
- 5: Report on Land Degradation Neutrality Baseline Assessment in Eritrea, March 2017, p 26.
- 6: Analysis of Legal and Institutional Environment Relevant to LDN in Eritrea. February 2017, p39.
- 7: Assessment Report on Land Degradation Neutrality Trends and Drivers in Eritrea. April 2017. p 30.
- 8: Setting LDN Targets and Measures in Eritrea. August 2017. p 9.
- **9:** Key Policy/Technical Measures to Achieve LDN. July 2017. p 9.
- 10: Governmental High-level Note of Measures to Achieve the National LDN Targets". July 2017, p5.
- 11: LDN Included in Selected National Policies and Commitments- Eritrea. July 2017. p 24.
- **12**: LDN Transformative Project Development in Eritrea. October 2017. p 40.

# **Workshop Reports**

- 1: Land Degradation Neutrality (LDN). Inception Workshop Report. Held on 5<sup>th</sup> October 2016, Eritrea. p32.
- 2: Baseline, Trends and Drivers of Land Degradation Neutrality (LDN) Validation Workshop Report. Held on 19-20<sup>th</sup> May 2017 in Eritrea. June 2017.p47.

# Report of Field Visit of Hotspot Areas

Visit of Selected Hotspot Areas in Eritrea. Seife M. Berhe. November 2017. p 13.