



# **FEDERAL REPUBLIC OF SOMALIA**

## **FIFTH NATIONAL REPORT ON THE IMPLEMENTATION OF THE CONVENTION ON BIOLOGICAL DIVERSITY OF SOMALIA.**

*SUBMITTED TO:* CBD SECRETARIAT.

*SUBMITTED BY:* **MINISTRY OF FISHERIES AND MARINE RESOURCE**

**Mr. Ahmed Mohamed Iman**  
Director General Min. Fisheries & CBD  
Operational Focal Point for Somalia  
Tell: +252 61 556 2766  
Email: aiman@mfmr.gov.so



**Mr. Mohamed Mo'allim Osman**  
Director of Environmental Awareness Department  
National Coordination for the CBD - 5th NR  
Tell: +252 61 552 1740  
Email: boqol100@hotmail.com



**MINISTRY OF FISHERIES AND MARINE RESOURCES**

**Fifth National Report on the Implementation  
of the Convention on Biological Diversity.**

**Somalia**



Mogadishu, February 2014

## Contents

Executive summary: .....	8
Somali Constitution and Legal Framework: .....	9
The Ministry of Fisheries and Marine Resources: .....	9
ACKNOWLEDGEMENT: .....	10
Introduction .....	11
Major Direct and Indirect Drivers of Biodiversity Losses are:.....	13
Key actions in support of the Convention’s three objectives and to achieve the targets, goals and objectives of the strategic plan of the convention: .....	13
Areas where national implementation has been most effective or most lacking: .....	14
Major obstacles encountered in implementation. ....	14
Sectoral and cross-sectoral integration or mainstreaming of biodiversity considerations:.....	14
Future priorities: .....	15
CHAPTER ONE .....	16
1.0 Over view of Bio-diversity status, trends and threats: .....	16
Table1: Endemism data of the larger diversity hotspot of the Horn of Africa is shown Table 1: .....	17
1.2. Status and trends of important biodiversity components:.....	18
1.2.1 Forest and Woodlands biodiversity status and trends .....	18
Box 1: Frankincense.....	18
Box 2: High Demand for Charcoal by Households in major Cities.....	19
Box 3: Mist forests of the Golis range in the North.....	20
1.2.2 Agricultural biodiversity status and trends: .....	20
Table 2: Trends in Gross Domestic Product (1980-1990) .....	21
Cultivation based crop production:.....	22
Table 3: Crop Production in Somalia, 1982 – 2004 .....	22
Livestock: .....	24
Box 4: Livestock movements and food security.....	25
1.2.3 Rangelands biodiversity status and trends: .....	25
Box 5: Rangeland enclosures and their impact.....	26
1.2.4 Wetlands and Inlands Water biodiversity status and trends:.....	27
Box 6: Water scarcity.....	27

Table 4 and Table 5 below are shown water sources in details.....	27
WATER SOURCES FROM SWALIM DATABASE: .....	28
Table 5: Water points digitized from the topographical maps of Somalia .....	29
1.2.5 Coastal and Marine biodiversity status and trends: .....	30
1.2.5.1 Fisheries: .....	31
Box 7: Centralization of ‘fisheries enforcement’ to the community.....	32
1.2.6 Wildlife biodiversity status and trends: .....	33
Table 5: Rare and endangered bird species.....	33
1.2.7 Invasive Species Status and Trends of Biodiversity: .....	34
1.2.8 Main threats to important biodiversity components Underlying drivers or causes of these threats:.....	34
1.2.8.1 Forest and Woodlands biodiversity Threats:.....	34
1.2.8.2 Agricultural biodiversity Threats:.....	34
1.2.8.3 Rangelands biodiversity Threats:.....	34
1.2.8.4 Wetlands and Inlands Water biodiversity Threats: .....	35
1.2.8.5 Coastal and Marine biodiversity Threats: .....	35
1.2.8.6 Wildlife biodiversity Threats:.....	35
1.2.8.7 Invasive Alien Species Threats: .....	35
1.2.9. Major Direct and Indirect Drivers of Biodiversity Losses: .....	35
The major underlying direct drivers of biodiversity losses component and causes of these threats are summarized below the table. ....	36
1.2. 9. 1 HABITAT losses and degradation: .....	36
1.2.9.2 Pollution and nutrients load:.....	37
1.2.9.3 Overexploitation and destructive: .....	37
1.2.9.4 Climate change: .....	37
1.2.9.5 Civil war conflict and related refugee movement: .....	38
1.2.9.6 Disruption in governance and civil order: .....	38
1.2.9.7 Tsunami:.....	38
1.2.10. The indirect drivers of biodiversity losses are detailed in the below paragraphs:.....	39
1.2.10.1 Population Growth:.....	39
1.2.10.2 Urbanization: .....	39
1.2.10.3 Poverty and inequality: .....	39
1.2.10.4 Agriculture and forestry: .....	39

1.2.10.5 Inadequate financial resources:.....	40
1.2.10.6 Inadequate knowledge and awareness:.....	40
1.2.10.7 Economic driver: .....	40
1.2.11 Implications of observed changes in the status of biodiversity components, particularly in terms of threats to ecology, livelihood and social and economic development: .....	40
1.2.11.1 Impacts of changes on human wellbeing are:-.....	40
CHAPTER TWO.....	42
2.0. Current Status of National Biodiversity Strategies and Action Plans: .....	42
2.1. A brief Description of the NBSAP, Identifying the main or priority activities: .....	42
2.2. Reserve Areas: .....	42
2.3 Creation and strengthening of management of ex-situ conservation systems: .....	43
2.4 Targets and Indicators adopted under the Convention:.....	43
2.5. How have activities contributed to thematic areas of the convention? .....	43
2.6. An overview of progress made in the implementation of priority activities: .....	43
2.7. The extent of Domestic and International funding dedicated to priority activities:.....	44
2.8. The nature of obstacles and successes in the proposed programme implementation and lessons learned:.....	44
There are numerous constrains facing biodiversity in Somalia and they are as follows:.....	44
2.9 Main lesson learned from the stocktaking process:.....	46
Main elements for success and mechanism used to achieve positive outcomes:.....	46
2.10. Analysis of the effectiveness of the NBSAP:.....	47
i) Whether the observed changes in status and trends in biodiversity are a result of measures taken to implement NBSAP? .....	47
ii) Whether the current NBSAP is adequate to address the threats to biodiversity? .....	47
iii) How many the implementation of the NBSAP is improved, where necessary, including suggestions of possible ways and means to overcome identified obstacle? .....	47
What are the specific information requested in COP 8 decisions and how have these been addressed? .....	47
Question: Is there evidence that local communities participate in activities of biodiversity conservation and sustainable use? .....	48
VIII/21(Marine and coastal – deep seabed):.....	48
Question: what activities and processes take place in our marine and coastal areas that have significant negative or adverse impacts on deep seabed ecosystem and species?.....	48
Are you aware of any actions taken to curb it? Have you any information on some of the effects these have on human well being? .....	48
VIII/22 (marine and coastal – IMCAM): .....	49

Question: is Somalia undertaking any measure to enhance implementation of IMCAM? Are there any successes? .	49
VIII/24 (Protected areas): .....	49
Question: what levels of funding has Somalia received or about to receive to undertake these tasks? .....	49
VII/28 (impact assessment): .....	49
Question: what are the current thoughts in use of EIAs and SEAs in Somalia’s planning processes? .....	49
CHAPTER THREE .....	50
3.0 Sectoral and cross-sectoral integration or mainstreaming of biodiversity considerations: .....	50
3.1 Information concerning the extent to which biodiversity is included in environmental impact assessment and strategic environmental assessment undertaken at various levels: .....	50
3.2 Therefore the biodiversity can be mainstreamed into national, community private sector, and Regional and International levels:.....	53
3.2.1 At community level:.....	53
3.2.2 At private level:.....	53
3.2.3 At international level: .....	54
UN agencies/ International NGO’s and donors:.....	54
3.2.4 Regional environmental agreement: .....	54
3.2.5 International Environmental Agreements: .....	54
3.3 A description of the extent to which biodiversity has been integrated into sectoral and cross-sectoral strategies and plans, providing concrete examples: .....	55
3.3.1. Proposed priority action on Forestry:.....	55
3.3.2 Proposed priority actions on Fisheries:.....	55
3.3.3. Proposed priority actions on Livestock: .....	55
3.3.4. Proposed priority actions on Crops: .....	56
3.3.5. Obstacles to these proposed priority actions: .....	56
3.4. A description of the process (ess) by which biodiversity has been integrated into these sectoral and cross-sectoral strategies and plans: .....	56
3.5. A description of whether and how the ecosystem approach has been adopted and employed in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes:.....	56
3.6. Information concerning the extent to which biodiversity is included in environmental impact assessments and strategic environmental assessments undertaken at various levels:.....	56
3.7. An analysis of the outcomes achieved through implementation of these measures, in particular in terms of observed in the status and trends of important biodiversity components, and the extent to which these measures contribute to the implementation of NBSAPs: .....	57

3.8. A description of whether and how the ecosystem approach has been adopted and employed in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes:.....	57
3.9 Obstacles to integrate biodiversity concerns into policies, plans and programmes The following were identified: .....	57
CHAPTER FOUR.....	58
4.1 Progress towards the 2020 Target and Implementation of the Strategic Plan:.....	58
Protection of Biodiversity Components:.....	58
4.1.3 Threats to Biodiversity: .....	60
4.1.4 Maintenance of goods and services from biodiversity to support human wellbeing: .....	60
4.1.5 Protection of Traditional knowledge, innovations and practices:.....	61
4.1.6 Ensuring the fair and equitable sharing of benefits arising out of the use of genetic resources:.....	61
4.1.7 Ensuring provision of adequate resources:.....	61
4.2 Goals and objectives of the Strategic Plan and provisional indicators for assessing progress: .....	62
Information on the overall state of progress made towards these goals and objectives: .....	62
Progress at the national level towards the Goals and Objectives of the Strategic Plan of the Convention:.....	62
At the national level this objective is not yet supported by international instruments: .....	63
1.4 The Cartagena Protocol on Bio-safety is widely implemented: .....	63
Somalia has proposed key priority actions and plans to be integrated into national agenda after 2020 target: .....	64
4.3. Conclusions: .....	65
No, the overall assessment of whether the implementation of the Convention has no impact or project undertaking on the ground: .....	65
Suggestions for actions those need to be taken at the regional and global levels to further enhance implementation of the Convention at the national level, including: .....	65
Suggesting goals and objectives that may be included in the future Strategic Plan of the Convention:.....	65
Identifying mechanisms that need to be established at various levels.....	66
Additionally, the following lessons have been learned:.....	67
REFERENCES: .....	67

## **Fifth National Report on the Implementation of the Convention on Biological Biodiversity in Somalia**



### **Executive summary:**

Somalia is emerging from a long, difficult period of instability towards an era of peace and development. We are now working hard for a Somalia that is at peace with itself and with its neighbors. We no longer wish to see our citizens threatened by devastating impacts brought about by droughts and flash flooding. Pervasive poverty in Somalia is exacerbated by such climatic extremes and leads to widespread famine resulting in the loss of thousands of lives. We must now begin taking action to address the impacts of climate change on Somalia since we know that it contributes to national disasters. We must stabilize and strengthen our vulnerable pastoral and agriculture sectors so that they benefit the entire population of the country and increasingly contribute to our economy instead of being set back each time a drought event occurs. We must protect the very ecosystems that so many of our people depend on each day to survive.

As has been set out in the provisional constitution for Somalia, every person has the right to an environment that is not harmful to their health and well-being, and every person has the right to have a share of the natural resources of the country, whilst being protected from excessive and damaging exploitation of these natural resources. The current impacts of climate change on Somalia are extensive and potential future impacts may well be worse if nothing is done now to help the most vulnerable populations and sectors cope. Climate change is a very real phenomenon with the country facing increasing uncertainty for seasonal and annual rainfall levels, rising surface temperatures, sea level rise and the loss of lives and livelihoods dependent on fragile over exploited ecosystems and natural resources.



## **Somali Constitution and Legal Framework:**

The overall aim of the 5th National Biodiversity report policy is to establish a coherent and affirmative national environmental CBD program. In doing so, it shall adhere to the current legal framework of Article 25 of the Somali constitution conveys, “Every person has the right to an environment that is not harmful to their health and well being, and to be protected from pollution and harmful materials; and that every person has the right to have a share of the natural resources of the country, whilst being protected from excessive and damaging exploitation of these natural resources.

In April 2013, the President of Somalia released a document entitled the ‘Six Pillar Policy’ outlining the key areas that will help in bringing stabilization and development in Somalia under the federal government. The policy conveys three specific intentions related to the environment, which are as follows:

- Enact laws that preserve and protect the environment;
- Incorporate environmental education in the formal and informal education systems in the country;
- Rectify the environmental damage of the past such as deforestation and cleaning of Somali seas.

Despite enormous challenges posed by protracted conflict, the Federal Government of Somalia took some of the first important steps to bring the country in line with global efforts to address environmental issues through ratifying the UNFCCC, the Convention on Biodiversity Activities; UNCCD; the Kyoto Protocol, the Cartagena Protocol on Biosafety, and the Stockholm Convention on Persistent Organic Pollutants.

Many environmental acts are also currently being reviewed by the parliament. The Biodiversity National Report effectiveness is highly dependent on these acts as they lay down the CBD foundations for the legal framework.

## **The Ministry of Fisheries and Marine Resources:**

The ministry aims to manage Somalia's national resources to benefit both the current and future generations while incorporating general protection and sustainable economic development. This can be achieved by, reversing the environmental trends of the last two decades and investing in national environmental institutions with research and assessment capabilities. Furthermore, given the countries limited means, there is a need to be prudent by balancing the immediate demands with long-term opportunities, while making sure that there is a generation of sustainable wealth from our natural resources.

Due to this, the 5th NR aims to address current issues of biodiversity that need urgent attention. In accordance with the ministries strategic plans; infrastructure and capacity development are given higher priorities, as these are critical to the countries long-term socio-economic development.

Given the lack of consistency and coordination of governance throughout the country, in particular the autonomous and semi autonomous states, the Ministry projects to expand its presence across the country and regulate the industries under its jurisdiction to respond effectively to the demands of the citizens. Moreover, since the Ministry is in the position to engage the public according to these visions and clear goals, it intends to develop our national resources for the benefit of the Somali people, now and in the future.

The 5th National Biodiversity Report is one of the first national level plans to be summated to the CBD secretariat, and Project will develop its NBSAP to incorporate strategies for cooperation amongst the three regions in order to maximize climate change adaptation gains and to promote long-term cooperation.

## **ACKNOWLEDGEMENT:**

### **Government Bodies:**

1) **H.E. Mohamud Olow Barrow** the Minister of Fisheries and Marine Resources of the Somali Republic who was the pillar of encouragement, kind assistance and moral support while this fifth national biodiversity report being prepared and collected.

2) **Mr. Ahmed Mohamed Iman**, Director General for Ministry of Fisheries and Marine Resources of the Somali Republic and CBD National Operational Focal Point of Somalia for his valuable hard work, assistance contribution support on daily bases on 5th National Biodiversity Report activities in Somalia and planning national related meetings/conferences held inside of the country.

3) **Mr. Mohamed Mo'allim Osman Mohamed** Director of the Environmental Public Awareness Department and National Coordinator for this project of the Ministry of the Federal Republic of Somalia for his managing, coordination and reviewing these data collection and analysis research of all activities from our other colleagues of the data on daily bases as well as, planning/holding all necessary workshops/meetings for the above stated subject.

4) Thanks are also due to those who participated the project meetings/workshops were held in Mogadishu and some other regions esp. **Dr. Abdirahman Nur Qeyliye** Director General of the Ministry of Livestock, Forestry and Range and **Mr. Mohamed Ali Hassan**, IT and technological programmer.

### **Consultants who did work on writing chapters of the Report:**

5) **Dr. Abdulkadir Sidi Sheikh** for writing on the Climate and Environment of Somalia.

6) **Mr. Mohamed Ali Hassan** for writing and collection on the general text on this report.

### **INSTITUTIONS:**

1. Ministry of Fisheries, Marine Resources and Environment
2. Ministry of Agriculture
3. Ministry of Livestock, Forestry and Range
4. Ministry of Information telecommunication and Tourism
5. Ministry of Water and Energy
6. Ministry Of Fisheries, Marine Transport and Marine Resources of the Puntland Regional Authority of Somalia,
7. Some different related local NGOs of Somalia.

## Introduction

Somalia has been troubled by internal conflicts for over two decades, which has led to enormous development challenges. In October 2012, a new provisional constitution was adopted and a new parliament inaugurated, ushering in the Federal Government of Somalia, the first permanent central government in the country since the start of the civil war. The new government is acutely aware of the risks that climate change represents to progress on key development indicators and maintaining peace and security and is committed to tackling these challenges.

The fifth national report will provide a key source of information for a review of the implementation of the Strategic Plan for Biodiversity (2011-2020), which will be undertaken at the twelfth meeting of the Conference of the Parties (COP 12) in Pyeongchang, Republic of Korea, in October 2014. This review will be critical to developing a roadmap for enhancing actions to implement the Strategic Plan and achieving the Aichi Biodiversity Targets. The fifth national report will also contribute to an assessment of the contribution of biodiversity towards the achievement of the Millennium Development Goals.

In addition, the fifth national report of Somalia will be a key source of information for the preparation of the fourth edition of Global Biodiversity Outlook (GBO-4), which will be launched during COP 12. In this regard, decision XI/3 urges to submit our fifth national report by the deadline and to contribute to the development of GBO-4 by sharing advanced 5th national biodiversity draft reports.

Biodiversity in Somalia is contained in diverse habitat distributed within terrestrial and aquatic ecosystems which are the backbone of the national economy, supporting over **80%** of the population. This rich biodiversity and its ecosystem provide fundamental ecosystems goods and services important to social, economic, cultural and human well-being of the Somali population.

The importance of biodiversity to the human well-being are the provisions of:

1. Plants and animal products,
2. Genetically important materials,
3. Raw materials for bio-chemistry and pharmaceuticals
4. Important species
5. Fuel and energy
6. Fiber
7. Non-living materials (building, firewood and charcoal).

The biodiversity and its ecosystem is therefore the foundation for economic growth and development in the country. Examples of the importance of the biodiversity to the human well being in Somalia are crop production and livestock. The main stay of the Somali economy has traditionally been dominated pastoralism of (**50%**) and crop production. This broad agricultural sector, livestock and cultivation based crop production generated 64% of GDPs in **1990s**. Livestock and livestock products accounted for **51%** of the agricultural value added (**\$524 million**) and crops **38%** (**\$ 393 millions**). The harsh conditions and unsustainable livelihood patterns have also contributed to environmental degradation and increased the intensity of exploitation of environment resources.

There is great evidence that the biodiversity and its ecosystems are in decline trends such as: forestry, agriculture, rangelands, dry and humid (savannah), marine and coastal resources, wetlands and inland waters and wildlife.

The main threats to biodiversity and its ecosystems comes from habitat loses and degradation, climate change effects, overexploitation, pollution, invasive alien species, civil war and Tsunami. Habitat loses and degradation comes from urbanization, agriculture expansion, waste disposal and overexploitation of genetic resources, charcoal production for exports and unsustainable use of water. Overexploitation involves over illegal fishing, overgrazing, deforestation caused by charcoal production for export, wildlife depletion and overuse of water resource. Climate change effects come from drought, El-nino floods and sea level rises. Pollution comes from burning of fossil fuel and use of fertilizers, agro-chemicals, run offs, waste disposal and dumping toxic waste. Invasive species involves alteration of habitats and inhabiting indigenous species to grow. In addition to the above threats, civil war resulted in the movement of the population, restriction of livestock movement, abandonment of agricultural land, land disputes and illegal occupation of the private and public property by land grabbers. A tsunami effect involves deaths, displacement of people, loss of assets and livelihoods.

The trends and threats to biodiversity and its ecosystems are tabulated in the below table.

ECOSYSTEM/BIODIVERSITY COMPONENT	Threats / Menaces							
	THEMATIC AREAS	Habitat change & degradation	Over Exploitation	Climate change	Pollution	Invasive Species	Tsunami	Civil conflict
	Rangelands	3	3	2	1	3	0	2
	Forestand woodlands	3	3	2	2	1	0	3
	Agriculture	2	2	2	2	2	0	4
	Wetlandsand Inlands waters	2	2	3	2	2	0	3
	Coastal and marine	2	4	2	3	3	2	4
	Wildlife	3	4	3	1	1	0	4
	<b>Total</b>	<b>15</b>	<b>14</b>	<b>14</b>	<b>11</b>	<b>12</b>	<b>2</b>	<b>20</b>

The rating numbers of the above table is from 1 – 5

The above table is rated according to the impact of the direct drivers of biodiversity losses.1 indicates the lowest impact caused by direct drivers of Bio-diversity losses while the highest number is 5.

Socio-economic implications of the impacts of declining biodiversity and ecosystem on human well being, livelihoods, and poverty reduction in Somalia are:-

- Reduction in consumption and export of livestock, fisheries and crop production

- Reduction in Gross domestic product, Increase in conflict
- Increase in poverty rate, Increase in urbanization
- Increase in water depletion
- Increase in urban refuse
- Increase in illegal harvesting of marine resources and wildlife exploitation
- Changes in social structures, Decline in the living standards of the people
- Decrease in eco-systems goods and services for human wellbeing
- Increase in food insecurity and peoples migration
- Increase in National insecurity
- Increase in health risk and diseases
- Decrease in bio-diversity contribution to the national GDP
- Increase in wildlife and human conflict
- Decline in species and genetically resource
- Increase in desertification and soil erosion

If these impacts continue unabated for a long period of time, it can result into more disastrous effects for the country.

### **Major Direct and Indirect Drivers of Biodiversity Losses are:**

There is no doubt that the well-being of the people in Somalia is directly dependent on ecosystem services. Much of the Somalis economy depends on biodiversity and its ecosystem services. The recently published Global Biodiversity outlook (GBO) 3 lists the pressure currently affecting biodiversity and which are slowing down global efforts to halt or at best reduce the rate of biodiversity loss. These pressures, which are amply described in the Millennium Ecosystem Assessment document (2004 and 2005) are habitat loss and degradation, climate change, excessive nutrient load and other forms of pollution, over –exploitation and unsustainable use and invasive alien species. In addition, Somalia considers Tsunami and insecurity as direct drivers of biodiversity and ecosystem losses.

The associated indirect drivers of biodiversity losses include; urbanization, Population growth, Agriculture expansion, Poverty and equality, Inadequate knowledge and awareness, Inadequate capacity building, Inadequate financial resources.

### **Key actions in support of the Convention's three objectives and to achieve the targets, goals and objectives of the strategic plan of the convention:**

Somalia is a member full party to CBD convention. However, the long-term goal of Somalia's strategy is to achieve the conservation and sustainable management of the country's biological diversity including all ecological zones. The implementation of the convention has not been realized with the PAs and their management strategies and plans in support of the Convention's 3 objectives.

Somalia will therefore address global targets and to all seven goals of the biodiversity target, namely protection biodiversity components, promotion sustainable use, threats to biodiversity, maintaining of goods and services to biodiversity to support the human wellbeing, protection of traditional knowledge, innovation and practices, ensuring the fair and equitable sharing of the benefits arising from use of genetic resource. Somalia's biological biodiversity database is very minimal however; Somalia will undertake various biodiversity assessments in the protected areas and other facilities which are quite important.

### **Areas where national implementation has been most effective or most lacking:**

There has been no effective biodiversity resource management and formal protection for areas since the collapse of the central government in 1991. The most serious concern is the lack of effective legislation concerning the management of the protected areas and the absence of a functioning conservation infrastructure, as biodiversity conservation has a low priority in Somalia (IUCN 2006). In practice, there has been no formal protection offered to any of these sites since the early 1990s. This problem can be overcome by establishment of effective policy and legislative framework to address the problems and challenges identified in chapter one. The examples of successful actions implemented include: Re-establishment of community-managed conservation plan for the grazing areas of GACAN LIBBAX Mountain and Wildlife conservation in GARACAD was established in **2005** by local community.

### **Major obstacles encountered in implementation.**

There numerous constrains facing biodiversity in Somalia such as the weak Legal and institutional management of natural resources and the protection of the environment monitoring and management. The devolution of legal mandates for action on environmental monitoring and management from federal government to state, regional and local authorities is usually unclear.

Where legal and institutional frameworks, the devolution of legal mandates, and the authority to enforce frameworks and mandates are weak, there is often limited or nonexistent implementation and enforcement capacity. Inadequate baseline data, absence of research, weak technical capacity, weak knowledge of natural resources, insecurity, lack of human and financial resources obstructed the implementation of environment monitoring and management programs.

### **Sectoral and cross-sectoral integration or mainstreaming of biodiversity considerations:**

Somalia has a very little way of formal policies and legislation except for those which were in place from before the civil war. Those policies could form the basis for reconstituting both the policy and legislative framework, in a more integrated and mainstreamed way. The old policies tended to be sectoral in nature with little integration of environmental needs.

Biodiversity mainstreaming is a relatively new concept in Somalia. The commonly used concept is the environmental Policy and legislation with respect to biodiversity management is weak and outdated. Existing policies and plans in development would benefit from biodiversity mainstreaming, in terms of assessing the potential impact of policies and plans on the biodiversity.

All sectors have a biodiversity footprint (positive or negative) to a greater (e.g. livestock, agriculture, fisheries and environment is the foundation for nation building and livelihood development) and lesser extend (e.g. health, education, security). Therefore, biodiversity aspects need to be integrated across all sectors. Biodiversity mainstreaming is not only to the government sectors, with their policies, laws and procedures, but also, with all the different actors in a country including CSOs and NGOs, the private sector, and as appropriate partner (bilateral, multi-lateral, NGO's, foundations etc) agencies.

Somalia recognizes the importance of 'mainstreaming and integrating' biodiversity concerns and issues into sectoral and other stakeholders support, this has to be done in a manner that ensures that those very environmental concerns are actually addressed and are part of evolving policy and law, project design and practical implementation. The mainstreaming to be successful EIA and SEA should be developed and used in planning, policy and data collection processes.

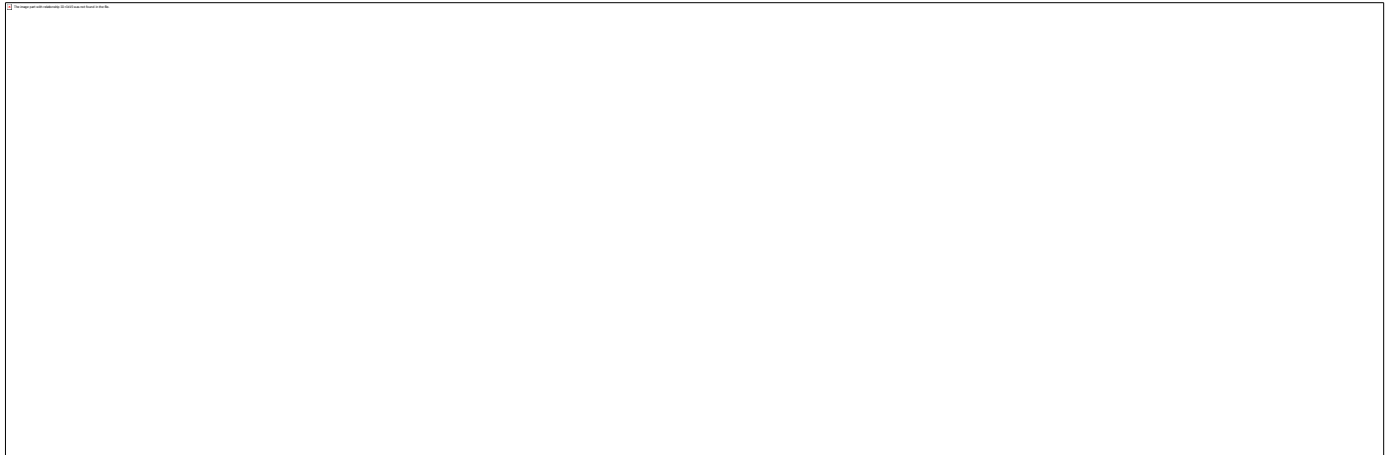
### **Future priorities:**

Priorities for the future are depending on Somalia's ability to contribute the achievement of the three objectives of the convention and the goals of both the 2010 biodiversity target and beyond 2010 target. The priorities for the future of biodiversity in Somalia are the following:-

Institutional strengthening and capacity building including policy and legislative development and NBSAP, establishment of broad-based Somali Environment Co-ordination committee, raising public awareness and creation of broad based public participation, Mainstreaming , community based conservation and management village based land use planning and development of EIA and SEA. The key other priorities are enforcement of the ban on charcoal exports, Intensify reforestation pilot programs in different soils and climatic environments, Field based state of the environment conduct a thorough report to assess the status of biodiversity resources and to guide future bio diversity conservation and sustainable management and development decisions, Assess conservation threats to protected areas and natural ecosystems including climate change, uncontrolled land clearing for agriculture, deforestation and overgrazing and overfishing. Investigate the alleged toxic wastes sites on land, and dumping of toxic waste at sea.

## CHAPTER ONE

### 1.0 Over view of Bio-diversity status, trends and threats:



Somalia is an arid and semi-arid country which has fragile ecosystems, subjecting it to harsh weather conditions, erratic and scarce amount of rainfall, making these areas susceptible to environmental degradation. However, it is one of the biodiversity-rich countries in the Horn of Africa with high level of endemic species, (local) a number of which are endangered. The country's main natural resources such as trees, wood and grasslands, and aquatic resources (marine and freshwater), are the basis for people's livelihood security. Pastoralist production, based on livestock, fisheries and natural products (including frankincense, myrrh, gum Arabic etc) are the backbone of the national economy, supporting over 80% of the population. In the south, agricultural and irrigated productivity and livelihoods are dependent and impacted upon by the rain-fed / crops depending on seasonality flow of the SHABELLE and JUBBA Rivers, which are the source of irrigation.

This rich biodiversity and its ecosystem provide fundamental ecosystems goods and services important to social economic, cultural and human well-being of the Somali population. The importance of biodiversity to the human well-being are the provision of:

- a) Plants and animal products,
- b) Genetically important materials, bio-chemistry and pharmaceuticals
- c) Important species.
- d) Fuel and energy.
- e) Fiber.
- f) Non-living materials (building, firewood and charcoal).

The biodiversity and its ecosystem is therefore the foundation for economic growth and development in the country. The harsh conditions and unsustainable livelihood patterns have also contributed to environmental degradation and increased the intensity of exploitation of environment resources. There is evidence of overgrazing in many rangelands. Energy supply and charcoal production are stripping bare the remaining forests. Water depletion is a permanent crisis in many areas. Urban refuse and waste accumulation has become common place. Illegal harvesting of marine resources by foreign vessels and wildlife exploitation are



of major concern. The effects of climate change. Tsunami, prolonged civil war, increased population pressure, natural resources based conflicts, and increased urbanization imposes additional pressures.

Somalia's biological diversity is an important part of Conservation International's **Horn of Africa Biodiversity Hotspot**. Endemism among plants and animal species is high in the Horn of Africa Region (Table 1), and is reflected in Somalia's biodiversity, which gives the biodiversity global importance.

**Table1: Endemism data of the larger diversity hotspot of the Horn of Africa is shown**  
**Table 1:**

<b>Taxonomic Group</b>	<b>Species</b>	<b>Endemic Species</b>	<b>Percent Endemism</b>
Plants	5,000	2,750	55.0
Mammals	220	20	9.1
Birds	697	24	3.4
Reptiles	285	93	32.6
Amphibians	30	6	20.0
Fresh water fish	100	10	10.0

*Sources: [www.biodiversityhotspot.org](http://www.biodiversityhotspot.org)*

The Horn of Africa was a renowned biodiversity hotspot 5,000 years ago when the Egyptians sent expeditions to the Land of Punt to bring back unique natural commodities such as frankincense and myrrh. Somalia with the exception of a small portion of the south-east (part of which falls into the coastal forest of east Africa Hotspot), and into Conservation International's recently designated Horn of Africa Biodiversity Hotspot (Mittermeier et al. 2004). This Hotspot includes coastal Eritrea, all of Djibouti, eastern Ethiopia and eastern Kenya as well as stretching into Oman, Yemen and Saudi Arabia and covers an area of nearly 1.7 million square kilometers with an estimated total of 10,000 species, of which there are estimated to be 60 endemic genera and 2,803 endemic species. The dominant vegetation type is tropical and sub-tropical grasslands, savannas and shrub lands (Acacia Commiphora bushland with about 30 species of Acacia and 50 species of Commiphora endemic). According to Conservation International only 5% (or approximately 83,000 sq.km) remains in relatively "pristine" form. Only 8.8% (145,000sq.km) has any form of protected area status, though at present for Somalia that is on paper and 3.1% (51,000 sq. km) fits into IUCN Protected Area categories I to IV. (IUCN et al Mittermeier 2004). Almost all of Somalia lies within the Somalia – Maasai region of plant endemism marked by sparsely vegetated, arid and rocky plains but that also has thick bush land, wooded valleys and foothills and grassy plains in a generalized dry semi-desert contact.

Somalia possesses important biodiversity, though it is not rich in absolute numbers of species and particular care needs to be taken in their management. The 1993 assessment showed that apart from the 150 wild mammal and 645 bird species recorded, 3,028 species of plants are found, 518 of them believed endemic (IUCN 1993). There are 24 important bird areas described for Somalia, twelve of which are wetland based. There is a history of resource over-exploitation of biodiversity, and large scale and relatively uncontrolled

hunting in the early part of the 1990s which depleted virtually all of the once great herds of wild animals (UNEP 2005b).

The Somalia maritime zone has one of the most important large marine ecosystems, the Somali current Marine Ecosystem of the Indian Ocean (Fielding & Mann 1999), with no efficient protected area system and inadequate legislation and enforcement, overuse of natural resources continues. Under current conditions, the long term survival of several wildlife species, especially fauna, is uncertain. Information gathered from the 2006 IUCN Red List from a total number of 230 assessed species of plants and animals, that there are 11 critically endangered and 11 endangered species (IUCN 2006). In addition, the Somalia red-listing highlighted a further 49 vulnerable species, 31 near threatened species, 53 species of least concern, and 75 data deficient species (IUCN 2006).

Biodiversity in Somalia is contained in diverse habitat distributed within terrestrial and aquatic ecosystems. All of terrestrial areas of Somalia are arid and semi-arid, with the exception of some small areas along the permanent rivers and in the south-east of the country on the border with Kenya. Given that, one may describe the biological diversity and its ecosystems under the headings of mountain of biodiversity, agriculture, rangelands, forests and woodlands, wetlands and inland water ecosystems, coastal and marine ecosystems, wildlife and invasive species.

## **1.2. Status and trends of important biodiversity components:**

### **1.2.1 Forest and Woodlands biodiversity status and trends**

Forests and woodlands, including the mangrove forests in coastal areas to others on the mainland, play a central role in the fight against poverty and the quest for sustainable development. They provide a range of economic, social, cultural and environmental functions and services, ranging from biomass energy, timber and non-timber forest products that support livelihoods and trade, to the ecological role they play in mitigating land degradation and climate change among others. They also play a critical role for pastoralist range management particularly during dry and drought time. Wood is the main sources of household energy and construction materials for most people, and as a revenue sources. The importance of tree based products include:- frankincense from Boswell species growing in the north-east, *Commiphora* (where myrrh is the preferred species) which produces myrrh south-west , Gum Arabic from Acacia Senegal and *Cordeauxia edulis* (now endangered) which produces *YICIB* nuts in the central regions.

#### **Box 1: Frankincense**

Frankincense was traditionally a major export activity, especially from the northern part of the country, but today this sector is in a state of neglect. Under the **Barre** government, state support to frankincense producers facilitated certain aspects to production and export trade but this same state control destroyed private trading networks leaving behind a vacuum when the government collapsed. Now, since production and export is no longer regulated, there are concerns over the scale at which trees are being “milked”.

*Source: UNEP Somalia Environmental Desk Study 2005.*

In 1985 Somalia was the world's largest producer of myrrh (over 2,000 tones). Frankincense used to be Somalia's 4th largest foreign currency export earner with an annual production of 12,000 tones. Due to their value, Boswell criteria and sacra (the preferred species) are highly prized trees with associate tenure and management systems. But their natural regeneration is threatened by over grazing. Other tree based products of potential economic value include henna (Lawsonia), various fruits (eg.Tamarind) as well as many trees which produce important medical products. The plants grown in the forests and woodlands include:

1. Azadirachta indica (Neem)
2. Acacia nilotica (Maraa)
3. Acacia tortilis (Qurac)
4. Casuariana equisetifolia (Shawri)
5. Conocarpus lancifolius (Damas, ghalab)
6. Dobera glabra (Garas)
7. Tamarindus inidica (Raqai).

There are a wide range of other natural resources which have local and subsistence use e.g. Wild tree, fruits, food and medicine (eg *Zizyphus mauritiana*, *Boscia coriacea*, *Cardia sinensis*, *Balanites spp*, *Dobera grabra*) which are often of immense importance in the dry, drought and stressed times. All these products are opportunities for processing and value adding, shortening market chains and ensuring that the value is trapped locally. VETAID is working with ethno - veterinary medicines, and others are working with the processing and marketing of non wood tree products.

However, charcoal is the main fuel in most Somali households. These uses create a strong demand. The once majestic acacias and other trees that graced the rangelands have almost disappeared due to the ravages of charcoal production.

### **Box 2: High Demand for Charcoal by Households in major Cities**

A country-wide assessment of the scale of charcoal production and consumption has not been undertaken, but a report by the NGO Agriculture Development Organization (ADO) in its paper, "Environmental Degradation, lessons and experiences, concluded that annual charcoal consumption in the major cities of Hargeisa, Berbera, Borama, and Bur'o is approximately 2,309,200 sacks, which require about 1,154,600 trees to produce, equivalent to about 19,240 hectares. Over the last 20 years this would have been equivalent to about 400,000 hectares. Since an estimated 50 percent of charcoal energy is lost in the cooking process and some 95 percent of the urban population uses inefficient metal stoves, there would be enormous benefits for the rangeland environment if consumption of charcoal were reduced by using more efficient stoves that are available, or alternative energy sources such as kerosene or solar systems. See the cluster report on infrastructure for a discussion of alternative household energy sources.

*Source: JNA Productive sectors and Environment cluster report 2007.*

Despite its harsh physical environment, Somalia is home to some 3028 species of higher plants, of which 17 are known to be threatened (WRI, 2003). Somalia is considered a centre of floral endemism and of the know

species 700 (17 percent) are endemic – a feature only surpassed by the South African region. At least 151 plants in Somalia have known medicinal values.

### **Box 3: Mist forests of the Golis range in the North**

There is evidence that Forestry and Woodlands biodiversity are in decline due

#### **1.2.2 Agricultural biodiversity status and trends**

The mist forests of the Golis Range of Somaliland are some of important remaining centers of biological diversity and species endemism. On account of their biological richness, mist forests – so called of their ability to remove moisture from the air as it blows in from the coast and rises above the plateau – are also important resources for pastoralists during dry seasons and periods of drought.

GACAAN LIBAX, a highland area reaching 1,719 meters in northwestern Somalia, hosts one of the largest and most intact mist forest areas in Somalia. Local people are well aware of the importance of these forests to their livelihoods, especially for the grazing and water resources they provide.

However, people are forced to demand more and more from these forests due to the loss of traditional grazing lands to private enclosures, an increased number of livestock, and the lack of law enforcement. According to a case study by the NGO candlelight for health, education and environment (CLHE), the mist forest areas were previously protected, but the management system was disrupted by the civil wars and the absence of government protection mechanism. This led to indiscriminate tree cutting and over-grazing. In addition, the undesirable blue flowering vine ipomoea sp. (morning glory – locally known as “Badhi –beeto”) became abundant in the area. It causes illness and death in animals forced to graze on it in the absence of other plant species. The plant’s dry leaves are, however, a good dry season feed. Since this area is communal land it is particularly vulnerable to land enclosures.

#### **1.2.2 Agricultural biodiversity status and trends:**

The main stay of the Somali economy has traditionally been dominated pastoralism of (50%) and crop production followed by fisheries and forestry. This broad agricultural sector, livestock and cultivation based crop production generated 64% of GDPs in 1990s. Livestock and livestock products accounted for 51% of the agricultural value added (\$524 million) and crops 38% (\$ 393 millions) forestry 9.5% (95.5million) and fisheries less than 10% (\$10 million).

**Table 2: Trends in Gross Domestic Product (1980-1990)**

<b>(1985 so.sh.millions)</b>		<b>1980</b>	<b>1985</b>	<b>1986</b>	<b>1987</b>	<b>1988</b>	<b>1989</b>	<b>1990</b>
Sectors/sub sectors	[identify/indent sub sectors]							
In rows below?								
Agriculture	[[assume highlighted indented rows Below are subsectors of agriculture as in annex c]]	43,522	55,583	54,868	59,378	61,613	62,644	64,470
Livestock and livestock products		8,665	30,893	28,469	32,945	33,474	33,099	33,751
Of which: change in stocks		-362	2,498	515	2,871	3,419	1,934	1,992
Crop production		12,036	19,121	20,814	20,433	21,949	23,156	24,082
Forestry		4,376	5,060	5,220	5,385	5,555	5,723	5,894
Fishing		443	509	565	614	634	666	732
Mining		278	291	291	291	291	291	291
Manufacturing		4,952	4,145	4,595	4,821	4,580	4,717	4,953
Electricity and water		51	71	77	62	57	50	83
Construction		2,299	1,889	3,289	3,486	2,963	3,141	3,266
Trade and hotels		10,055	8,485	8,587	9,929	8,599	9,081	9,353
Transport, communication		4,595	5,667	8,020	6,153	5,873	5,225	6,412
Finance and insurance		1,887	481	359	575	546	437	446
Real estate		2,675	3,254	3,384	3,520	3,344	3,428	3,565
Government services		2,293	1,625	1,631	1,530	1,404	1,344	1,300
Other services 2		2,280	2,620	2,698	2,779	2,863	2,949	3,067
Imputed bank service charges		-1,527	-859	-737	-748	-748	-785	-785
GDP at factor cost, inc. stocks		73,130	83,252	85,063	91,775	91,385	93,531	96,401
Indirect taxes		4,809	4,100	5,381	4,220	3,548	3,934	4,937
GDP at market prices, including stocks		77,739	87,352	90,444	95,996	94,931	97,464	101,338

**Source: JNA Productive sectors and Environment cluster report 2007.**

With the substantial decline in much of the crop production activity in the south/central areas because of the civil war resulted in the destruction of irrigation systems, the relative importance of livestock in total GDP has

probably increased since 1990. Nonetheless, a substantial part of the decline in GDP from crops would have been compensated by increases in the value of forestry production (on account of the substantial increase in charcoal production) and the very large increase in the value of fish production.

### **Cultivation based crop production:**

Agricultural cultivation based crop production remains the second most important production system after livestock in Somalia. Arable land (rain-fed and irrigated) is estimated at 18% of the country in terms of the land use potential, although. Currently, as a result of civil war 20,000 and 30,000 ha is irrigated, originally about 120,000 were irrigated. Large areas of the land are cultivated in drier lands on opportunistic basis which may yield crops but is also a means to provide forage for livestock. In the past, cultivation based crop production contributed up to 19% of GDP and accounted for some 20% of employment (IUCN1997a)

Southern Somalia's, alluvial plains are the country's most fertile soils and together with inter-riverine area of Bay used to account for almost 19% of Agricultural crop production. About 8% of the land cover is deemed as Arable land and of these 18.7% is appropriate for irrigating agriculture (IUCN 1997 a).

Maize and Sorghum are the main rain-fed crops grown in areas with rain falls above 450 mm per annum, with cowpeas in the drier areas. Fruit crops (bananas, pawpaw, cashew nuts), vegetable crops (tomatoes, potatoes water melons, carrots, sweet potatoes, spinach), and oil crops (sesame, sunflower, ground nuts, coconuts) are grown in the riverine areas. Cotton, sugar cane and banana were the major cash crops in Somalia.

**Table 3: Crop Production in Somalia, 1982 – 2004**

Crop	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004
Sorghum	169.2	62.4	166.64	168.64	212.93	214.59	234.7	247	250	145	100	80	252	172	122.3	165.4	62.5	93.3	168.2	118.9	79.4	116	145
Maize	149.9	235.7	270.1	277.14	322.04	275.63	346.6	362	315	100	100	45	141	92.7	119.7	131.1	132.2	165.6	154.0	146.8	129.0	170	121
Rice, paddy	-	-	-	-	-	-	12	16	15	10	8	5	16	2	2	2	2	2	-	1	1	1	-
Cowpea	15	13	27.13	25.5	21.72	7.9.2	13	14	13	10	11	12.1	13	14	15	13	14	15	16.5	16.5	-	-	-
Sesame seed	57.1	35.6	39.7	56.7	44.5	45.3	46	48	45	35	10	-	21.7	25	23	24	21	22	23	25	25	-	-
Banana	78.7	88.9	62.2	60	93.9	108	115.2	116	110	90	55	55	43	45	44	42	40	45	42	36	36.9	-	-
Grapefruit	-	-	-	-	-	20.6	27.6	28	28	15	-	17	18	19	13	12	10	9	5.9	6	6.1	-	-

*Source: JNA Productive Sectors and Environment Cluster Report 2007*



But yields and areas of under cultivation are in decline due to insecurity and drought (World Bank 2006). There are also in decline in per capital income food production. The decline in food self sufficiency occurred between 1960 – 2010 but worsened after civil war. Among the reasons for these declines were/are:

- Rapid population growth
- Deforestation
- Soils erosion
- Climate change (drought and el- nino floods)
- Change in food consumption habits
- In appropriate government policies and price control
- Un- intended impact of large scale and often untimely delivery of food aid.
- Pest and diseases
- Insecurity.

In addition, the other main constrains facing crop production are as follows:

1. Arid and semiarid environment and the risk of droughts and irrigation water scarcity;
2. Lack of immediately available, up to date agricultural technology such as improved seeds and planting material, along with relevant inputs and services such as fertilizers, pesticides, farm equipment, and agricultural credit and extension;
3. Degradation of land in both rain-fed and irrigated areas resulting from the removal of tree cover for charcoal production and the absence of soil conservation structures; and
4. Lack of access roads in some agricultural areas such as SANAAG and AWDAL.

Generally, there is decline in biodiversity in both quality and quantity. The level of the agricultural production is now far below its peaks of the late 1980s while the value of crop production was at 38% of 1989 levels. There has been drastic decline in per capita food production. This decline in food self sufficiency occurred between 1960 and 2010. There was also a great reduction of biodiversity of crops; particular examples of this reduction can be seen in declining numbers of bananas, mangoes, citrus, coconut, date palms, cotton and rice.

Over 80% of bananas, cotton, rice, mangoes trees, and citrus under cultivation, and production have generally reduced. Before the collapse of the Somali Government, banana production contributed for 10% for export national earning; now banana export fell to virtually zero.

### **Livestock:**

Livestock is the back bone of the Somalia's economy. However, due to the civil war and draughts and famine caused by lack of rain and the cutting and burning down of tree for charcoal production coupled with the fact that communal grazing areas were fenced for individual use, livestock could be earmarked as being on the verge of extinction. Somalia rears camels, cows, goat, and sheep.





## Box 4: Livestock movements and food security

For nomadic pastoralists – who comprise 60 percent of the Somali population – the **January to March** (JILAAL) dry season is considered the most difficult. During this period, herds are moved longer distances from homesteads which, in turn, reduce the supply of milk to the remaining members of the household. Heightened food stress is likely to be experienced at such time.

*Source: JNA Productive sectors and Environment cluster report 2007.*

However, all of these flocks are in decline due to drought, insecurity, overgrazing, over stocking and depletion of water resource. Consequently, goats/ sheep, camels and cattle are in decline. The goats and sheep which used to constitute about 35 million of the national goat/sheep population in 1988 now constitute about 14 million of the national sheep/ goats. (IUCN 1997 and IUCN 2006). Prior to the civil war, livestock and livestock products accounted for 80% of the export. Today, livestock continues to dominate export despite the Saudi ban which as lifted in 2008 on imports of Somali livestock export and is followed by sesame, charcoal, fish, hides and skins.

### 1.2.3 Rangelands biodiversity status and trends:

Over 46% of the total land area of Somalia is considerate as permanent pasture dominated by Acacia and other forms of natural vegetation. These Rangelands (mainly grass and herbs, including tree and bush-lands) are the most important ecosystem type in Somalia, and are the basis for pastoralism. In lower rainfall areas (below 400mm), such rangelands ‘bloom’ after rain and constitute critical wet season grazing for livestock. As rainfall is unevenly distributed spatially and temporally, pastoralists move to make optimal use of the range, which can be very productive until the grasses and herbs set seed and die. Then the pastoralist’s herds move to dry season grazing areas. Perennial grasses are found in higher rainfall areas above 400mm, though many such types of grassland are thought to be degraded and replaced by annuals. Critical to the sustainability of such ecosystems is allowing such grasses and herbs to set seed, and not over graze them beyond their regenerative ability. Perennial grasslands are often associated with open wood and bush lands, and constitute important dry season and reserved grazing area- so critical to the success of pastoralism.

The Somali traditional ecological classification system is called DEEGAAN which, Somali people, especially the nomads, who live in close contact with the environment, have an extended knowledge of plant-animal-fundamentals (Barkhadle, 1993). Most plants and animals have a local name and their phenology, distribution and ecological zones are known: the use of virtually every plant within the grazing zone – the deegan, which might range from 200km<sup>2</sup> to 2,000km<sup>2</sup> – is known. Under the traditional system of ecological classification, 16 categories are recognized, as follows (Barkhadle, 1993):

1. Guban – “burnt area” in Somalia language – land (Dhulka Guban)
2. Buraha – land (Dhulka Buuraleyda)
3. Howd – bush or thicket – land (Dhulka Howd)
4. Daror – large plain – land (Dhulka Dharoon)
5. Sol – a highland area – land (Dhulka sool)
6. Nugal – a specific valley – land (Dhulka Nugaal)
7. Mudug – much of central Somali – land (Dhulka mudug)

8. Lid – named after the yicib plant – land (Dhulka ciid)
9. Deh – without high shrubs of trees – land (Dhulka deexda)
10. Doboy – clay- land (Dhulka dhobooy)
11. Bakol – an area where commiphora trees dominate – land (Dhulka gedo)
12. Bay – the area which receives the highest rainfall – land (Dhulka bay)
13. Adable – flat area with small mountains – land (Dhulka adableh)
14. Doy – between the two banks of the jubba and shabeelle rivers – land (Dhulka Dooy)
15. Wamo – land lying between Badhaadhe and Kismayo and from Kismayo to the Kenyan border –land (Dhulka waamo).

### Box 5: Rangeland enclosures and their impact

#### History

In the 1940s and early 1950s there were no rangeland enclosures in any part of the country. Some limited enclosures existed due to the absence of villages and permanent settlements in the mountain and plateau areas, in the north. Colonial administrations made it illegal to have enclosures in communal land. However, there were temporary exclusion zones around nomadic family settlements called *ISHIMO* or exclusion area, for small and sick animals that could not go to distant grazing areas during the day.

These small areas were often respected by the communities that also used the common grazing areas. When the nomadic family moved the exclusion zone did not remain and there was no residual fencing of cut-thorn bushes as is the case now.

*Source: JNA Productive Sectors and Environment Cluster Report 2007.*

Rangelands degradation affects certain parts of the country, particularly those close to urban areas, and such areas as the SOOL plateau. This is exacerbated by prolonged droughts, insecurity and the charcoal trade, which causes general degradation. A survey found Somali's northern ranges to be most seriously (as much as 50%) degraded owing to steep topography, large numbers of livestock, and proximity to ports for livestock, export (IUCN 2006)<sup>7</sup>. Over much of the country, many areas around water bore holes and wells are degraded. There is evidence that the rangelands biodiversity is in decline trend such as grass and herbs, trees and bush-lands. Many of them are greatly reducing from the rangelands. The losses of traditional grazing lands to urbanization, private livestock enclosures, drought, and increased water points, increasing numbers of livestock, overgrazing, deforestation are causes of the biodiversity and ecosystems decline trend.

#### 1.2.4 Wetlands and Inlands Water biodiversity status and trends:



The fresh water resource of Somalia is made up of surface water, ground water and open water bodies. These countries have also a number of wetland areas particularly in the riverine areas. Freshwater availability is one of the most critical ingredients for the social and economic development. Freshwater and wetland ecosystems support multiple functions ranging from water for drinking, sanitation, agriculture, energy generation, manufacturing, transport and habitat for species as source of food and trade.

#### Box 6: Water scarcity

**Box 6:** The scarcity of water is a major problem in Somalia. The population of the country is suffering from water shortage caused frequently periodic drought and inadequate of permanent and surface water resources in some parties of rural and coastal areas. These problems have resulted in huge exodus of livestock herders, and farmer to the big cities and town in search of food water and shelter and medicine. The types of water resources are: JUBBA and SHABELLE rivers, boreholes, shallow wells, springs and ponds which are free and communal owned while manmade cemented reservoirs are exclusively private only (BERKED). Nevertheless much of these water infrastructures were collapsed during the civil war and political instability

*Sources: SPARA, Somali professional and Research Association Need Assessment, Lower Juba 1993.*

Table 4 and Table 5 below are shown water sources in details

## WATER SOURCES FROM SWALIM DATABASE:

	Jubba Basin	Shabelle Basin	Lag dera Basin
<b>Boreholes</b>	<b>31</b>	<b>4</b>	<b>2</b>
Urban	13	1	1
Nomad	3	0	1
Rural	4	0	1
Community	0	0	0
<b>Dug Well</b>	<b>23</b>	<b>97</b>	<b>4</b>
Urban	2	3	1
Nomad	8	0	2
Rural	9	81	1
Community	0	57	0
<b>Others (Springs)</b>	<b>16</b>	<b>3</b>	<b>2</b>
Urban	1	0	0
Nomad	6	0	1
Rural	2	0	1
Community	0	0	0
<b>Total Source</b>	<b>71</b>	<b>104</b>	<b>8</b>

*Source: SWALIM 2007*

**Table 5: Water points digitized from the topographical maps of Somalia**

	Shabelle		Jubba		Lag Dera		Lag Badana	
	No	%	No	%	No	%	No	%
Wells (WPW)	502	10.8	190	7.2	3043	17.3	29	1.6
Wind Driven Wells (WPWW)	2	0.0	3	0.1	9	0.1	0	0.0
Motor Driven wells (WPMW)	1	0.0	1	0.0	15	0.1	0	0.0
Rainwater ponds/reservoirs(WPRP R)	4051	86.8	2,406	90.7	13907	78.9	1,746	98.4
Natural springs (WPNS)	10	0.2	36	1.4	428	2.4	0	0.0
Man-made springs (WPMS)	28	0.6	11	0.4	45	0.3	0	0.0
Water Tanks (WPT)	75	1.6	6	0.2	170	1.0	0	0.0
<b>TOTAL</b>	<b>4669</b>	<b>100</b>	<b>2,653</b>	<b>100</b>	<b>17,617</b>	<b>100</b>	<b>1,775</b>	<b>100</b>

*Sources: SWALIM 2007*

Somalia is a part of the great Horn of Africa hot spot, with many of its ecosystems and species shared with its neighbors, especially Kenya, Ethiopia and Djibouti. The two perennial rivers are regional water basins shared with, in particular Ethiopia and also with Kenya. The overall basins need to be managed on a sustainable basis, which requires discussion, negotiation and agreement amongst the riparian states, and with the different interest areas, such as pastoralism, irrigated farming, and water abstraction for human and other uses. This can be achieved through a regional basin approach which in the case of Somalia would require the support of IGAD.

While river basins are the main trans-boundary issues to address, a greater understanding of Somali pastoralists grazing systems would indicate that pastoralists regularly move across national borders in search of wet or dry season grazing or water, as part of their seasonal migration routes. This would probably be particularly important for the border areas with Ethiopia and Kenya as part of normal wet-dry season livestock herd movements and more especially during drought times, where there may be reciprocal customary rights of movements negotiated under traditional management conditions between different Somali groups in the different countries. Curtailing such regional movements could further increase risk which such land users face.

In 1987 (latest figures available), agriculture accounted for 97% of all freshwater withdrawals, due mainly to irrigation in southern Somalia (World Resources Institute 2003). This corresponded with a withdrawal rate of

only 8% of the country's actual renewable water resources. Neglect and abandonment of many of these schemes caused a significant decline in the amount of freshwater being extracted. By 1999 less than 19% of originally irrigated cropland in Somalia was irrigated, with about 25,000 to 30,000ha in the Jubba-Shabelle area, and about 5,000 Ha elsewhere. But with peace and increasing stability, use of water for irrigation will increase (World Resources Institute 2003). A National Conservation Strategy for Somalia states that the country has adequate water resources to supply the population and sustain its major activities, but the problem is one of distribution (Government of Somalia & IUCN 1990).

Availability of water is a perennial problem for pastoralists, whose livestock migration depends on water access and fodder availability. As a result there are many constructed water sources such as Berked (cisterns), balley (reservoirs), and dug wells which are owned by an individual or family. They hold the rights to its use and as community custodian control the distribution of water. But there is an ever increasing number of these surface storage tanks or 'Berked', and relates to individual and community needs, but are not planned within the wider landscape, a point emphasized by UNICEF (1997) on water management in northern Somalia. Extreme care must be taken in any program of construction of new water supplies and one need to make sure that new water facilities are not realized without adequate consideration to the long term protection of the rangelands grazing potential. The water sector is to ensure that its evolution has a sustainable socially, politically, financially and environmentally" (IUCN Somalia. 2006).

This is particularly important for the setting and management of boreholes, as experience from other countries (e.g. Kenya) suggests that poorly planned and managed boreholes exacerbates environmental degradation. Here the old Somalia government had a policy on the location and management of strategic boreholes, which had to be located at least 40km apart on known pastoralist grazing routes. This promoted better water distribution and mitigated against the environmental effects of ill planned water development. Over-exploitation of water resources in some parts of the country has led to undesirable effects such as lowering of the water table and saline seawater intrusion.

### 1.2.5 Coastal and Marine biodiversity status and trends:



### 1.2.5.1 Fisheries:

In Somalia, Fisheries constitute the main sources of income for coastal communities and foreign revenue for national economy. The country used to have one of the most extensive and least spoiled coastlines in Africa, but important coral reefs, seabird colonies and turtle nesting beaches are currently unprotected. The main ecosystem components of the country and marine biodiversity are sea grass, mangrove forest and coral reefs. These ecosystems serve as habitats for a wide diversity of marine organisms, ranging from algae and invertebrates through to vertebrates, including threatened species such as marine sharks, lobster, turtles and dugongs. In addition to their value in terms of fisheries, provision of foods, fuel and building materials. The rich waters of Somalia contain an abundance of important large and small pelagic fish, all of which are taken by artisan fisheries and offshore foreign fishing vessels. Detailed up to date information on the status of the marine environment is lacking. Some of the most recent biological diversity data dates back to the late 1990s. Rapid assessment baselines are available from 1999 of 170 km of the North West coast, east of Berbera, (Schleyer & Baldwin 1999) and from 1997 at the Saad ad- Din Islands (McClanahan and Obura 1997) when a biodiversity assessment was done.

These provide data on cetacean sightings, diversity of species of coral reefs fish and algae. It was noted that threats were minimal, and that the state of the marine environment was virtually pristine except for the taking of turtles through by-catch and harvesting of eggs from nests.

Somalia offshore and inshore fishing resources harvesting used to be sustainable. However, this is not the case these days. Important species are lost in the by-catch. For example, uncontrolled fishing for sharks, lobsters and more recently sea cucumbers is a growing concern along the entire Somali coast. There is also an influx of illegal fishing vessels seeking to meet the demands of an ever-growing international fish market. There is evidence that marine resources have been greatly in decline due to the current trend of increasing of the unregulated, uncontrolled and illegal fishing. It is estimated that illegal fishing results in a total export loss of about US\$95 million annually, or about 25 percent of the estimated potential annual catch. Somali marine resources has been regularly plundered by between 800 and 1,000 trawlers and other types of ships, of which very few are licensed and most disregarded international fishing laws. As a consequence, the once substantial and valuable lobster export trade has suffered and artisan fishermen have found it increasingly difficult to sustain an adequate livelihood from lobster harvesting because of the decline in stocks and the destruction to coral reefs caused by illegal inshore fishing by foreign commercial boats. These boats also destroy nets and other fishing gears owned by artisan fishermen. At the end of the century there were believed to be large dugong populations and extensive sea grass beds in near shore waters. Important seabird nesting sites include Mait Island,

Zeila Island, and the Somali Bajun Island of Kismayo. Other less obvious species which are also endangered can expect to receive even less attention; two of the country's 223 (reptile species, Sea turtle and dugong) and three of its 331 species of fish (lobster, shark and tuna fish) are known to be threatened. The EEZ (Exclusive Economic Zone) waters of the Indian Ocean are subjected to illegal, unreported and unregulated (IUU) fishing of foreign fishing fleets and this is a major concern, not least because potential revenue to the country is not realized. The magnitude of illegal fishing is likely to be enormous due to the civil war since 1991 and the complete absence of monitoring, control and surveillance. Anecdotal information from the Seychelles fishing authority confirms that IUU in Somali Indian Ocean waters is very high. Based on monitoring and surveillance survey work by the EC further south in the Indian Ocean in Tanzania's EEZ, these illegal vessels may be EC pursue-seines targeting tuna (yellowfin, albacore, bigeye) and Asian long-liners targeting tuna, swordfish and shark.

## Box 7: Centralization of 'fisheries enforcement' to the community

In a potentially hostile area lacking a national fisheries administration, community empowerment has filled an institutional vacuum. The driving forces behind community empowerment in fishery enforcement stem from:

- Recognition of the basic property rights problem of an open access fishery and its unlikely resolution in the current social-economic and political context, and
- The precarious state of the fisheries resources, especially lobster and shark.
- Somali coastal communities have taken enforcement action against illegal fishing. Two prosecutions have been undertaken under Islamic shari'ah law generating in excess of US\$1million which was reportedly given to the villages apprehending the offending vessels (rather than for use to increase surveillance capacity). The international publicity resulting from such prosecutions may act as a deterrent against continued illegal fishing and ensure compliance by foreign vessels, either with or without a dubious license.

Challenges facing coastal fishing communities include:

- Logistics to gather evidence
- Lack of physical enforcement capacity
- Lack of procedural code for boarding and prosecutions
- Presence of armed guards on foreign fishing vessels.

Today, marine and coastal resources continue to underpin local economies, and near-shore fisheries target a few key species, e.g. lobster and shark, both of which are over – fished, but are important. The lobster fishery along the east coast has been subjected to heavy fishing pressures, a trend which looks likely to continue, as former closed seasons are no longer respected. Here responsible private sector involvement could ensure that the catch size is respected, so as to support more sustainable use. Apparently this is starting to happen with the lobster fishery. While commercial fishing in the past focused on crustaceans and fish, artisanal fishing of sharks now centers mainly on the production of dried shark meat and fins for export, and local use of shark liver oil for the maintenance of dhows. Both the artisanal fisheries, if managed on a sustainable basis and the off-shore fishery, if properly regulated, offer a great economic potential in future. In the marine environment, only one community marine protected area has been declared so far - Gara'ad in Puntland.



## 1.2.6 Wildlife biodiversity status and trends:



The terrestrial wildlife (fauna) have been destroyed for over 40 years, and there is little chance that they could be of economic importance, whether for hunting (as was the case in the past), or for tourism, in the foreseeable future and certainly not in the next 5-10 years. It may be possible to start reconstituting the protected area system, but in a more functional manner linked to both biodiversity conservation and sustainable livelihoods, through for example community conserved areas. Birds are the most populous class of vertebrates in Somalia Fauna, and their population equals 645 species including birds recorded (IUCN 1993). There are 24 important birds. That is describing for Somalia, twelve of them which are wetland base.

**Table 5: Rare and endangered bird species**

Species	Threat category
Socotra cormorant <i>phalacrocorax nigrogularis</i>	Vulnerable
Lappet-faced vulture <i>Torgos tracheliotus</i>	Vulnerable
Lesser kestrel <i>falco naumanni</i>	Vulnerable
Madagascar pratincole <i>glareola ocularis</i>	Vulnerable
Ash's lark <i>Mirafrasi ashii</i>	Endangered
Archer's lark <i>heteromirafrasi aecheri</i>	Vulnerable
Bulo Burti Boubou <i>Laniarius liberates</i>	Critical
Somali Thrush <i>Turdus ludoviciae</i>	Critical
Barsa reed – warbler <i>acrocephalus griseldis</i>	Endangered
Warsangli linnet <i>carduelis johannis</i>	Endangered

*Source: IUCN 2006*

Wildlife is suffering from population declines due to various factors leading to decline and extinction of Somalia species. Wildlife species are now endangered or rare, while key ecosystems have been seriously degraded. Now only small remnant pockets of wildlife exist, with many species approaching extinction. Some, such as the elephant (*Lexodonta Africana*), black rhino (*Deceros bicornis*) lion (*Panthera Leo*) and Swayne's hartebeest (*Alcelaphus buselaphus swaynei*) have been wiped out from most of the country, while the wild ass (*Equus asinus somalicus*)- which once occurred here their thousands – have been reduced to just a few dozen (Sommerlatte and Umar, 2000).

Somalia has ratified the CITES Convention on endangered species of wild fauna and flora, but few if any practical measures are being taken to ensure its implementation. Ten species of bird are threatened of which two are critically endangered. All fauna species are serious in decline due to many factors such as; drought, habitat alteration, bush meat and poaching. Priority wetlands in need of protection include Jowhar- Warshek, Har Yimblame, eji Oobale, Awdghegle –Gandershe, Arbowerow, the Boja swamps, Angole Farbiddu (which includes a riverine forest) and lake Radidi (government of Somali and IUCN, 1990). Somalia is not a party to the Ramsar convention and no wetlands of international importance have been declared in the country.

### **1.2.7 Invasive Species Status and Trends of Biodiversity:**

Invasive alien species are one of the problems causing of biodiversity loss and habitat alteration. The issues of the IAS are not new; there is an emerging awareness of the negative effects and seriousness of the threat they pose both biodiversity and its ecosystems and economically. There is evidence that the Invasive Species are increasingly spreading throughout the country, inhibiting indigenous species to grow i.e. *prosopis*, *chromolaena odorata* and *parthenium hysterophorus*. The invasive Indian House Crow is known from Somaliland (Berbera) and is likely to be in Bosasso, Mogadishu and Kismayo.

### **1.2.8 Main threats to important biodiversity components Underlying drivers or causes of these threats:**

#### **1.2.8.1 Forest and Woodlands biodiversity Threats:**

The main threats to achieve full potential of forests and woodlands include; forest loss and degradation; deforestation, poverty, pollution, political pressure, climate change, woodland conversion to agricultural and urbanization, insecurity, policy, legal, unsustainable harvesting, institutional and technical constraints; and invasive alien species.

#### **1.2.8.2 Agricultural biodiversity Threats:**

The threats to achieving full potential of land resources and ensure food security in the country are: Land degradation and desertification, climate variability( draught and El-Nino floods), poverty and pest infestation and diseases, insecurity, land tenure issues, armed conflict and unfavorable terms of international trade.

#### **1.2.8.3 Rangelands biodiversity Threats:**

Threats are increasing over stocking, over grazing, deforestation, climate change (draught and El-Nino floods), invasive foreign species, civil wars and social conflicts.

#### **1.2.8.4 Wetlands and Inlands Water biodiversity Threats:**

Threats are increasing demand for domestic, irrigation, industrial, urban use, overstocking, insecurity, pollution, sedimentation, invasive species, climate change and overexploitation.

#### **1.2.8.5 Coastal and Marine biodiversity Threats:**

The threats to achieving the potential offered by coastal and marine resources in the country are: over exploitation through illegal fishing, Coastal erosion, flooding and siltation, invasive species, clearing for agriculture, insecurity, inadequate investment in coastal zones, Habitat destruction and degradation, pollution, tar-balls problem since it is the main world's main transport route for hydrocarbons whereby oil tankers pass through the country transporting some 590 million tons of oil a year).

#### **1.2.8.6 Wildlife biodiversity Threats:**

The threats to wildlife are excessive hunting, illegal trade, migration, climate change, bush fires, insecurity, bush meat, pollution, loss of habitat and degradation, deforestation and competition of the natural resources between livestock, human and wildlife.

#### **1.2.8.7 Invasive Alien Species Threats:**

The threats to biodiversity and its ecosystem are losses of crops, pasture and forests as well as causing environmental damage. They are also a cause of biodiversity especially in rural areas, fresh and sea waters; they also exacerbate human vulnerability and may negatively impact on certain livelihood and development options. While the adverse impacts of invasive alien species have been widely documented, there has been scant attention paid to some potential opportunities which can be realized from their exploitation. e.g., at various stages of its growth, the *Prosopis Juliflora* plant can be used as compost, firewood, and fencing material and poles.

#### **1.2.9. Major Direct and Indirect Drivers of Biodiversity Losses:**

There is no doubt that the well-being of the people in Somalia is directly dependent on ecosystem services. Much of the Somalis economy, depend on biodiversity and its ecosystem services.

The recently published Global Biodiversity outlook (GBO) 3 lists the pressure currently affecting biodiversity and which are slowing down global efforts to halt or at best reduce the rate of biodiversity loss. These pressures, which are amply described in the Millennium Ecosystem Assessment document (2004 and 2005) are habitat loss and degradation, climate change, excessive nutrient load and other forms of pollution, over –exploitation and unsustainable use and invasive alien species. In addition, Somalia considers Tsunami and insecurity as direct drivers of biodiversity and ecosystem losses.

The associated indirect drivers of biodiversity losses include; urbanization, Population growth, Agriculture expansion, Poverty and equality, Inadequate knowledge and awareness, Inadequate capacity building, inadequate financial resources.

The major underlying direct drivers of biodiversity losses component and causes of these threats are summarized below the table.

ECOSYSTEM / BIODIVERSITY COMPONENT	THEMATIC AREAS	Habitat change & degradation	Over Exploitation	Climate change	Pollution	Invasive species	Tsunami	Civil conflict
	Rangelands	3	3	2	1	3	0	2
	Forest and woodlands	3	3	2	2	1	0	3
	Agriculture	2	2	2	2	2	0	4
	Wetlands and Inlands waters	2	2	3	2	2	0	3
	Coastal and marine	2	4	2	3	3	1	4
	Wildlife	3	4	3	1	1	0	4
	<b>Total</b>	<b>15</b>	<b>14</b>	<b>14</b>	<b>11</b>	<b>12</b>	<b>1</b>	<b>20</b>

The rating numbers of the above table is from 1 – 5. The above table is rated according to the impact of the direct drivers of biodiversity losses. 1 indicates the lowest impact caused by direct drivers of bio-diversity losses while the highest number is 5.

### 1.2. 9. 1 HABITAT losses and degradation:

In Somalia, habitat loss and degradation creates the biggest single sources of pressure on biodiversity. For terrestrial aquatic marine and coastal and fresh water aquatic ecosystems. Habitat losses is largely accounted for by conversion of wild lands to agriculture, which now accounted high percentage of land national. In many areas it has recently been partly driven by demand for charcoal production for export. For inland water ecosystem habitat losses and degradation is largely accounted for by unsustainable water use and drainage for conversion to other land uses such as agriculture and settlements. In coastal ecosystems, habitat loss is driven by a range of factors including illegal fishing methods especially lobster, tuna fish, shacks and sea turtles, destruction of the mangroves and coral reefs which provide habitats for a wide diversity of marine organisms, ranging from algae and invertebrates through to vertebrates, including threatened species such as marine turtles and dugongs.

### **1.2.9.2 Pollution and nutrients load:**

Pollution and nutrients load (nitrogen and phosphorus) and other sources are a continuing and growing threat to biodiversity in terrestrial, inland water and coastal ecosystems. The sources of these came from the burning of fossils fuel and the use of fertilizers in agricultural practice. Inland pollution often came from runoffs which stimulate the growth of algae and some forms of bacteria and threaten valuable ecosystems such as rivers and coral reefs and affect water quality; also create zones in oceans usually at estuaries, generally where, major rivers reach the sea where composing algae use up oxygen in the water and have large areas virtually devoid of marine life.

### **1.2.9.3 Overexploitation and destructive:**

Overexploitation and destructive harvesting practice are continuing. This is affecting agriculture (pastoralist and crops), fishery, forest and woodlands and water resources with some stocks requiring reduced pressure to recover. Bush meat hunting continues unabated and in most places at unsustainable levels.

This exploitation contributed to vegetation losses, area under cultivation, Fuel collection, over stocking, charcoal production, over grazing and the lopping of trees for the animal feeds. Somalia has fairly good coverage of *Acacia bussei*, tree preferred for charcoal production. Loss of vegetative cover in Somalia will have great impact on pastoralist and agro pastoralist.

Invasive alien species continue to be a major threat to all types of ecosystems and species. There are no signs of a significant reduction of this pressure on biodiversity and some indications that it is increasing. Intervention to control alien invasive species has not been successful in Somalia.

### **1.2.9.4 Climate change:**

Climate change continues to be the most threat to all types of biodiversity, ecosystems and species. Somalia is no new to climate change effects. Droughts, El – Nino flood and sea level rises are the main hazards affecting the lives of the most Somali people. Between 1961 – 2006, 19 floods were recorded, affecting the lives of almost 2 million. In the same period Somalia experienced 14 droughts which affected over 4 million people. Severe droughts interrupted by devastating floods occur frequently and result in starvation and death. The last drought was in 2004, an estimated 200,000 pastoralists in the northern and central regions were threatened considered to be the worst in 30 years. By mid-2005, the UN stated that 500,000 people remain in a state of humanitarian emergency in drought – affected areas.

There is no detailed climate change modeling for Somalia, and predictions are based on similar land use systems in Africa. Somalia's CO<sub>2</sub> emissions are low at less than 1 ton per year per person. Yet Somalia's climate is likely to become drier and hotter, with more frequent events (drought, floods). During the 20th century Africa warmed by 0.7°C with future warming predicted at 0.2°C to 0.5°C per decade. Mean rainfall decreased by 5-10% across Africa between 1931 – 1960 and 1968 – 1997, with the decrease in the Sahel being 20% -49%. Current trends in the major rivers in Africa indicate a decrease in flow of about 17% over the past decade, due to reduced soil moisture and run-off. Of 11 major river basins in Africa studied; there will be a potential increase in evaporation of between 5-25%, and a reduction in runoff of up to 40% for most of them including the Juba and Shabelle systems. Drought has important seasonal impacts on river flows. The Jubba and Shabelle, Somalia's only two permanent rivers, despite depending on rains in Ethiopia and Kenya,

are likely to show reduced run-off and total water flow, yet increased levels of flooding. Somalis annual renewable freshwater fell from 2,500m<sup>3</sup> per capital per annum in 1950, to 980m<sup>3</sup> in 1990, with a prediction of 363m<sup>3</sup> by 2025, due to reduced water availability and population growth. Growing water scarcity, increasing population, degrading freshwater ecosystems and competing demands for natural resources may exacerbate resource based conflicts.

In coastal and marine areas, 1998 more than 90 – 95% of shallow coral reefs were killed in many Indian Ocean reefs, caused by elevated sea surface temperatures (SST) due to an intensification of the El Nino southern Oscillation phenomenon which is linked to global warming. Mean SSTs have been forecast to rise above 1998 values, and reefs on the Somalia coastline are predicted to suffer repeated mortalities, which will impact heavily on fisheries and coastal communities. Sea- level rise, coastal erosion, saltwater intrusion and flooding may increase as polar ice and alpine glaciers melt. With expected sea-level rises of between 50 and 95 cm this will significantly impact on coastal ecosystem and related livelihoods and economies.

Climate change may also influence land cover change, and affect the distribution and productivity of plant and animal species, water supply, fuel wood and other services. This may impact on the pattern of distribution of human settlements, and quality of life, through, for example food and drinking water shortages, and an increase of vector – borne diseases.

#### **1.2.9.5 Civil war conflict and related refugee movement:**

Civil war conflict and related refugee movement have contributed biodiversity losses and ecosystem degradation. The vagaries of climate (drought in particular) and economic hardship are also major causes of population movement. In 2007, there were estimated to be 800,000 internally displaced people, accounting for over 60% of Somalis considered to be ‘food insecure’. Many ecosystems and biodiversity and other natural resources have been impacted by civil conflict and drought. But access to and use of natural resources have been, and still are a direct source of conflict, such as restriction of livestock movement, related overgrazing, land disputes, charcoal production, illegal fishing and waste dumping such human induced factors exacerbate the effects of droughts and floods, and climate change.

#### **1.2.9.6 Disruption in governance and civil order:**

Disruption in governance and civil order over the last two decades has left Somalia without effective environmental management interventions. Consequently environmental resources have experienced continued degradation. Somalia’s interests in environmental issues beyond its own borders have been excluded from large number of international and regional agreement and conventions over this same period. Although Somalia is a signatory to a number of multilateral environment agreement (MEAs), there has been little progress in implementation. To some extent such problems are a direct result of civil strife, or are attributed to, for example the lack of regulation, policies and institutions and means to sanction is difficult to differentiate. What is clear is that a lack of security exacerbates problems related to lack of regulation, weak policies and weak institutions.

#### **1.2.9.7 Tsunami:**

Tsunami event occurred in 2004, impacted on the Somali coastline around the Horn of Africa between Xaafun (in Bari region) and Garacad (Mudug region), and to some extent down the Indian Ocean coastline. Impacts

included the death of approximately 300 people, loss or damage of boats and fishing gear, houses, and salinization and pollution of fresh water supplies (UNEP 2005a, b). Eighteen thousand households were said to be affected (approximately 44,000 people), this tsunami event which is new word to Somali culture also impacted the fishing resources, fishing habitat and reduced the fish production particularly, lobster and tuna fish and destroyed marine biology.

## **1.2.10. The indirect drivers of biodiversity losses are detailed in the below paragraphs:**

### **1.2.10.1 Population Growth:**

Population growth is a fundamental root cause threatening biodiversity resources in Somalia because it increases the demand for goods, services and resources. Specific aspects of population growth that pose to the biodiversity and eco systems are amongst others, sanitation and solid waste.

### **1.2.10.2 Urbanization:**

Urbanization is associated with people's conversion to high – consumption lifestyles, which results in increased generation of waste. All Somalia regions have experienced population growth and urbanization in coastal areas, and inland regional capitals particularly the large coastal centers. The increase in population and demographic changes have been a significant factor in the increased demand for land for housing and associated infrastructures (e.g. sanitation and waste management). Rapidly changing lifestyles, including increasing and changing consumption patterns and raising expectations, are a major root cause of the pressure on biodiversity and ecosystem.

### **1.2.10.3 Poverty and inequality:**

Somalia is characterized by one of the highest levels of poverty in the world. Lack of adequate assets and financial resources are the ones of the main reasons for unsustainable use of biodiversity and ecosystem. Alleviating poverty is a major challenge requiring transparency, progressive development, sound management of biodiversity and ecosystems.

### **1.2.10.4 Agriculture and forestry:**

Agriculture is the back bone of the economy in Somalia and is a central to the alleviation of poverty and revenue generation. Agricultural activities mainly contributes to marine and inland biodiversity losses due to losses of land and pollution such as, suspended solids (the result erosion due to inappropriate land use practices), inorganic nutrients (excessive use of fertilizers), pollution through river discharges, soil erosion in river basins. Subsequent impacts related to suspended solid loading and siltation in coastal systems is currently of greater concern than agrochemical pollution in Somalia.

Agricultural activities in the country are increasing and becoming more mechanized and commercial. This trend increases the risk of soil erosion and biodiversity losses.

### **1.2.10.5 Inadequate financial resources:**

Somalia does not have adequate financial resources, whether in absolute terms or through inadequate priority selling, for effective management of the biodiversity and environment.

### **1.2.10.6 Inadequate knowledge and awareness:**

Gaps in the knowledge base and inadequate awareness of the value of biodiversity, ecosystem goods and services provided by a healthy by the biodiversity and environment are a major cause of management inefficiencies by Somali people and policy makers in Somalia.

### **1.2.10.7 Economic driver:**

The demand for ecosystem goods and services, including from export markets, is exceeding the availability and regeneration capacity of elements of the ecosystems in Somalia. There is also the combination of these pressures acting together but with one exacerbating the impacts of another. These combined actions constitute the underlying causes of biodiversity loss.

## **1.2.11 Implications of observed changes in the status of biodiversity components, particularly in terms of threats to ecology, livelihood and social and economic development:**

### **1.2.11.1 Impacts of changes on human wellbeing are:-**

Socio-economic implications of the impacts of declining biodiversity and ecosystem on human well being, livelihoods, and poverty reduction in Somalia are :-

- Reduction in consumption and export of livestock, fisheries and crop production
- Reduction in Gross domestic product, Increase in conflict
- Increase in poverty rate, Increase in urbanization
- Increase in water depletion
- Increase in urban refuse
- Increase in illegal harvesting of marine resources and wild life exploitation
- Changes in social structures, Decline in the living standards of the people
- Decrease in eco-systems goods and services for human wellbeing
- Increase in food, insecurity and peoples migration
- Increase in National insecurity
- Increase in health risk and diseases



- Decrease in bio-diversity contribution to the national GDP
- Increase in wildlife and human conflict
- Decline in species and genetically resource
- Increase in desertification and soil erosion

If these impacts continue unabated for a long period of time, it can result into more disastrous effects for the country.

## **CHAPTER TWO**

### **2.0. Current Status of National Biodiversity Strategies and Action Plans:**

#### **2.1. A brief Description of the NBSAP, Identifying the main or priority activities:**

Currently Somalia has CBD strategic objectives and implementation system. Therefore, Somalia should develop a NBSAP to address threats identified in chapter 1 and challenges identified above. NBSAP could include the following goals and objectives:

1. Asses status of biodiversity including impacts of past activities including civil war on biodiversity
2. Identify priority areas that need urgent actions for conservation
3. Increase public awareness and education
4. Developed national policies law and programmes to implement priority
5. Increase capacity at various levels to implement priority.

#### **2.2. Reserve Areas:**

##### **The proposed priority activities on off reserve areas:**

1. Enforce the ban on charcoal exports
2. Intensify reforestation pilot programs in different soils and climatic environments.
3. Field based state of the environment Conduct a thorough report to assess the status of biodiversity resources and to guide future bio diversity conservation and sustainable management and development decisions.
4. Investigate the alleged toxic wastes sites on land, and dumping of toxic waste at sea.
5. A broad-based Somali Environment Co-Ordination Committee made up of the key stakeholders for a sustainable environment should be established to support the Federal and Region of Environmental Sustainable Management.
6. Assess conservation threats to protected areas and natural ecosystems including climate change, uncontrolled land clearing for agriculture, deforestation and overgrazing.
7. Design and implement strategies that reconcile the importance of conserving important areas of biodiversity with those of human needs and use. This could include ways to integrate protection with sustainable use. e.g. through the designation of community conserved areas (whether for forests, dry lands, riparian areas or in the marine ecosystem.
8. Update the flora and fauna inventory for Somalia, much of which is out-dated. Such an update would assess the status. Abundance, distribution and socio-economic relevant of each taxonomy.
9. Re-assess the existing (on paper) system of protected areas as to its viability, species composition and conservation status. This could form a basis for re-defining Somalia's protected area network and integrating it into wider land use and environmental planning.
10. Assess the scale and extent of invasive species together with the potential problems such invasive might cause, as, at present, there is very little data available on invasive.
11. When undertaking land use and environmental management planning, account should be taken of the need to conserve (where they exist) and create (if possible) biodiversity conservation corridors to better create connectivity in the landscape, which should serve both pastoralism and conservation, and

12. Develop national capability and capacity in conservation, and emphasis should be placed on reinforcing communal, clan or other traditional means of resource management.
13. Develop national biodiversity strategic action plan (NBSAP) in order to address biodiversity needs.

### **2.3 Creation and strengthening of management of ex-situ conservation systems:**

The following proposed priority actions on ex-situ conservation system:

1. Restore the practices of reserved grazing land and/or apply modern rational grazing system to allow regeneration of vegetation.
2. Promote soil and water conservation activities.
3. Support system of biodiversity education, training and human resource development that will service the need of biodiversity protection, conservation and sustainable use.
4. Facilitate capacity building of extension service and focal points service providers.
5. Undertake research and training to minimize the impact of biodiversity losses.
6. Provide the sustainable management of marine resources of the protected areas through the establishment of the zoning areas to protect coral reefs and involvement of the local communities to manage.
7. Raise awareness of the use of the Ex-situ facilities to educate the public about the threats to the biodiversity conservation and sustainable use of its component.
8. Revitalize the National parks and wildlife conservation sites.
9. Develop policy, legislations, strategies, plans and programs to protect and revive former Ex-situ facilities.

### **2.4 Targets and Indicators adopted under the Convention:**

Targets and indicators are adopted under the convention because of the presence of the NBSAPs. However, the targets and indicators will be incorporated as an appropriate.

### **2.5. How have activities contributed to thematic areas of the convention?**

The activities listed above are based on the key proposed priority actions in this report but, cover all thematic areas of the convention from agricultural biodiversity, through Dry and sub-humid biodiversity, Forest biodiversity, rangeland, wildlife and Inland water biodiversity, Marine and coastal biodiversity to protected areas. The activities also cover issues of invasive species.

### **2.6. An overview of progress made in the implementation of priority activities:**

There has been no effective biodiversity resource management and formal protection for areas since the collapse of the central government in 1991. The most serious concern is the like of effective legislation concerning the management of the protected areas and the absence of a functioning conservation infrastructure, as biodiversity conservation has a low priority in Somalia (IUCN 2006). There are fourteen protected areas, representing 0.8% of total land area, with only one measuring more than 100,000 hectares, namely Lag Badana National Park (IUCN 1992; Kingdom 1990). Eleven wildlife areas have been declared

since 1970s, but only two were thought to be functional (IUCN & UNEP 1987). In practice, there has been no formal protection offered to any of these sites since the early 1990s.

The most important sites, based on conservation and biodiversity needs (though the data is outdated) in need of conservation are Zeila, Las Anod- Taleh-El Chebet, Ras Hajun- Ras Gubah, El Nammure, Hobyo, Haradere-Awale, Jowhar- Warshek, Harquan-dalandoole, and Lack Dare Two mountain sites of particular interest are Gaan Libaax and the Daloo forest which have important Juniperus forests. Priority wetlands in need of active conservation include Jawhar-Washek, Har Yiblame, Eji-Oobale, Awdghegle-Gandershe, Arbowerow, the Boja swamps Angole Fabiddu (which includes riverine forest) and lake Radidi (Stuart & Adams 1990). No wet lands of international importance has been declared under the Ramsar (Wetlands) Convention, nor is Somalia a signatory to the convention. In the marine environment four marine protected areas (MPAs) have been proposed: the Saad ad- Dim Island and Aibat in Western Somaliland close to Zeila, a historic town; Maydh island in Puntland with the neighboring Daalo forest on the mainland, and Gara'ad on the Indian Ocean coast of Puntland. The latter was declared as an MPA in 2005 by the local fishers association GARFISH. Saad-ad-din Island and Maydh Island are important sea bird breeding areas. The coral reefs at Saad ad-Din Island represent the most diverse and well formed reefs on the Gulf of Aden coast.

Invasive species are an evolving concern. At present invasive may not seem to pose a threat, but unless invasive are managed and controlled early on they can become a serious problem, as *prosopis spp* already is. Several of the classic dry lands invasive plants are known from Somalia (especially *prosopis spp.*) And other (e.g. *Chromolaena odorata* and *partrhemium hysterothorus*) may be present. The invasive Indian House Crow is known from Somaliland (*Berbera*) and is likely to be in *Bosasso*, *Mogadishu* and *Kismayu*. Marine invasive should also be checked. However, the proposed priority actions will contribute the implementation of the biodiversity conservation and sustainable management in the near future.

## **2.7. The extent of Domestic and International funding dedicated to priority activities:**

There are no domestic and international funds dedicated to priorities activities.

## **2.8. The nature of obstacles and successes in the proposed programme implementation and lessons learned:**

**There are numerous constrains facing biodiversity in Somalia and they are as follows:**

1. Legal and institutional management of natural resources and the protection of the environment monitoring and management are weak.
2. The devolution of legal mandates for action on environmental monitoring and management from federal government to state, regional and local authorities is usually unclear.
3. Where legal and institutional frameworks, the devolution of legal mandates, and the authority to enforce frameworks and mandates are unclear, there is often limited or nonexistent implementation and enforcement capacity.
4. Inadequate baseline data, absence of research, weak technical capacity, weak knowledge of natural resources and the environment hamper the implementation of environment monitoring and management programs.
5. Lack of funding
6. Lack of enforcement of laws and regulations

7. Lack of main streaming
8. Inadequate knowledge
9. Absence of biodiversity unit in sector ministries.
10. Biased biodiversity approaches
11. Lack of the planning
12. Lack of mapping biodiversity risk and vulnerability.

However, the success stories implemented by the communities, NGO's, private sectors and with assistance of international community which are at Adhoc basis are summarized in the following pages:-

1. Pastoral emergency intervention in central and southern Somalia, vaccination and treatment to reduce morbidity/mortality and improve production,
2. Seed distribution for flood recession planting in Juba and Shabelle regions,
3. Provision of small petrol pumps to destitute pastoralist communities in Puntland.,
4. Livelihood restoration programme; provided cash to poor households struck by Tsunami, and built the capacity of local institutions in Puntland,
5. Pastoral and agro-pastoral assistance programme to improve accessibility to water and strengthening capacity to improve animal health and production as well as marketing opportunities,
6. Improvement of household livelihood security and economic growth by increasing asset base of drought – and Tsunami –affected population rural organizations and business in Puntland,
7. Provision of pack camels to vulnerable pastoralists who lost these during the long drought in Sool plateau,
8. Cash-for-work to improve livelihood and food security of pastoralist in four districts of Puntland,
9. Reestablishment of community-managed conservation plan for the grazing areas of GACAN Libbax Mountain,
10. Wildlife conservation in Garacad was established in 2005 by local community,
11. Integrated disaster management, relief and agriculture production that support flood relief measure in Middle Shabelle,
12. Improvement of livelihood of IDPs and agro-pastoral households in Somaliland,
13. Improvement of traditional underground storage in Somaliland; introduction of 200 litre-drums as new technology,
14. Irrigation for small farmers beyond plantations in Lower Shabelle,
15. Rehabilitation of irrigation infrastructure in Middle and Lower Shabelle for crop production and enhancing diversification, processing, marketing, and irrigation infrastructure management, operation and maintenance,
16. Provision of irrigation pumps to small-scale farmers in Hiran,
17. Crop diversification: provision of oil and legume crop seeds, training in new planting techniques, and oil presses to small scale farmers,
18. Emergency drought recovery: improvement of household and livestock access to water,
19. Somali animal health services; capacity building project,
20. Support to Somali livestock boards; assist zonal authorities develop a credible livestock export system and provide recognized certification of their livestock and livestock products; capacity building for inspection, abattoir management and quality control,
21. Establishment of a Somali regional technical school and reference centre; Sheikh Technical Veterinary School.

## 2.9 Main lesson learned from the stocktaking process:

### Main elements for success and mechanism used to achieve positive outcomes:

Various mechanisms have played important roles in making the interventions successful. Among those indicated were:

1. **Thorough needs assessment** supported by adequate information of affected populations and accurate analysis of their situations. Organizations operating in Somalia rely on the Food Security Analysis Unit (FSAU), FEWS and their partners on the provision of updated information on food crises, affected populations and areas. In addition to the inter-Agency Missions that are undertaken for rapid assessments and formulation of required emergency responses, individual organizations usually carry out their own needs assessment. The collection of baseline data and development of selection criteria for beneficiaries were important for targeting genuine groups in need of assistance.
2. **Participatory approaches** in engaging communities and local authorities. This provided space for the input of the views, skills and knowledge of communities, while encouraging their willingness to contribute with fiancé and a labour. It also ensured community ownership which is important for the long-term sustainability of the intervention.
3. **Capacity building**, particularly for farmers and pastoralist but also users of improved facilities, such an irrigation canals and water points for domestic ones was found essential for the management and maintenance of rehabilitated infrastructure, and for the empowerment of communities to better respond to future crises.
4. **Uses of existing local markets** for the supply of project materials, injection of project money into the local economy helped business and employment. For example, among the traders who benefited from this approach were pharmacists who were involved in a project serving pastoralists with veterinary drugs.
5. **Harmonization** with activities of similar projects implemented in the area by other organizations, and internal linkages established among interventions to ensure complementarities and synergies. Coordination among programmes as well as food distributions done in conjunction with seed distributions, or irrigation pumps linkages that have contributed to the success of projects.
6. **Past experience** of working in the area- i.e. building on the gains of previous programmes was also mentioned as important factors. Existing relationships with the community, familiarity with the area and previous experience with similar intervention allows a more rapid response (e.g. following the onset of crises) and ensures better results.
7. **Large scale intervention** to respond to widespread food insecurity situation. The distribution of emergency food covering large affected areas helped minimize security risks and ensured better targeting.
8. **Integrated approaches** are able to address multiple problems affecting the vulnerable. For example, meeting the needs of different groups within agro-pastoral – communities with packages such as

poultry production aimed at women, vaccination and treatment of animals, access to water, and a marketing component have had a positive impact on the livelihood of beneficiaries.

*Sources: Horn of Africa consultations on food security, Draft country report - Somalia 2007*

## **2.10. Analysis of the effectiveness of the NBSAP:**

There is no effective NBSAP because the national biodiversity strategic for action plan is recently placed due to challenges faced by Somalia:

### **i) Whether the observed changes in status and trends in biodiversity are a result of measures taken to implement NBSAP?**

As indicated earlier in this report, Somalia has started the NBSAP but it has not still implemented. Though, many changes have been observed in status and trends in biodiversity due to other factors such as human activities and natural disasters as well as lack of policy and legislative framework.

### **ii) Whether the current NBSAP is adequate to address the threats to biodiversity?**

Answer: the NBSAP is not adequate.

### **iii) How many the implementation of the NBSAP is improved, where necessary, including suggestions of possible ways and means to overcome identified obstacle?**

Answer: the implementation of NBSAP is ongoing process because GEF has already approved the fund but the channel agency (FAO) and the Ministry of Fisheries and Marine Resource are yet negotiate the way and how they implement.

## **What are the specific information requested in COP 8 decisions and how have these been addressed?**

VIII/5 (Article 8 (j) Para2. *Invites* parties to submit through their national reports, if appropriate, to the executive secretary, reports on progress in achieving national participation of indigenous and local communities, and associated capacity-building, and *requests* the executive secretary to compile these submissions and, as appropriate and with the assistance of parties and of indigenous and local communities, prepare a statistical report thereon identifying, *inter alia*, participation in different bodies of the convention, participation from different counties/continents, participation in government delegations as well as outside of government delegations, and those funded by voluntary mechanisms.

**Question: Is there evidence that local communities participate in activities of biodiversity conservation and sustainable use?**

Answer: there is a great evidence of local communities' participation in activities of biodiversity conservation and sustainable use. As an example the level of local environmental awareness is extremely high particularly anthropogenic factors such as the collapse of large management system and institutions. The rise of charcoal burning and grass harvesting. The main environmental conservation and rehabilitation initiatives being undertaken voluntary by the communities associated with controlling or preventing charcoal burning, rain water harvesting, grass harvesting and wildlife conservation and protection of marine resource.

**VIII/21(Marine and coastal – deep seabed):**

Para.3 concerned about the threats to genetic resources in the deep seabed beyond national jurisdiction, requests parties and urges other states, having identified activities and processes under their jurisdiction and control which may have significant adverse impacts on deep seabed ecosystems and species in these areas, as requested in paragraph 56 of decision VII/5, to take measures to urgently manage such practices in vulnerable deep seabed ecosystems with a view to the conservation and sustainable use of resources, and report on measures taken as part of the national reporting process.

**Question: what activities and processes take place in our marine and coastal areas that have significant negative or adverse impacts on deep seabed ecosystem and species?**

Answer: two major activities that have captured government and public attention are illegal fishing and the alleged toxic waste dumping. During last two decades, the marine resources along the Somalia coastal water have been regularly plundered by 800 and 1000 foreign travelers and other types of ships, few of which are licensed and most of which break international fishing laws, for example the once substantial and valuable lobster resources have been almost wiped out. They use equipments and fishing nets which are international prohibited. It is estimated that about US\$95 million in export revenue each year is lost to illegal fishing, which is about 25 percent of the value of the estimated potential annual catch. Artisanal fishermen have also suffered from illegal fishing close to the sea shore because of the damage it does to the nets and disruption to their own fishing, which means they find it extremely difficult to sustain an adequate livelihood.

The world's main oil transport route passes through the Gulf of Aden - 590 million tons of oil a year. The frequency of movement of tankers poses a constant threat of oil spillage (UNEP 1987).The absence of the surveillance means that tankers routinely discharge only ballast of the Somali coastline and annual discharge were once estimated at 33,000 tons apparently, toxic waste dumping has been accruing since the breakdown of central government of Somalia. It would have appear that the international community has used the Somali conflict, lack of security and reinforcement as a widow for the lawlessness with respect to IUU fishing by the international fleet as well as the dumping ground of oil ballasts and often for dumping the toxic waste.

**Are you aware of any actions taken to curb it? Have you any information on some of the effects these have on human well being?**

Answer: no action has been taken on this matter. The rate of health hazards has increased; in addition to that there is decline in economy and social welfare.



### **VIII/22 (marine and coastal – IMCAM):**

Para.5 requests parties, in the course of reporting on implementation of the marine and coastal programme of work, to report on measures taken to enhance implementation of integrated Marine and Coastal Area Management in their national reports, where relevant.

**Question: is Somalia undertaking any measure to enhance implementation of IMCAM?  
Are there any successes?**

Answer: no measures have been taken to enhance implementation of IMCAM.

### **VIII/24 (Protected areas):**

Para 4. Urges parties, other governments and multilateral funding bodies to provide the necessary financial support to developing countries, in particular the least developed and small island developing states, as well as countries with economies in transition, taking into account Article 20 and Article 8 (m) of the convention to enable him to build capacity and implement the programme of work and undertake the reporting required, including national reports under the convention on Biological Diversity, to enable the review of implementation of the programme of work on protected areas in line with goal 2.2 of the programme of work.

**Question: what levels of funding has Somalia received or about to receive to undertake these tasks?**

Answer: Somalia has not received any funding so far, to undertake these tasks.

### **VII/28 (impact assessment):**

Para 5. Urges parties, other governments and relevant organizations to apply the voluntary guidelines on biodiversity –inclusive environmental impact assessment a appropriate in the context of their implementation of paragraph 1 (a) of Article 14 of the convention and of target 5.1 of the provisional framework of goals and targets for assessing progress towards 2010 and to share their experience, inter alia, through the clearing-housing mechanism and national reporting.

**Question: what are the current thoughts in use of EIAs and SEAs in Somalia's planning processes?**

Answer: EIAs and SEAs are useful and effective tools to use in planning and policy development; however Somalia is lacking these important tools.

## CHAPTER THREE

### 3.0 Sectoral and cross-sectoral integration or mainstreaming of biodiversity considerations:



### 3.1 Information concerning the extent to which biodiversity is included in environmental impact assessment and strategic environmental assessment undertaken at various levels:

The policy and legislative environment in Somalia is weak. In central and southern Somalia it has been absent due to continued insecurity. While in Somaliland and Puntland there has been much greater progress as both areas have had longer period of stability. Somaliland has a number of policies in place including for example policy guidelines for promoting animal health and production support services, and an education policy. There are a number of policies which have been a bearing on the environment including the Ministry of Pastoral Development and Environment' Strategies Plan of 2002-2004, Range Policy (undated), Environmental Policy (undated), Forest Policy and Legislation (undated) and an Environmental conservation Act and Proclamation of May 1998. In addition to the Ministry of pastoral Development and Environment efforts to develop a enabling policies, the Ministry of water and Mineral Resources have developed a National Water policy and a Draft Water Act. There is also a strategy for economic recovery and poverty reduction plan (2003-2005), which sets out the national strategy to be followed in formulating and implementing development programme. It has a section on drought mitigation and environmentally sustainable water development.

**Somaliland** has also developed a Land Resources Tenure and Agricultural Land Policy in August 2002 (UNDP, 2004). While the Ministry of Pastoral Development and Environment is mandated to undertake all pastoral and environmentally related issues. However, it lacks both the institutional and technical capacity to support its mandate. The current structural arrangements within the Ministry of Environment are not clear.

However for the Ministry of Fisheries, a clear organogram and lines of responsibility have been developed. There appears to be little real environmental coordination at a policy or regulatory level.

**Puntland:** The Ministry of fisheries, Port and marine Transport recently endorsed a 'Fisheries/Marine Policy and strategy in 2004 and this stressed sustainability issues. The Ministry's concerns about the destruction of the States marine environment are underlined in a position paper.

**Central and southern Somalia** has a very little in the way of formal policies and legislation except for those which were in place from before the civil war. Those policies could form a basis for reconstituting both the policy and legislative framework, in a more integrated and mainstreamed way. The old policies tended to be sectoral in nature with little integration of environmental needs.

Biodiversity mainstreaming is a relatively new concept in Somalia. The commonly used concept is the environmental. Policy and legislation with respect to biodiversity management is weak and outdated. Existing policies and plans in development would benefit from biodiversity mainstreaming, in terms of assessing the potential impact of policies and plans on the biodiversity.

All sectors have a biodiversity footprint (positive or negative) to a greater (e.g. livestock, agriculture and environment is the foundation for nation building and livelihood development) and lesser extent (e.g. health, education, security). Therefore, biodiversity aspects need to be integrated across all sectors. Biodiversity mainstreaming is not only to the government sectors, with their policies, laws and procedures, but also, with all the different actors in a country including CSOs and NGOs, the private sector, and as appropriate partner (bilateral, multi-lateral, NGO's, foundations etc) agencies.

Somalia recognizes the importance of 'mainstreaming and integrating' biodiversity concerns and issues into sectoral and other stakeholders support, this has to be done in a manner that ensures that those very environmental concerns are actually addressed and are part of evolving policy and law, project design and practical implementation. Some examples help illustrating this:

1. In water development (for example the construction of sub-surface dams, berkedes, and balleys, it will be critical to take a catchments approach to ensure that the water supply is more sustainable and cleaner. Such a catchments approach might need to include aspects of soil conservation, tree planting and sustainable range management, which can then be combined with for example pit latrines, solid waste management and greater environmental awareness.
2. With respect to the construction of roads, simple soil conservation structures can be put in place upstream from the road to reduce the amount of water flowing under the road, which in turn would reduce the costs of drainage for the road construction, as well as downstream water flows from the road. In both cases such water harvesting can be used for tree planting and livestock uses.
3. In the health sector, it is well known that the underlying causes of many diseases lie in environmental misuse. In addition the importance of herbal remedies is consistently under played in favour of formal curative medicine. So to what extent can the health sector work with the sustainable use of herbal remedies (of which over 150 species of plant are used in Somalia) to reduce the costs of formal curative health care which might be both unaffordable and distant from the people?
4. In small scale industry and economic development to what extent can local level processing and improved marketing of natural resources improve local economic well being and ensure sustainable

environmental management. There are a number of products which could be used, including myrrh, frankincense, gum Arabic, henna, aloe. Such processing could degrade rural economic growth, but exploitation beyond the sustainable yield of the species could degrade the resource base.

However, Somalia has no environment impact assessment and SEA, policy, legislation, procedures, guidelines and these to be established. It has been carried out on ad hoc basis for example the rapid environmental assessment carried out by UNEP and projects carried out by IUCN. Therefore, Somalia needs the establishment and implementation of EIA and SEA as well as building capacity. The economic activities in Somalia are in the hands of the public and private sectors.

Before the collapse of the central government, livestock, crop production, fisheries and forestry and trading were mainly in the hands of the private sector with substantial government control. The government controlled a number of production and trading monopolies and services that seriously reduced efficiency of the economy growth and hampered by enabling environment for private investment. After the collapse of the central government, the private sector took over these activities previously in the government domain. Currently the productive sector activities are entirely in the private sector hands since 1991. The governments institutions were sectoral in nature and more project driven and so lack the accountability needed to mainstream the environmental concern.

Generally, Somalia has no biodiversity mainstreaming and that the goods and services provided by biodiversity are not integrated into different sectors which impact on, or are impacted by the environment. Before the establishment of the Ministry of Environment and forestry in 2000, the south-central region lacked any central body responsible for these matters. However the capacity of the Ministry needs support and strengthening. Prior to the Ministry there was a national environmental committee, with representatives from 13 ministries/ agencies, which serves as the coordination body for environmental governance (Gudel and Mwanza, 1979). Most environmental issues however were referred to organizations within the former Ministry of Livestock, Forestry and Range, namely the National Range Agency. This organization had the authority and capacity to take action on the environment. There are environmental authorities in Somali land-although their capacity is weak.

Environmental management issues featured in some of the country's earlier development plans, but the first targeted initiative was launched in 1996 when the world conservation union (IUCN) began the Somali natural resources management programme. The programme was designed to promote sustainable use of natural resources and through it the country began to address specific environmental issues, including fuel-wood conservation, fisheries management, marine conservation, and land-use planning. Coverage in all regions was not possible due to security concerns, but by the time the program ended in 2000 a number of key management issues had been identified, which may allow the core of a comprehensive and integrated environmental management system to be formulated. The future of any such system, however, must fully address the needs of the people in Somalia, whose current livelihoods are heavily dependent on a diminishing and deteriorating natural resource base. This can only be done if there is a comprehensive assessment of the status of the environment. It is therefore recommended that a "state of the environment" report be prepared. Subsequent sections of this report will refer again to the need for investigations of Somalia's natural resources, such as the fisheries. These assessments may be done separately but will also contribute to the state of environmental report.

It is therefore recommended that a broad – based Somali Environmental coordination committee should be created and made functional. The committee should have broad representation from key stakeholders,

including those in fisheries, the ministry of environment, agriculture, commerce and industry, public health, marine transport and ports, livestock, forestry, and rangelands. This committee should support the Ministry of Environment and be part of the Ministry's outreach program to stakeholders. The committee should, in addition to the key stakeholders mentioned above, include experts and scientists from all Somali regions and neighboring countries. It should facilitate a networked and virtual consultation process among these specialists that will result in solutions, including recommendations to the Ministry, for the enormous environmental stresses facing all Somali regions.

### **3.2 Therefore the biodiversity can be mainstreamed into national, community private sector, and Regional and International levels:**

At National level can be mainstreamed into sectoral levels including all line Ministries such as Agriculture, Livestock, Fisheries and Environments.

#### **3.2.1 At community level:**

The community demonstrated the importance of biodiversity goods and services as core asset in Somali life, and the key opportunity for future development, in this regard the overall national level biodiversity and land use /sea use planning is required that builds on community and district level planning to integrate the different aspects of sustainable land and sea use with respect to the wider environment; community driven development approaches offer one mechanism to being more strategic, but this needs to be mainstreamed to a greater economic and social understanding of the importance of biodiversity goods and services are for Somalia, which can then be integrated into macro-economic development policy and poverty reduction strategies. If the biodiversity is also mainstreamed at a community, private and sectoral levels, biodiversity concerns are likely to receive the attention they deserve in local and national implemented projects and programs, and rural (and urban) communities who are the main beneficiaries of such assistance and support.

#### **3.2.2 At private level:**

The private sector in Somalia has played a vital role in the delivery of goods and service since the collapse of the central government in 1991. Prior to the conflict the private sector mainly focused on livestock and crop production. Their current role extends to the delivery of essential services such as electricity, water and waste disposal, as well as business. Prior to the collapse of the central government there were laws and regulations that managed and controlled the use of natural resources from land to wildlife. With the collapse of the central government came the collapse of compliance to environmental laws and policies, and the means to restrain the degradation of natural resources. With the relative void or weakness of state institutions, the private sector has grown impressively in recent years, especially in service activities, the industrial sector and trade (World Bank 2006). There has also been large scale private sector investment by the Somali Diaspora (accounted for in remittances), though little of this is environmental related except for fishery equipment. What is clear is the need for a public and private investment policy that provides an enabling environment to encourage growth and diversification of the private sector, but which would stresses the importance and role of the private sector to the sustainable management of the natural resources. One opportunity that could be explored in the short term is the strengthening of the chamber of commerce in the three regions. Issues relating to trade and environment are exacerbated by the lack of adequate legal and regulatory frameworks. Somali lacks expert evaluation on the adequacy of prevailing investment and business legislation. Overall, the existing weak capacity of the regional governments to evaluate investment proposals that use natural resources continues to

be the major obstacle in ensuring a positive relationship between trade and the environment (World Bank 2006). Biodiversity can be integrated into private policies plans and programme and projects to achieve biodiversity conservation management and sustainable use.

### **3.2.3 At international level:**

#### **UN agencies/ International NGO's and donors:**

UN agencies/ International NGO's and donors have been involved in Somalia since 1991's with particular focus on rural water, sanitation and food security natural resource management, education, health, humanitarian affairs and peace building as integral part of their wider programs in the horn of Africa. These activities need to be mainstreamed into biodiversity conservation management and the sustainable use as well as wider environmental resource management.

### **3.2.4 Regional environmental agreement:**

Somalia has signed regional conventions and agreements that can be benefited from regional cooperation and coordination on natural resource management. These include;

1. PERSGA
2. Agulhas and Somali Current Large Marine Ecosystem (ASCLME)
3. Intergovernmental Authority on Development (IGAD)
4. Arab league
5. Nairobi convention
6. Indian ocean Tuna commission
7. Marine Turtle and conservation strategy and action plan
8. Indian Ocean whale sanctuary
9. Protocol Concerning Protected Areas and Wild Flora and Fauna in Eastern
10. African and Regional Activities
11. South West Indian Ocean Commission (SWIOC)

These regional agreements need to be integrated at the national level in order to achieve sustainable management and use of natural resource. In addition, support processes to establish relationships with IGAD, the Arab League and PERSGA to implement activities along the Red Sea, with shared river (Jubba and Shabelle) basin management and wider shared biodiversity conservation and sustainable development.

### **3.2.5 International Environmental Agreements:**

Somalia has signed, ratified or acceded various conventions relating to the conservation of its biodiversity. Notably among these are CBD, UNFCCC, UNCCD and CITES. Somalia is in the process of domesticating the provisions of these MEAs although; there has been little progress of implementation. These need synergizing and mainstreaming among MEAs as well as at the national level.

### **3.3 A description of the extent to which biodiversity has been integrated into sectoral and cross-sectoral strategies and plans, providing concrete examples:**

#### **3.3.1. Proposed priority action on Forestry:**

- i) Enforce the charcoal export ban.
- ii) Establish a broad-based National Environmental Co-ordination Committee
- iii) Intensify reforestation pilot programs in different soils and climatic environments.
- iv) Conduct a thorough field-based “state of the Environment” report to assess the status of the natural resources and to guide future resource management and development decisions.

#### **3.3.2 Proposed priority actions on Fisheries:**

1. Enforce the licensing of all boats fishing in Somali territorial waters.
2. Establish a public or private coast guard with jurisdiction over all Somali territorial waters to monitor licensees and their fishing practices and to eradicate piracy.
3. Provide public infrastructure such as jetties, navigation aids, and access roads to support artisanal fishermen in isolated coastal towns along the Somali coast, subject to commitments by communities to regularly maintain the infrastructure.
4. Add a maritime resource management component as part of an integrated coastal management program.
5. Add the facilitation of linkages with regional institutions and programs.

#### **3.3.3. Proposed priority actions on Livestock:**

1. Develop long term strategies and policies for the livestock sector, based on a regional (Somali eco-system) approach and on sound and reliable data on livestock productions and distribution, including a statistically reliable estimate of the livestock population;
2. Rebuilt/ strengthen public and private institutions supporting and regulating the Somali livestock industry (production, trade, marketing and processing);
3. Develop/ strengthen animal disease surveillance, inspection and certification systems to enhance safe trade and public health;
4. Promote PPP for the provision of livestock specialized services (veterinary services, marketing, research), the rehabilitation of infrastructures and the establishment of value adding plants (processing and branding) for animal commodities.
5. Support better integration of livestock production and agriculture.
6. Foster the intensification of livestock production (e.g. dairy, poultry, honey) in high potential and peri-urban areas, the promotion of environmentally sensitive animal rearing practices in the rangelands and the maintenance of linkages between different livestock keeping systems (rangeland, high potential and peri-urban areas);
7. Facilitate linkages between Somali public and private institutions with similar bodies in neighboring countries and trading partners, and regional and international specialized organizations.

### **3.3.4. Proposed priority actions on Crops:**

1. Rehabilitate the public flood levees and irrigation systems in the Shabelle and Juba Valleys.
2. Improve rain-fed and pump irrigated crops in all areas.
3. Establish strong public and private research and extension services for crop producers in all Somali areas.

### **3.3.5. Obstacles to these proposed priority actions:**

1. Legal and institutional frameworks for environmental monitoring and management are weak.
2. The devolution of legal mandates for action on environmental monitoring and management from federal government to state, regional and local authorities is usually unclear.
3. Where legal and institutional frameworks, the devolution of legal mandates, and the authority to enforce frameworks and mandates are clear, there is often limited or nonexistent implementation and enforcement capacity.
4. Inadequate baseline data, absence of research, weak technical, weak knowledge of natural resources and the environmental hamper the implementation of environmental monitoring and management programs.

### **3.4. A description of the process (ess) by which biodiversity has been integrated into these sectoral and cross-sectoral strategies and plans:**

This should include a description of measures taken by relevant government departments, levels of government (from national to local) and other stakeholders for achieving the objectives of the convention, including:

1. Mechanisms or arrangements put in place to ensure that implementation of these strategies and plans will avoid or minimize adverse impacts on biodiversity or contribute to the objective of the convention; and.
2. The use of any positive incentives and removal of perverse incentives.

Answer: No integrations have been taking in place into sectoral and cross-sectoral strategies and plans.

### **3.5. A description of whether and how the ecosystem approach has been adopted and employed in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes:**

Answer: Somalia has not adopted and employed biodiversity approach in mainstreaming of biodiversity into sectoral and cross-sectoral strategies, plans and programmes due to lack of capacity.

### **3.6. Information concerning the extent to which biodiversity is included in environmental impact assessments and strategic environmental assessments undertaken at various levels:**

Answer: There has been no environmental impact assessments and strategic environmental assessment undertaken at various levels of biodiversity activities.



**3.7. An analysis of the outcomes achieved through implementation of these measures, in particular in terms of observed in the status and trends of important biodiversity components, and the extent to which these measures contribute to the implementation of NBSAPs:**

Answer: There has been no implementation of NBSAPs taking in place.

**3.8. A description of whether and how the ecosystem approach has been adopted and employed in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes:**

Answer: Ecosystem approach has not been adopted and employed in mainstreaming biodiversity into sectoral and cross-sectoral strategies, plans and programmes because of lack of capacity for both policy and strategies.

**3.9 Obstacles to integrate biodiversity concerns into policies, plans and programmes The following were identified:**

1. Lack of EIA and SEA capacity at both the policy and legal levels, but also with respect to the implementation of activities and projects;
2. Lack of institutional capacity for overall environmental management and oversight, and to ensure that the different sectors mainstream and be accountable for environmental aspects of importance to the sector.

## CHAPTER FOUR

### 4.1 Progress towards the 2020 Target and Implementation of the Strategic Plan:



#### 4.1. 1. Progress towards the 2020 Biodiversity Target at the national level

The assessment of the progress has been based on the questionnaire titled “*Provisional framework of goals, targets and indicators to assess progress towards the 2020 Biodiversity Target*” the result of which is reproduced below

#### Protection of Biodiversity Components:

**1. Conservation of biodiversity of ecosystems, habitats and biomes:** The targets are to get at least 10% of such areas conserved; and areas of particular importance to biodiversity protected:

*Question: what % of total land area of Somalia is under PA? How much is under plantations (Banana, citrus trees, mangoes, sugar cane and others)?; how much is cultivated for agriculture, etc.? Do these reach the target? Develop indicators.*

*Answer: There are 14 protected areas, representing 0.8% of the total land area of Somalia. 11 wildlife areas being declared since 1970’s, but only two were thought to be functional, and other 18% of the total land of the country is under cultivation of predominately food and cash crops. Subsequently, Somalia contributes to the global target of at least 5% of total land area consisting of ecosystems and different habitats conserved but this did not reach global target. However, these contributions came from*

individuals, NGO's, private sector with the assistance of international community. The indicator is the declining of production and productivity of biodiversity and its ecosystems. Another indicator is the depletion of wildlife, forestry and fishing resource.

2. Conservation of species diversity: The targets are restored, maintain, or reduce the decline of populations of species of selected taxonomic groups and the Status of threatened species improved.

**Question:** *what efforts are in place to restore, maintain or reduce the decline of populations of wild fauna and flora of selected taxonomic groups?; are there any evidences of threatened species and what are their conservation status? Do these give an insight into reaching the target? Provide an indicator.*

**Answer:** *There is no formal and effective measure taken to protect wild species of plants and fauna, also there are no recent surveys or assessments of the status of Somalia's biodiversity have been conducted. In addition there is evidence of many species being threatened. The conservation status of many of these species has not determined. There is no clear indication of reaching the target. The indicator is lack of up to date information of the current state of the wild species of plants and fauna in Somalia including protected areas and their ecosystems.*

3. Conservation of genetic diversity: The target is Genetic diversity of crops, livestock, and of harvested species of trees, fish and wildlife and other valuable species conserved, and associated indigenous and local knowledge maintained.

**Question:** *what is the status of agricultural crops, livestock diversity? What about commonly harvested species, (including plants, fish, wildlife bush meat), their diversity, use, abundance and distribution. Are the targets reached? Provide indicators.*

**Answer:** *genetic resources and agricultural crops and livestock are under profound decline, particular example of this decline can be seen in reducing the number of crops and livestock species. Many stocks of crop plants and animals have been abandoned to their production and use. The indicator is continues reduction of abandoned genetic resources, while on the other hand there is continuous increase of utilization of those commonly used.*

#### **4.1.2 Promotion of sustainable use**

1. Sustainable use promoted and biodiversity consumed. The targets are Biodiversity based products derived from sources that are sustainably managed, and production areas managed consistent with the conservation of biodiversity; Unsustainable consumption, of biological resources, or that impacts upon biodiversity, reduced; and No species of wild flora or fauna endangered by international trade.

**Question:** *Are these targets achieved? Explain. Provide indicators?*

**Answer:** *A lot of products have been unsustainably harvested. For example, deforestation and depletion of wildlife and marine resources. The target is therefore not achieved. The indicators to this are lack of other alternative livelihoods and energy sources and absence of policies and legislative framework to protect and manage the conservation areas.*

### 4.1.3 Threats to Biodiversity:

1. Pressure from habitat loss, land use change and degradation: The target is rate of loss and degradation of natural habitats decreased.

**Question:** *Is this target achieved? Explain. Provide an indicator?*

**Answer:** *Habitat loss and degradation creates single sources of pressure on biodiversity. Habitat loss is largely accounted for by conversion of wild lands to agriculture, which now accounted high percentage of land national. In many areas, it has recently been partially driven by demand for charcoal production for export. For inland water ecosystem habitat loss and degradation is largely accounted for by unsustainable water use and drainage for conversion to other land uses such as agriculture and settlements. In coastal ecosystems, habitat loss is driven by range of factors including illegal fishing methods especially lobster, tuna fish, shacks and sea turtles, destruction of the mangroves and coral reefs which provides habitats for a wide diversity of marine organisms. Therefore, target is not achieved. The indicator is degradation of the landscape and soil composition which may lead to desertification.*

2. Control of threats from IAS: The targets are Pathways for major potential alien invasive species controlled; Management plans in place for major alien species that threaten ecosystems, habitats or species.

**Question:** *Are these targets achieved? Explain. Provide an indicator*

**Answer:** *These targets are not being achieved and there are no programs and plans to deal with all aspects of IAS. IAS is not under control.*

3. Address challenges to biodiversity from climate change, and pollution. The targets are Maintain and enhance resilience of the components of biodiversity to adapt to climate change; and Reduce pollution and its impacts on biodiversity.

**Question:** *Are these targets achieved? Explain. Provide an indicator?*

**Answer:** *No, these targets are not achieved. Climate change continues to be the most threat to all types of biodiversity, ecosystems and species. Somalia is no new to climate change effects. Droughts, El-nino floods and sea level rises are the main hazards affecting the lives of the most Somali people. There are no adaptations measures are being undertaken all over the country, due to insecurity, lack of policy, financial and human resources. Sources of pollution are also identified but, are not tackled. The indicator is lack of adaptation measures and the cleanup polluted areas.*

### 4.1.4 Maintenance of goods and services from biodiversity to support human wellbeing:

1. Maintenance of capacity of ecosystems to deliver goods and services. The targets are:

Capacity of ecosystems to deliver goods and services maintained; and Biological resources that support sustainable livelihoods, local food security and health care, especially of poor people maintained.

**Question:** *Are these targets achieved? Explain. Provide an indicator?*

**Answer:** *Somalia's ecosystems are not maintained to their capacities, due to absence of competent private and public institutions and irresponsible exploitation. These targets are not achieved. The indicator is ensuring proper monitoring and sustainable management of the ecosystems to allow them to provide their goods and services sustainable.*

#### **4.1.5 Protection of Traditional knowledge, innovations and practices:**

1. Maintaining socio-cultural diversity of indigenous and local communities. The targets are: Protect traditional knowledge, innovations and practices; and protect the rights of indigenous and local communities over their traditional knowledge, innovations and practices, including their rights to benefit-sharing.

**Question:** Are these targets achieved? Explain. Provide an indicator?

**Answer:** *Traditional knowledge, innovations and practices are embodied in the life of Somali's. However in the last two decades traditional knowledge, innovations and practices did not receive protection from the government. The target has not achieved. The indicator is to make provision to protect traditional knowledge, innovation and socio-cultural diversities.*

#### **4.1.6 Ensuring the fair and equitable sharing of benefits arising out of the use of genetic resources:**

Ensure fair and equitable sharing of benefits .The targets are: All access to genetic resources is in line with the Convention on Biological Diversity and its relevant provisions; and Benefits arising from the commercial and other utilization of genetic resources shared in a fair and equitable way with the countries providing such resources in line with the Convention on Biological Diversity and its relevant provisions.

**Question:** Are these targets achieved? Explain. Provide indicators?

**Answer:** *Policies, legislations and guidelines to govern access to genetically resources and benefit sharing arrangements are not in place. The target has not achieved. The indicator is that the policies, legislations and guidelines to be developed as well as varies forms of awareness to be created.*

#### **4.1.7 Ensuring provision of adequate resources:**

Ensure adequate resources. The targets are: New and additional financial resources are transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with Article 26; and Technology is transferred to developing country Parties, to allow for the effective implementation of their commitments under the Convention, in accordance with its Article 26.

**Question:** Are these targets achieved? Explain. Provide indicators?

**Answer:** *There are no external and internal resources for funding available in Somalia, to support different implementation schedules of sectoral activities, including biodiversity. The target has not achieved. The indicator is lack of internal and external funds.*

## **4.2 Goals and objectives of the Strategic Plan and provisional indicators for assessing progress:**

*A brief description of national goals established to achieve the Strategic Plan's goals and objectives, where appropriate:*

Somalia is new party to CBD convention. However, the long-term goal of Somalia's strategy is to achieve the conservation and sustainable management of the country's biological diversity including all ecological zones. The immediate proposed objectives for achieving the goals are: Stop further deterioration of biodiversity. Licensing of all hunting and exploitation of wildlife, as well as charcoal production and export, and fisheries. Develop policy and regulatory framework on biodiversity, including wildlife protection and management and national parks. Increase public awareness programmes for communities, NGOs and private sector. Initiate community reforestation programmes in all suitable ecological areas. Reinforce wildlife laws and management.

### **Information on the overall state of progress made towards these goals and objectives:**

There is no national biodiversity strategy implemented in Somalia there has not been formal protection and management offered to any of the Somalia's ecological zones since 1990s due to civil war, insecurity, and consequence breakdown in the rule of law and government administration.

*An analysis of obstacles encountered:*

The obstacles encountered in implementing the national biodiversity strategy have been presented under lessons learned and analysis of the current state of the National Biodiversity situation in chapter II and also under the various sectoral proposed plans in forest, fisheries, and livestock and crop policies in chapter III.

### **Progress at the national level towards the Goals and Objectives of the Strategic Plan of the Convention:**

Little progress has been made by the local community, NGOs and private sectors.

Goal 1: The Convention is fulfilling its leadership role in international biodiversity issues

**1.1** The Convention is setting the global biodiversity agenda.

*Biodiversity issues are recognized seriously at the national level. This is why Somalia acceded to the CBD, UNFCCC and CITES. Somalia people depend on biodiversity and its ecosystems for their livelihoods. Somalia therefore fully supports the Convention's role in the setting of global biodiversity agenda.*

**1.2** *The Convention is promoting cooperation between all relevant international instruments and processes to enhance policy coherence.*

## **At the national level this objective is not yet supported by international instruments:**

*Furthermore our current proposed plans and approaches are attempting to synergies as a way to make impact on project and programme implementations:*

**1.3** Other international processes are actively supporting implementation of the Convention, in a manner consistent with their respective frameworks.

*Although Somalia acceded to UNFCCC, UNCCD, CBD, CITES, CMS and other environment and biodiversity-related agreements, very little has been implemented.*

### **1.4 The Cartagena Protocol on Bio-safety is widely implemented:**

*No plans are in place to implement the provisions of the protocol because of lack of stability and resources and also Somalia is not a member of this protocol.*

**1.5** *Biodiversity concerns are being integrated into relevant sectoral or cross-sectoral plans, programmes and policies at the regional and global levels.*

*These issues are not integrated or main streamed to any sectoral and cross-sectoral at national, regional and global levels because of the current situation Somalia is going on.*

*Parties are collaborating at the regional and sub-regional levels to implement the Convention.*

*From the Somalia perspective, the signing of the IGAD, Arab league, Persga are indications of Somali interest to cooperate at the regional and sub-regional levels to implement the objectives of the Convention.*

Goal 2: Parties have improved financial, human, scientific, technical, and technological capacity to implement the Convention

**2.1** *All Parties have adequate capacity for implementation of priority actions in national biodiversity strategy and action plans. **Currently there is no capacities exist in Somalia.***

**2.2** *Developing country Parties, in particular the least developed and the small island developing States amongst them, and other Parties with economies in transition, have sufficient resources available to implement the three objectives of the Convention. **Somalia has no available resources to implement three objectives of the Convention.***

**2.3** *Developing country Parties, in particular the least developed and the small island developing States amongst them, and other Parties with economies in transition, have increased resources and technology transfer available to implement the Cartagena Protocol on Bio-safety.*

***This is not yet started because there is no policy and legal outlay to implement the protocol.***

**2.4** *All Parties have adequate capacity to implement the Cartagena Protocol on Bio-safety.*

***The country has no capacity to implement the protocol.***

**2.5** *Technical and scientific cooperation is making a significant contribution to building capacity. **Somalia has not received technical and scientific cooperation to build capacities from national, regional and international.***

Goal 3: National biodiversity strategies and action plans and the integration of biodiversity concerns into relevant sectors serve as an effective framework for the implementation of the objectives of the Convention.

*Every Party has effective national strategies, plans and programmes in place to provide a national framework for implementing the three objectives of the Convention and to set clear national priorities.*

### **Somalia has proposed key priority actions and plans to be integrated into national agenda after 2020 target:**

*3.2 Every Party to the Cartagena Protocol on Bio-safety has a regulatory framework in place and functioning to implement the Protocol. **Somalia has not developed a regulatory framework because it is not a party to the Cartagena Protocol on Bio-safety.***

*3.3 Biodiversity concerns are being integrated into relevant national sectoral and cross-sectoral plans, programmes and policies. **There is no integration that has been taking place in Somalia.***

*3.4 The priorities in national biodiversity strategies and action plans are being actively implemented, as a means to achieve national implementation of the Convention, and as a significant contribution towards the global biodiversity agenda.*

***No action plans are implemented due to the circumstances of the Somalia going through:***

Goal 4: There is a better understanding of the importance of biodiversity and of the Convention, and this has led to broader engagement across society in implementation.

*4.1 All Parties are implementing a communication, education, and public awareness strategy and promoting public participation in support of the Convention. **Little efforts are going on to ensure that this is achieved.***

*4.2 Every Party to the Cartagena Protocol on Bio-safety is promoting and facilitating public awareness, education and participation in support of the Protocol.*

***This objective is not realized because Somalia is not a member of this instrument:***

*4.3 Indigenous and local communities are effectively involved in implementation and in the processes of the Convention, at national, regional and international levels. **The implementation of this objective is to some extent going on in Somalia because the local communities and indigenous groups are undertaking some activities of this objective.***

*4.4 Key actors and stakeholders, including the private sector, are engaged in partnership to implement the Convention and are integrating biodiversity concerns into their relevant sectoral and cross-sectoral plans, programmes and policies.*

***This is one key objective which has achieved to some success which is required to ensure integration or mainstreaming.***



### **4.3. Conclusions:**

An overall assessment of whether the implementation of the Convention has had an impact on improving conservation and sustainable use of biodiversity, and the fair and equitable sharing of benefits arising out of the utilization of genetic resources, in their country ;

#### **No, the overall assessment of whether the implementation of the Convention has no impact or project undertaking on the ground:**

*An analysis of lessons learned regarding implementation, highlighting examples of successful and less successful actions taken;*

*There is evidence of good intentions for local communities' actions taken. The success stories need to be scaled up and communicated as part of package for education and awareness rising taken on board in the future. The success stories can be seen in chapter II.*

*A summary of future priorities and capacity-building needs for further national-level implementation of the Convention;*

*Proposed key priorities have been identified for actions on protected areas, off-reserve areas and other parts of the country that need conservation actions and special attention.*

*For capacity needs, there is a great need of capacity building in areas of training, equipment and infrastructure.*

#### **Suggestions for actions those need to be taken at the regional and global levels to further enhance implementation of the Convention at the national level, including:**

*i) Refining existing programmes of work or developing new ones to address emerging issues.*

*There are many programmes and plans of work that need synergistic and cooperation approaches to enhance proper utilization of resources as well as to develop new ones to address emerging and re-emerging issues.*

#### **Suggesting goals and objectives that may be included in the future Strategic Plan of the Convention:**

*Since the Convention is focused on the biodiversity 2020 target there are efforts to look beyond this, perhaps the proposed goal could be to consider events beyond 2011 to 2020 to reflect an outcome of the 2015 MDG implementation and poverty reduction given the importance of the biodiversity in Somalia need more strategic approach to address biodiversity issues is required. For example on mainstreaming and developing village level biodiversity land use planning and management. Community driven development approach offer one mechanism to being more strategic, also developing NBSAP, creating public awareness and educational*

*programmes on biodiversity and its ecosystems, some examples may be community Based Conservation and sustainable management of biodiversity.*

*Recognition of traditional and religious leaders and indigenous community in the implementation of biodiversity goals and objectives, another example is to engage in all stakeholders including women and youth, particularly school children and Holly Kuran schools.*

### **Identifying mechanisms that need to be established at various levels:**

*There are few mechanisms in place which need to be improved and there will be need to establish new ones to strengthen the existing ones.*

In conclusion, the following can be stated:

1. That the activities listed in the proposed key priority actions cover all the thematic areas of the Convention, from Agricultural Biodiversity, Dry and Sub-humid biodiversity, Forest biodiversity, Inland Water biodiversity, Marine and Coastal biodiversity to Protected Areas including Invasive Alien Species.
2. That the Somalia has started NBSAP therefore progress or successes listed above in Chapter II are indicated to this. With this regard, many of the observed changes in status and trends in biodiversity are some results of measures taken to implement the NBSAP. They are many factors which contribute against our ability to mainstream biodiversity issues into our sectoral plans and programmes.

Currently we do not have policy and legislative framework which has been exacerbated by lack of resources and insecurity.

3. That there is no NBSAP in operational to address the threats to biodiversity. This is the reason why an attempt has been made to propose key priority actions.
4. That in our current opinion, all the issues that prevented the preparation and the implementation of the NBSAP can be analyzed objectively with the full participation of all stakeholders, including the key representatives of the sectors of the Somalia economy. It is recognized that this approach will enable the acceptance and adoption of the concept of sectoral mainstreaming of issues of biodiversity and ecosystem services for human wellbeing into national or local plans, policies and programmes.

That there is no evidence of progress made in the implementation of proposed priority activities indicated in the Plans under chapter II under the implementation of this report. However, these proposed priority actions are aiming at to implement after 2020 target. It has not been established sources of funds for work on main/priority activity areas from international sources.

As we indicated earlier, Somalia has started NBSAP. However, the number of progress cited above on the nature of obstacles and successes under chapter II are based on community, NGOs and private sectors activities to address the threats to the biodiversity. For obstacles, there are multiple challenges which have been caused by human activities such as civil war, insecurity, weak institutions, lack of policy and legislative framework as well as lack of resources, mainstreaming, misunderstanding of biodiversity values and benefits.

## **Additionally, the following lessons have been learned:**

1. There is need for both mainstreaming and coordination of all sectoral activities.
2. There is a need to develop NBSAP to tackle biodiversity losses and its ecosystems.
3. There is a need to establish National Biodiversity Committee with predictable funds to address biodiversity issues.
4. That very high public awareness and participation should be giving to the proposed key priority actions to implement pressing issues.
5. That there is a need to undertake assessment and collect accurate data to ensure that political decisions are made properly.

EIA and SEA are in need to be developed and implemented.

Community driven biodiversity conservation and sustainable management should be in place.

See the attached proposed key priority actions from 2011 to 2020 as a contribution beyond 2020target.

## **REFERENCES:**

- CBD, Workshop on biodiversity fifth national report preparation (for least developed countries) in Nairobi. January 28-2 February 2013.
- FAO, August, 2007. Swalim Land Resources Assessment of Somalia.
- FAO, October, 2007. Swalim water resource of Somalia.
- FAO/FEWS. 2004. Middle Shabelle on Maize and Sorghum in Somalia.
- Horn of Africa, June, 2007. Horn of Africa Consultations on Food Security.
- Horn Relief. February, 2006. Environment Study of Degradation in Sool Plateau and Gebi Valle. Sanag Region of Northern Somalia.
- IGAD. 2007. Environmental and Natural Resources Strategy.
- IUCN. 1990. Biodiversity in Sub-Saharan Africa and its Island Conservation, Management and Sustainable Use. Stuart.S. N. and Adams. R. J. (Eds) IUCN, Gland, Switzerland.
- IUCN. 1990. Environment Synopsis of Somalia, E.C. and I.U.C.N, Brussels and Gland.
- IUCN. 1990. March, 1999. Biodiversity Assessment of Somali Coast East of Berbera.
- IUCN. 1990a. Wood – Based Energy/ Dynamics in Somalia. IUCN East Africa Programme, Nairobi, Kenya.
- IUCN, March/August, 2006. Country Environmental Profile for Somalia Mittermeir, R. A., P. R. Gil, M. Hoffiman, T. P. L. Grim, T. Brooks, C. G. Mitternet, G. J. Lasoureux, and A. Da. Fonseca 2004 . Hotspots Revised Earths Biologically Terrestrial Eco regions. CEMEX, Mexico City.
- UNEP, December, 2005. the state of environment in Somalia a desk study.
- UNEP, 2006. Africa Environmental Outlook 2, Our Environment, Our Wealth.
- UNEP/Nairobi Convention, 2010. Nairobi Convention Strategic Action Programme on Protection of Marine Environment of the Western India Ocean from Land Based Activities.
- UNEP. 1987. Coastal Marine Problem of Somalia.
- UNTAD. 1998. The Protection and Sustainable Development of Somalia Marine Environment and Coastal Area Integrated Marine Environment and Compliance Project SOM / 97 / 012.