

# **Facilitating Financing for Sustainable Forest Management in Small Islands Developing States and Low Forest Cover Countries**

An analytical report prepared by Indufor  
for the United Nations Forum on Forests

## **Country Case Study: Cape Verde**

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**The views expressed herein are those of the author(s) and do not necessarily reflect the views  
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## LIST OF ABBREVIATIONS

AAN	Association of Friends of Nature
APED	Association for Protection and Environmental Development
BCV	Cape Verde Bank
CSA	Soil and Water Conservation
DGA	General Directorate of the Environment
DGASP	General Directorate Agriculture, Forestry and Livestock
DSS	Directorate of Forestry Service
EFAL	Environment and Forestry Agriculture and Livestock
FDI	Foreign Direct Investment
GPRSP	Strategy Document on Growth and Poverty Reduction
ISCCDS	Inter-State Committee to Combat Drought in the Sahel
LFCC	Low Forest Cover Countries
MADRRM	Ministry of Environment, Rural Development and Marine Resources
NAIP	National Agricultural Investment Programme
NAPCD	National Action Programme for Combating Desertification
NAPE II	Second National Action Plan for the Environment
NDP	National Development Plan
NFAP	National Forestry Action Programme
NFAP	The National Forestry Action Plan
NHEP	National Household Energy Plan
NHEP	Regional Programme for the Promotion of Household and Alternative Energies in the Sahel
NSI	National Statistics Institute
PPP	Purchasing Power Parity
RAIP	Regional Agricultural Investment Programme
SIDS	Small Island Developing States
SPAD	Strategic Plan for Agricultural Development
TEE	Strategy of Economic Transformation
TFAP	Tropical Forest Action Plan
QUIBB	Unified Survey of Indicators of Well-Being

## EXECUTIVE SUMMARY

In Small Island Developing States and Low Forest Cover Countries (SIDS and LFCCs), forests are extremely important to the well-being of the inhabitants and contribute significantly to the national economy through trade and local consumption.

This study aims to briefly describe the forests in Cape Verde, and includes a compilation of financial information linked to the forests as well as an evaluation of the sources and funding opportunities.

The methodology of work has consisted of identifying, collecting and analyzing information relevant to the forested area in Cape Verde; participating in meetings and interviews with entities and/or institutions operating in this sector; and making trips to the Islands and municipalities to collect information from stakeholders.

The history of afforestation in Cape Verde began in 1928 with the emergence of a legislative decree creating agricultural and forestry services. The decree put into effect a) the submission of landowners to the State forestry regime or to forestry policing; b) policing rules concerning the products and the uses of the forests, in particular for firewood and grazing and c) the criminal provisions. From 1928 to 1975, the date of national independence, Cape Verde has acquired 2,977 hectares of forested areas of which 2,232 ha are in altitude zones and 745 ha are in arid zones.

Thanks to the efforts of successive Governments, currently the forested area in Cape Verde is, according to official data, approximately 84,000 ha. This forested area has been planted mainly by the State and it corresponds to approximately 22 per cent of the national territory.

Over the past 10 years, investments in forest have reached a total of USD 44.083. 245. Of this amount, only 23 per cent corresponds to government funding.

The financing of the forests in Cape Verde essentially comes from the public sector. There is a need to involve private stakeholders more consistently in forest activities and to leverage existing opportunities both nationally and internationally.

In previous years, the funding for forests was channelled to forest projects. This procedure has been lately changed as a consequence of new international strategies that consider the forests to be a component of the environment. As a result of this, the level of funding for forests has decreased, mainly because international priorities have shifted to projects directly related to climate change. Afforestation and funding for sustainable forest management must be targets of new forms of financing.

In order for Cape Verde to have a dynamic national forest sector, new funding schemes that address the challenges and strategies outlined for the sector are strongly recommended. The sustainability of forested areas is dependent on the better management of the forest resources.

## 1. INTRODUCTION

The loss of forest cover is a worldwide concern. Decisions made concerning land use and forest management are based on economic and social demands. According to various studies, the most common reason for deforestation is the land use change from forest land to more profitable economic uses such as agriculture or animal husbandry.

In Small Island Developing States (SIDS) and Low Forest Cover Countries (LFCC), the forested area is not significant on a worldwide scale; however, the forests of these countries are extremely important to the well-being of their inhabitants. In many SIDS, the forests contribute significantly to the national economy through commerce and use of forest products.

In October 2009, Member States to the United Nations Forum for Forests (UNFF) approved a decision that launched two initiatives to catalyse financing for sustainable forest management during a special session of the ninth session of UNFF. The first initiative is the creation of the Intergovernmental Ad Hoc Group of Experts to analyse the existing funding strategies for the sustainable management of forests and explore ways to improve access to funds, including the option of creating a global forest fund with voluntary contributions. The second initiative is a "facilitative process" to help countries mobilize financing from various sources for the forests. The facilitative process meets the special needs of countries facing a decline in funding for forests over the past 20 years, including LFCCs and SIDS.

The purpose of this study is to compile financial information related to the forests in Cape Verde and to assess the sources and funding opportunities, gap and challenges.

The methodology in the preparation of this document consisted of identification, collection and analysis of documents relevant to the theme of forested areas in Cape Verde; meetings and interviews with relevant organizations and or institutions; trips to the islands and municipalities to gather information from stakeholders; and visits to some relevant project sites of this sector.

## 2. GENERAL INFORMATION ON CAPE VERDE

### 2.1 General characteristics

Cape Verde is an insular archipelagic State comprising 10 islands and eight islets, located approximately 450 km from Senegal off the West African coast. The islands occupy an area of 4,033 km<sup>2</sup>. Cape Verde's coastline is relatively large, with about 2,000 km of white and black sand beaches. The country is characterized by a scarcity of natural resources and encompasses an economic zone of about 700,000 km<sup>2</sup>.

The climate is tropical arid. It is characterized by a short rainy season from July to October and very intense rainfall, which is irregularly distributed in area and timing.

The soil is formed from volcanic rocks, which are mostly poor in organic matter. Only 10 per cent of the land is potentially arable, of which 95 per cent is occupied by rain-fed agriculture and the remaining 5 per cent by irrigated agriculture (Environmental inter-sectoral plan of Forestry, Agriculture and Livestock).

According to demographic projections from National Institute of Statistics, the population in 2011 will be about 525,310 inhabitants, with almost 61 per cent living in urban areas. The average annual population growth is 2.5 per cent, which poses serious problems and development challenges to the country and can eventually cause a sharp deterioration in living conditions of the most vulnerable population.

### 2.2 Environmental context

Because of their geographical isolation, Cape Verde's ecosystems have a high degree of specialization and endemism. The ecosystems have been significantly altered throughout the history of the country and are quite fragile. Their genetic base is very limited; subsequently, they cannot resist against unbridled exploitation.

Cape Verde, due to its insularity, presents a great diversity of landscape between islands and between different geographic areas. The prevailing natural conditions in Cape Verde, i.e., desertification and soil degradation (related to the country's geographical location), combined with socio-economic conditions such as population growth, over-exploitation of natural resources, rural exodus, unorganized suburbanization, unemployment and poverty, have contributed directly or indirectly to environmental degradation in the country.

#### ***Geology and soil***

The soils of volcanic origin are generally of poor quality for agricultural use. The soils are shallow and stony, covering more than half the surface area of the country. Formed on basalt substrates, *phenolite*, *lapilli* and volcanic tuff (with the exception of the eastern islands composed largely of limestone), the soils have a tendency to alkalinity. They are low in organic matter and rich in mineral elements, but quite eroded.

The origin of the soil is related not only to the predominance of basaltic rocks in different states of alteration, but also to sedimentary rocks in the lower alluvial streams, various sediments on mountain tops and materials in extrusive volcanic cones.

#### ***Biodiversity***

The biodiversity of Cape Verde is poor compared with the biodiversity of other Macaronesian archipelagos. The vascular flora is represented by 755 known species (Duarte, 1998 cit. DGA 2002), half of which humans likely introduced. The flora of Cape Verde includes elements mainly from the floristic region of Macaronesia, which includes the Canary Islands; Madeira; the Azores; and the African countries of Senegal, Gambia, Mauritania and Morocco. The

indigenous flora of Cape Verde consists of 224 species, of which 85 are endemic, belonging to 11 families and 17 genera. The remaining species are introduced.

According to its topography, climate and vegetation type, Cape Verde has four bioclimatic zones:

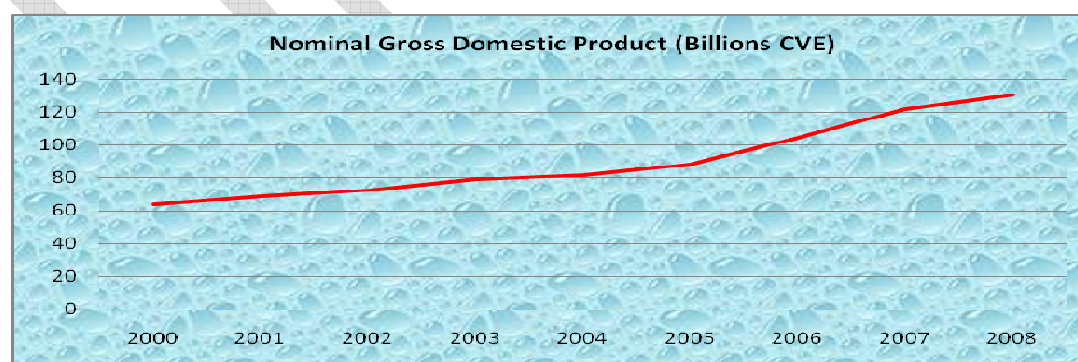
1. The arid coastal zone, from 0 to 200 m of altitude, is described as a herbaceous desert area.
2. Semi-arid zone, located between 200-400 m of altitude, has an inter-annual rainfall ranging between 300-400 mm. Although this area is marginal for agriculture, it is still practised in the form of subsistence crops in years of good rainfall. The natural vegetation is similar to that of the arid zone, although it is more diversified with some herbaceous and tree species.
3. The sub-humid zone, located from 400 to 600m of altitude, has an annual rainfall varying between 400 and 600mm. This area is most suitable for agriculture and may contain several woody species, shrubs and trees spread across agricultural fields, such as *Acacia albida*, *Acacia farnesiana*, *Acacia nilotica*, *Adansonia digitata*, *Anacardium occidentale* etc.
4. Wetlands, located above 700 m of altitude, receive an average annual rainfall exceeding 600 mm and are the most productive in terms of agricultural production and forage.

### 2.3 Economic context

Cape Verde's economy has recently achieved notable results. In the last few years, the average annual economic growth has been higher than 7 per cent, outperforming the other regional and sub-Saharan countries.

The economic growth of Cape Verde has been very consistent over the last few years, as shown in Figure 1. In nominal terms, the gross domestic product (GDP) grew considerably. From 2000, according to data from the Bank of Cape Verde (BCV), the nominal GDP grew from CVE<sup>1</sup> 64.5 billion to CVE 130.3 billion (see Figure 1).

**Figure 1** Economic growth of Cape Verde during 2000-2008



Source: Statistics from BCV/ graphics by author

<sup>1</sup> CVE= Cape Verdean Escudo

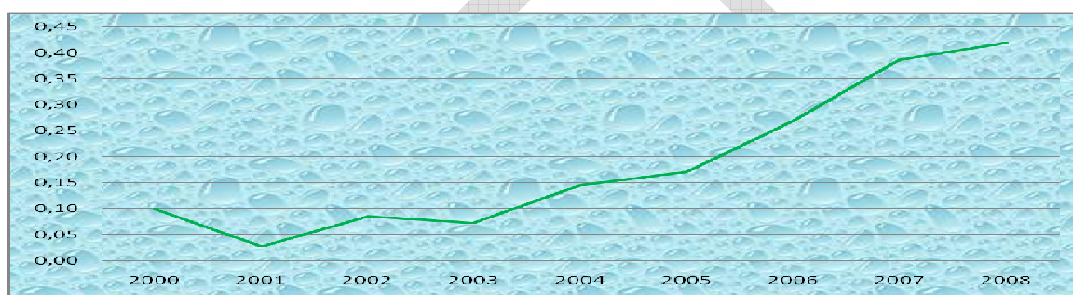
Throughout the period of 2000-2008, the Nominal GDP grew 102 per cent.

The GDP growth rate per capita being much higher than the population growth rate has resulted in a positive trend in GDP per capita. According to official data from the World Bank, the GDP per capita in Purchasing Parity Power (PPP) in 2007 was equivalent to USD 3,041. The average annual growth rate of GDP per capita between 1990 and 2006 was 4.8 per cent. In terms of the contribution of forests to the GDP, forestry is aggregated with fisheries, farming and ranching, and the contribution of the forests to the GDP is insignificant.

The growth of the flow of Foreign Direct Investment (FDI) was positive in the 2001-2007 period. This is likely the result of the confidence that the international economic community has in the country, and more specifically, in the private sector. Political and macroeconomic stability ensures a solid business environment and safe investments, and it raises the confidence of foreign investors.

Since 2001, the volume of FDI in Cape Verde has increased significantly. Figure 2 shows this dynamic growth.

**Figure 2 Foreign direct investment inflow in Cape Verde during 2000-2008**

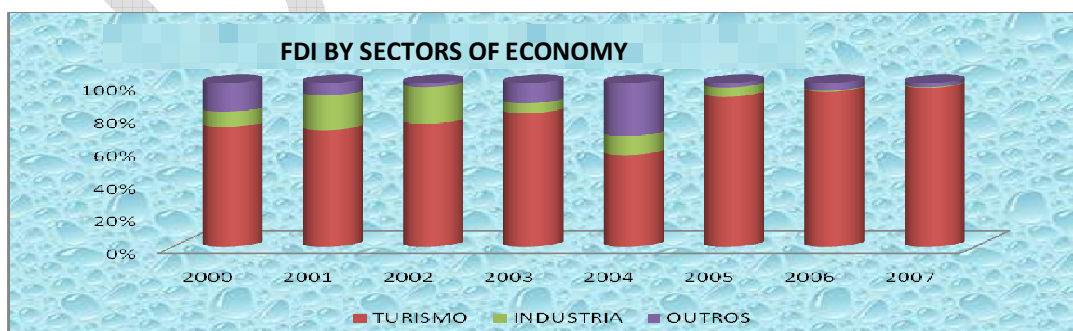


Source: Cabo Verde Investimentos

The growth of FDI from 2000 to 2008 has been positive overall. During this period, FDI grew considerably, particularly from 2004-2009, during which it increased approximately 2.9 per cent. This effectively shows that Cape Verde has become an attractive destination for FDI.

The tourism sector has attracted the largest FDI inflow during 2000-2007 (see Figure 3.)

**Figure 3 FDI inflow per economic sector<sup>2</sup> in Cape Verde during 2000-2007**



Source: Cabo Verde Investimentos

<sup>2</sup> Red represents the tourism sector, green represents the industry sector and blue represents other industries.



From 2000 to 2007, there was no foreign direct investment in Cape Verde in forests; instead, FDI in Cape Verde was mainly absorbed by the tourism sector. From 2000 to 2003, tourism absorbed on average 73 per cent of the FDI. Despite a slight decline in 2004 by 25 per cent in comparison with 2003, the FDI in the tourism sector has considerably increased until 2007. The inflow of FDI in other sectors of the economy is scarce. The inflow of FDI by countries of origin is presented below in Table 1.

**Table 1 Yearly FDI inflow to Cape Verde by country of origin**

<i>Country of origin</i>	<i>2002</i>	<i>2003</i>	<i>2004</i>	<i>2005</i>	<i>2006</i>	<i>2007</i>
Angola	0.0	0.0	0.3	0.0	0.0	7.0
Belgium	6.5	0.0	0.0	0.0	0.0	0.0
Spain	0.0	6.5	66.8	3.0	29.7	25.9
France	0.0	0.4	0.5	4.0	0.4	0.0
Italy	89.5	4.0	4.5	6.7	0.9	00.
Portugal	3.9	87.4	22.9	83.5	19.4	20.7
Russia	0.0	0.0	0.0	0.0	0.0	9.7
Senegal	0.0	0.1	0.0	0.3	0.1	0.0
Others	0.2	1.6	5.0	2.6	49.5	36.7

*Source: BCV, Statistic Bulletin 2007, p. 10 and 2008, p. 10.*

Spain, Italy and Portugal were the largest investors of foreign capital in Cape Verde during 2000-2007.

It is important to state that Cape Verde has a trade deficit, and that the main imported products are food and construction products. Cape Verde does not export any forest products.

### **3. FORESTS IN CAPE VERDE**

#### **3.1 General characteristics of the forest**

Due mainly to the efforts of afforestation in the last 35 years, it is currently estimated that the forested area in Cape Verde is approximately 84,000 ha, planted by the State. Forested areas represent 22 per cent of the national territory. The Association of Friends of Nature (AAN) planted an area of about 1,550 ha. That effort was not accompanied by forest management tools and planning; hence, the potential of forested areas to yield both wood products and non-wood products sustainably was not identified. Despite a lack of tools such as management plans, forest inventories, etc., forested areas are undeniably important to Cape Verdeans, especially in rural communities. Forest resources contribute to the fight against poverty in the rural communities through the production of firewood, forage, etc.

Lands in higher altitudes have been subject to ownership problems between private entrepreneurs and the State, despite the fact that properties are State-owned based on an executive order dating from 1928. During the rainy season, private citizens cultivate land within forests, and when approached by the authorities, they claim to be owners of the land. The State usually allows them to practise subsistence farming, since they are not involved in forest management and do not plant root crops that cause soil erosion, given the steep slopes of these areas.

The arid and semi-arid land areas generally are privately owned. Afforestation is carried out in coordination between the State and landowners. The State carries out afforestation projects, and the owners operate under the technical supervision of the National Forest Service. The operation consists of pruning and cleaning, which cannot be practised without authorization from proper regulators. It is important to mention that the owners participate actively in these projects and are paid.

### **Forested area**

Forest resources in Cape Verde are very limited. The scarce natural forest has almost disappeared, and the introduced species in forest plantations, undertaken on a large scale, predominate in the local vegetation, either in area or in number of plants and the respective timber volume. The current tree and shrub cover is mainly made up of plantations based on introduced species, such as drought resistant *Prosopis juliflora* and *Parkinsonia aculeata*. The 22 per cent of land with tree cover in Cape Verde should be interpreted with reservations, since the area is only estimated. The estimation is calculated by taking into account the number of plants planted in the field, with 5m by 5m spacing between plants, equalling 400 plants per ha.

The following issues need to be considered:

1. There is a lack of a current forest inventory, which may include completely deforested areas by natural death, cuttings, etc.
2. The areas with tree cover were estimated by using a certain time period scenario based on a theoretical density of planting, usually 400 plants / ha, without taking into account the rate of mortality, rocky outcrops, the slopes of the terrain, etc.
3. In many cases, due to the lack of technical and institutional capacity, the information collected is not in line with the adopted criteria.
4. The planting done up to the preparation of the first NDP (National Development Plan) has neither been framed in development programmes nor systematized in a uniform manner.
5. The planting done by small local projects has often not been recorded.

The islands have few updated planting charts in terms of location and area. With regard to private forests, the Association of Friends of Nature planted an area of 1,550 ha from 2000 to 2010. The association operates only in the island S. Vicente.

### **Forested area and the level of national coverage**

The soil and climate conditions are determinant in forest production, and the potential production of forested areas is different in areas such as arid zones or high-altitude areas. According to estimates, about 80 per cent of the planted area is located in arid and semi-arid zones, and 20 per cent in high-altitude areas or wetlands and sub-humid areas. However, these calculations do not take into account the agroforestry plantations in areas of agricultural potential.

In Cape Verde, there are two types of forest areas: The high altitude areas that are considered as conservation areas and arid / semi-arid areas for production and multiple uses in lower altitudes. In the arid and semi-arid areas, the tree cover is considered to be for production and multiple uses, with an emphasis given to production of firewood and fodder. However, recently greater attention has been given to soil management with the aim of preserving and restoring the ecosystem, to the detriment of the implementation of agro-pastoral forestry systems.

The tree species have been introduced according to the following climate zones, which reflect mainly the degree of aridity or dryness of the environment:

**Arid coastal zone:** This zone has experienced numerous campaigns for planting silvo-pastoral systems, using techniques of soil and water conservation. The most commonly used species are *Prosopis juliflora*, *Parkinsonia aculeata*, and *Atriplex ssp.*

**Semi-arid zone:** Although this area is considered marginal for agricultural use, it is still practised here. The activities of afforestation are similar to the arid zones, with a greater diversity of species used such as *Ziziphus mauritiana*, *Acacia bivenosa*, *Acacia holosericea*, *Acacia nilotica*, *Acacia victoriae*; but still with a predominance of *Prosopis juliflora* and *Jatropha curcas*.

**Sub-humid zone:** This is the area most suitable for agriculture, and several woody species, shrubs and trees grow here such as *Acacia albida*, *Acacia farnesiana*, *Acacia nilotica*, *Adansonia digitata*, *Anacardium occidentale*, *Grevillea robusta*, *Acacia pycnantha*, *Acacia holosericea*, *Acacia cyanophylla*, *Acacia victoriae*, *Acacia cyclops*, *Dracaena draco spp.*, *Azadirachta*, *Ficus spp.*, *Schinus molle*, *Leucaena leucocephala*, *Tamarindus indica*, *Jatropha curcas*, etc.

**High-altitude zone:** The main species used in these areas are: *Pinus halepensis*, *Pinus canariensis*, *Pinus radiata*, *Cupressus arizonica*, *Cupressus sempervirens*, *Eucalyptus camaldulensis*, *Eucalyptus tereticornis*, *molissima Acacia*, *Acacia cyanophylla*, *Grevillea robusta*, *Cassia siamea*, and *Khaya senegalensis*. The interception of fog is considered a side effect, which has more significance at the margins of forests in the face of the prevailing winds and occurs more frequently during the night and early morning.

The *Prosopis juliflora* is the species that has best adapted to arid and semiarid regions. However, its introduction has been decreasing over the years with the concentration planting efforts in the most arid areas at the expense of sub-humid zones, wetlands and the bottom of river valleys. The decline of this species is also related to a greater diversity of species used in forest plantations in order to maintain biodiversity.

### **Ownership of forests and forest use**

The land tenure system and land exploitation issues in Cape Verde are very complex and fragmented. It is therefore difficult to pinpoint the exact percentage of forest cover in public and private areas nationally.

The lands dedicated to agriculture and agroforestry are mostly private. Forests located in high-altitude and sub-humid areas are on private land, except those that lie above 1,000 m, which belong to the State based on an executive order dating from 1928. Most arid and semi-arid areas with tree cover belong to the State.

The forest management system depends on the climate type and the landowners. In arid and private lands, afforestation is guaranteed by the State, but the operation is done by the owners through licensing and technical assistance from the national forest service. The management of high-altitude forests is done by the State.

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The Association of Friends of Nature is responsible for the management of its forested area.

In Cape Verde, 57 per cent of households, of which 92 per cent are concentrated in rural areas, use firewood as the main source of energy for cooking food. It is estimated that each year, the exploitation of wood for energy is around 96,170 kilograms. The wood for energy use is collected mostly from forested areas; woody materials that grow in agricultural fields or pastures are also collected to some degree.

The main purposes of afforestation are to conserve soil and water and to reinstate vegetation. However, another purpose of afforestation is to contribute to improving the living conditions of populations through the rational exploitation of natural resources to help meet the populations' needs for firewood, fodder and wood.

### ***Forest plantations***

Given the climate conditions of the country, good soil preparation is necessary to carry out planting campaigns. Soil preparation activities are mandated to the Soil and Water Conservation infrastructure (CSA). The method used is the construction of mechanical anti-erosion structures made from materials found on site and placed on steep inclines conforming to the terrain.

The preparation of land is of extreme importance. The goal is to reduce the flow of surface water and solid materials, to retain rainwater on site for the benefit of plants and to facilitate the concentration of rainwater at the level of planting pits. This results in increased infiltration of water into the soil and allows for the recharge of groundwater.

## **3.2 Forests in the national economy**

Forested areas are sources of renewable raw materials. The contribution of forests to the national economy is negligible. Forests play an important role in energy consumption on a household level, in soil and water management and in providing forage for the animals. The methodology of calculation of the GDP does not consider forests as a unique component, and that is why there is no data on its contribution to GDP. However, the quantification of the contribution of the forest to the GDP is aggregated with other sectors, such as fisheries and agriculture, and this aggregate figure represents 9.4 per cent of the share of GDP.

Despite various constraints, the agricultural sector (agriculture and forestry) is an important factor in the economic and social development of the country in the short to medium term, with 47 per cent of the population living in rural areas.

One of the constraints for integrating forestry into the national economy is the lack of a forest inventory to ascertain the potential of the sector. A reliable economic analysis of the sector cannot be done in the absence of inventory data. Cape Verde imports a great majority of the wood it consumes from the surrounding countries.

## **3.3 Afforestation in Cape Verde**

### ***A brief history***

The legislation created in 1912 attempted to complete a series of afforestation initiatives, especially in the uncultivated land exposed to winds from the north-east at an altitude above 1,000 metres. The establishment and registration of public and private property were the first

steps in defining the areas to be afforested and those to be reserved for pasture to keep the animals outside the areas of crops and forests.

A provincial ordinance of 12 February 1927 promoted the acceleration of forest work by instituting a forestry regime in Cape Verde. This regime then created nurseries on State land with several species to be planted at the appropriate time, in the north-western regions of the country.

A legislative decree of August 1928 created the Agricultural and Forestry Services, which determined the future of Cape Verdean forests. That law established three procedures concerning 1) the incorporation of forest lands as part of the forestry regime, which called either for simple surveillance of forests or afforestation activities; 2) the regrouping of the rules of surveillance, including surveillance over forest products and use, particularly pertaining to firewood and grazing; and 3) related penal provisions.

From 1928 until 1974, Cape Verde had a total of 2,977 hectares of forested land; 2,232 being in high-altitude zones and 745 being in arid zones.

Since independence in 1975, successive governments supported by international cooperation have been implementing various planting campaigns and emergency plans for soil and water conservation and afforestation mostly in arid areas. The *Acacia americana* was the only species that has adapted to the climatic conditions of all the islands and continues being the predominant tree in the arid islands (e.g., São Vicente, Maio and Boavista).

In 1976, the Association of Friends of Nature was created in Mindelo. The Association has played an extraordinary role in the preservation of the environment and in fighting against desertification on the island of São Vicente. It has planted to date nearly 1.5 million trees, encompassing an area of 1,550 hectares.

The State has determined the system of exploitation of forest areas. Private areas forested with the support of the State are operated by the owners of the land under licensing and technical assistance from the State. In the high-altitude forest and sub-humid zone, exploitation is done solely by the State, although these areas suffer from rampant illegal cutting by private parties.

### **3.4 Deforestation and forest degradation**

Forested areas in Cape Verde are vulnerable due to natural causes such as desertification. If population pressure, uncontrolled urbanization, illegal cutting, over-grazing and inadequate agricultural practices are added to the equation, the vulnerability of forest areas is even more pronounced.

As a result of climatic variations since the 1960s, chronic droughts have become increasingly frequent and more devastating in Cape Verde. Droughts contribute to the reduction of vegetation cover, particularly in both rain-fed and irrigated agricultural areas and pastures. This, in conjunction with the morphology of the archipelago and the short and intense rains in the raining season, makes the phenomenon much more severe than in other Sahel countries.

As a result of human activities, desertification is concentrated in rural areas where poverty particularly affects the rural population dependent on natural resources. Being that Cape Verde is poor in natural resources, there is increasingly strong pressure on rain-fed and irrigated arable land and pastures. Coupled with the incorrect use of land, it has led to the destruction of soil structure, mainly through weeding and loss of organic matter by total removal of vegetation, especially in the practice of annual crops on steep slopes.

Deforestation is a consequence of the pressure from both anthropogenic activities and natural causes such as drought. The main causes of deforestation are related to urbanization and the

construction of infrastructure. Economic development and population increases have resulted in the construction of infrastructure and enhancement of urban centres.

### **3.5 Sustainability of forest management in Cape Verde**

The sustainable management of forested areas allows for valorization of forest resources at both environmental and socio-economic levels in order to help mitigate the effects of climate change, land degradation and desertification. It also allows for positive impacts on poverty reduction and improved quality of life of the population.

Although there are strategic guidelines for sustainable forest management in Cape Verde, their implementation is weak due to a lack of suitable economic and financial conditions in the country. However, some activities are being performed annually in order to achieve sustainability, such as management of forested areas, surveillance, replanting, and maintenance of infrastructure for conservation of soil and water,

## 4. FORESTRY POLICIES, INSTITUTIONS AND INTER-RELATIONS

### 4.1 Policies and legislation relevant to the sector

Almost all national plans related to forestry have been integrated with agriculture and livestock and thus fall under the agrarian sector. Forestry is included as one of the strategic priorities in the "Strategy Document on Growth and Poverty Reduction" (GPRSP II, 2008), which is the guiding document for all development policies of the country.

#### Plans, Programmes and Strategies

The Government Programme for the 2006-2011 period has proposed as one of its principal objectives "Improving the Quality of Life for Cape Verdeans". The earlier Government Programme for the 2001-2005 period states that "Conservation and development of ecosystems of the islands of Cape Verde and valorization of natural resources will constitute a central concern of the Government, which should translate into a horizontal policy orientation, in consultation with the other sector policies." Thus, policy development and management of various sectors of the country's economy point to the valorization of natural resources and ecosystem conservation with the goal of sustainable development.

All policies and strategies of the government are reflected in the Strategy Document on Growth and Poverty Reduction (GPRSP) II, which was based on the following documents: a) Government Programme for the period 2006-2011, b) Balance of the Strategy Paper for Growth and Reduction of Poverty (GPRSP I), c) Millennium Development Goals, and d) The Strategy of Economic Transformation (TEE).

The central objective of poverty reduction in Cape Verde is based on policies related to promoting economic growth complemented by redistributive policies that are socially rewarding and focused on vulnerable groups in terms of deficient socioeconomic conditions.

It is, however, very important to underscore that the GPRSP II does not call any attention to forests. It has a whole chapter on environmental issues (agriculture, water management, soil erosion, etc.), but there is nothing on forests.

In the Economic Transformation Strategy (TEE), the government proposed an agenda of changes so that positive results would emerge for all sectors and outlined strategic priorities. For forestry, the government proposes "sustainable management of resources based on river basin planning, development of agroforestry and participatory management of forest areas, to improve significantly (a) soil and water conservation, (b) forage production, (c) sustainable crop production, (d) energy availability".

Particular attention will be devoted to forest fire prevention and restoration of degraded ecosystems.

The following plans and programmes are being implemented in Cape Verde:

**NFAP:** The National Forestry Action Plan is structured around cross-cutting themes, such as forest, wood energy, agroforestry, wood, non-wood products and management of natural reserves. The guiding principles of the actions of NFAP are complete involvement with the people who use the forest resources for their livelihoods.

**NHEP:** The Regional Programme for the Promotion of Household and Alternative Energies in the Sahel (RPHE) was launched in Cape Verde in 2003 by the Inter-State Committee to Combat Drought in the Sahel (ISCCDS). The programme is intended mainly to help the ISCCDS member states to organize themselves in a professional and coordinated way by promoting the sustainable supply and rational use of household energy from a poverty reduction and environmental protection perspective in order to devise, adopt and implement a National Plan for Household Energy (NHEP).

The Programme aims to adapt for regional use the guidelines issued by the National Strategy for Household Energy and the Sector Policy Charter ratified by the Ministries of Economy and Environment. The NHEP is budgeted at EUR 5.3 million (about CVE 584.000,000). Its completion is expected during the period of 2010 to 2014.

The objectives proposed in the NHEP are (among others) the substitution of firewood for gas, the rationalization of domestic renewable energy, the decentralization of forest management, the utilization of solid waste, and the economic and social recovery of timber resources.

**NAIP:** The National Agricultural Investment Programme is a document framed on the basis of the Regional Agricultural Investment Programme (RAIP) prepared by each member country to the Economic Community of West African States (ECOWAS). The programme consists of several sub-programmes, including the Sub-Programme for Improving the Management of Other Shared Natural Resources, whose overall goal is to contribute to sustainable management of natural resources. One of the components of this Sub-Programme is to support the management of forest resources that have the overall aim to improve the multi-functionality of Cape Verdean forest areas, ensuring and enhancing their environmental, economic and social valorization in order to help reduce poverty and improve the quality of life of communities through sustainable management of forested areas.

At the legislative level, there are a number of statutes that define the legal framework and mechanisms concerning management, monitoring and use of the natural resources of the country. These statutes offer a legal framework for sustainable management of natural resources both on land and sea; nevertheless, some need to be enforced.

#### 4.2 Forest-related institutions and stakeholders

The Ministry of Environment, Rural Development and Marine Resources is the national institution responsible for designing and implementing public policy on forests. It acts through the General Directorate for Agriculture, Forestry and Livestock, which includes the Directorate of Forestry. This section describes the responsibilities of these institutions.

**The Ministry of Environment, Rural Development and Marine Resources** is responsible for supporting forestry development and for the zoning of watershed and protected areas. It is also responsible for issues concerning the protection of environment and nature. The National Institute of Agricultural Research and Development (INIDA), National Institute for Rural Engineering and Forestry (INERF) and National Institute of Meteorology and Geophysics (INMG) are all under the direction of this ministry.

**The General Directorate Agriculture, Forestry and Livestock (DGASP)** is responsible for the implementation of government policy on agriculture forestry and livestock.

The responsibilities of this Directorate are as follow:

1. Shape the development strategy in different sectors by establishing guidelines and implementing actions that ensure and enhance the rational exploitation of agricultural resources.
2. Develop strategies for the preservation and development of forests.
3. Establish and implement policies, strategies and programmes to fight against desertification and land management.

**The Directorate of Forestry Service (DSS)** is a part of DGASP and its responsibilities are as follows:

1. Contribute to defining the national forest policy and coordinate its implementation.
2. Strengthen the enforcement of forestry laws and regulations and international agreements and standards related to forestry.
3. Develop, update and coordinate the implementation of planning tools in the sector, including the Forest Action Plan, Programme and Forest Management Plans.



4. Plan forest protection activities in the country to ensure their integrity and proper use of trees and soil.
5. Define the technical criteria for the issuance of license for cutting and pruning trees.
6. Grant permits for felling or cutting of trees.
7. Connect with public and private institutions aimed at protecting the environment with the objective of preservation or expansion of forests.
8. Prevent violations of the laws and regulations governing forestry activities and promote the prosecution of these violations.
9. Take part in activities that aim to control entry into the country of forest products such as wood, plants and seeds.
10. Exercise other similar functions as determined by superiors.

**Regional Delegations of the Ministry of Environment, Rural Development and Marine Resources:** These regional delegations represent the Ministry at island and municipals levels. They are decentralized services that execute the sector policy in all municipalities in the country.

**General Directorate of the Environment (GDE):** This is an institution that designs and coordinates environmental policies.

Others institutions are also involved in the process such as:

**Ministry of Finance and Planning:** This Ministry designates the government delegates from the administration of public service units in coordination with the ministers responsible for the concerned sectors. It also coordinates and implements policies for the management of State finances, regional development, decentralization and relations with local authorities.

**Ministry of Foreign Affairs, Cooperation and Communities:** This Ministry coordinates and implements the foreign policy of Cape Verde through international cooperation.

**Ministry of Education and Human Resources Development:** This ministry coordinates and implements policies on structuring training interventions in the field of qualification and development of human resources.

**Development partners:** These are the main funders of programmes for country development non-governmental organizations (NGOs) and community associations.

The official evaluation of the performance carried out in all these institutions found positive results for the implementation of their legal attributions and responsibilities.

### 4.3 Cross-sectoral linkages

#### ***Agriculture***

The agricultural development policy in Cape Verde is part of the overall framework of the new national options whose objectives are to preserve macro-economic balances, ensure the sustainable living conditions of families and the local community, contribute to food security and nutrition in the country, and contribute to the preservation of the environment. In addition, this policy aims to implement measures to mitigate/ reduce constraints affecting the country's development, modernization and viability of farms; increase productivity; improve living conditions; improve the level of education of rural populations; and encourage the creation of private networks in the countryside.

### ***Regional and national plans to increase forests***

Some programmes already have been implemented or are currently in progress:

1. The Integrated Management Project for Ribeireta Valley  
Funded by Austrian Development Cooperation from 1998 to 2004, this project supported the fight against erosion by using irrigation techniques and afforestation.
2. Integrated Reforestation Project in the Islands of Santiago and Maio - IRPSM  
Funded by German Cooperation from 1997 to 2003, this project aimed to increase the potential of agriculture and forestry in order to improve the supply conditions of natural products to the population. Specifically, the project supported reforestation, removal of Prosopis, pasture improvement, construction of dams, rural credit and the rehabilitation of some infrastructure. It also developed several income-generating activities.
3. Project of Protection of Natural Resources of the Island of Fogo (PPNRF)  
Also funded by German Cooperation between 2003 and 2007, this project aimed to increase agricultural and forestry potential on Fogo Island to support farmers' associations in several areas, such as protection and reclamation of land, the extension of anti-erosion, reforestation, agroforestry systems, fruit tree cultivation, pasture improvement, construction of dams, rural credit and construction/ rehabilitation of some infrastructure.
4. Forest Management and Creation of New Areas  
Financed by internal funds, these projects aim to increase the productivity of watersheds through rural engineering, reforestation, agroforestry, infrastructure, processing and conservation of soil and water, monitoring and maintenance of plantations, pasture improvement, etc.
5. Project of Protection of Natural Resources of the Island of Fogo (PPNRF)  
Funded by German Development Cooperation between 2003-2007, this project aimed to increase agricultural and forestry potential on Fogo Island to support farmers' associations in several areas, such as in protection and reclamation of land, the extension of anti-erosion, reforestation, agroforestry systems, fruit tree cultivation, pasture improvement, construction of dams, rural credit, and construction/rehabilitation of some infrastructure.
6. Forest management and creation of new areas  
Financed by internal funds, these projects aim to increase the productivity of watersheds through rural engineering, reforestation, agroforestry, infrastructure, processing and conservation of soil and water, monitoring and maintenance of plantations, pasture improvement, etc.

### ***Protected Areas***

In Cape Verde, the largest populations of wild flora and fauna as well as endemic, indigenous and naturalized species are concentrated in protected areas throughout the archipelago. Some of these areas, in addition to being in possession of geologic, geomorphologic and aesthetic treasures not found in any other areas of the country, are the habitat of specific species of plants and animals of considerable socio-economic importance that are seriously threatened with extinction. Cape Verde has about 80 endemic species.

## 5. CURRENT FOREST FUNDING

In Cape Verde, afforestation is an activity almost exclusively practised by the State. On a private level, there is only one association in the country dedicated to forestry activities, the Association of Friends of Nature. It is important to underscore that there is no forest industry in the country, as the area under forest cover is too small. This is also the reason why there is no private investment flow in this sector.

In recent years, Cape Verde has seen a decrease in the number of public investments in the forests despite the volume of financial resources entered annually in the Investment Programme. The effectiveness and efficiency of an internal financing component are often weak, because in reality, the financial resources do not flow to investments; they are instead used mainly for payment of wages.

Over the past 10 years, forest public funding was cumulatively USD 44,083,245.

### 5.1 State Budget

Public financing for forestry in the last 10 years came from the State budget and various external sources, namely donors. The State budget for that period was USD 10,260,963. Table 2 represents the public funding during the last ten years in the forests.

**Table 2 Forest funding in the last 10 years**

Year	Government budget	Donor project funding	Total funding
	USD dollars		
2000	131 370	5 523 346	5 654 716
2001	439 321	3 038 691	3 478 012
2002	18 111	2 515 805	2 533 915
2003	357 202	3 198 961	3 556 163
2004	375 062	3 024 691	3 399 753
2005	0	5 582 734	5 582 734
2006	109 650	4 358 865	4 468 516
2007	2 141 975	2 019 256	4 161 231
2008	1 941 358	2 019 256	3 960 614
2009	2 373 457	2 437 102	4 810 559
2010	2 373 457	103 575	2 477 031
<b>Total</b>	<b>10 260 963</b>	<b>33 822 282</b>	<b>44 083 245</b>

Source: DGPOG – MADRRM

### 5.2 Sources of external funding

The modalities of external financing in Cape Verde are budgetary aid, direct aid to projects, concession loans, food aid and debt-service relief (under the condition that debt-relief moneys be used for financing of projects and for food aid).

Budgetary aid represents approximately 18.8 per cent of external funding and 15 per cent of total investments at the national level. The 2000-2010 foreign funding for forests is USD 33,822,282.

In recent years, the external financing has been administered via the State budget, encompassing all sectors. For this reason, direct funding to sector projects has been reduced, which is in turn one of the reasons for the reduction of the budget for the forests.

With regard to the private sector, only the Association of Friends of Nature has made investment in the forests. Over the past 10 years, the Association invested about USD 133,142 in the forests.

To implement the forest policy in the country, it is necessary to diversify sources of financing and to invest in new methods of financing, particularly those related to the Clean Development Mechanism (CDM) (which does not yet exist in the country).

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**Table 3 Donor assistance to forests**

<i>Year</i>	<i>Donor</i>	<i>USD dollars</i>
2000	Japan	1 092 593
	Austria	1 074 074
	Holland	1 432 099
	EU/PL480	413 580
	Switzerland	395 062
	Belgium	308 642
	Portugal	432 099
	Germany	135 802
	Germany	239 395
	<b>Total</b>	<b>5 523 346</b>
2001	Japan	843 602
	Germany	182 531
	Belgium	80 247
	Austria	679 012
	Holland	701 953
	PL480	551 346
	<b>Total</b>	<b>3 038 691</b>
2002	Japan	543 783
	Belgium	72 637
	Holland	825 527
	Austria	523 225
	Germany	166 273
	PL 480-USA	384 359
	<b>Total</b>	<b>2 515 805</b>
2003	Germany	1 223 653
	Food Aid	1 975 309
	<b>Total</b>	<b>3 198 961</b>
2004	Germany	740 741
	Holland	1 975 309
	USA	617 284
	FAO	432 099
	<b>Total</b>	<b>3 765 432</b>
2005	Holland	5 189 042
	USA	393 691
	<b>Total</b>	<b>5 582 734</b>
2006	Holland	2 440 572
	Germany	1 918 293
	<b>Total</b>	<b>4 358 865</b>
2007	Germany	2 019 256
	<b>Total</b>	<b>2 019 256</b>
2008	Germany	2 019 256
	FAO	417 846
	<b>Total</b>	<b>2 437 102</b>
2009	Germany	2 019 256
	<b>Total</b>	<b>2 019 256</b>
2010	UNCCD	103 575
	<b>Total</b>	<b>2 122 831</b>
<b>Table total</b>		<b>33 822 282</b>

## 6. FOREST FUNDING DEMAND IN CAPE VERDE

The domestic budget for forests has been reduced in recent years, and it covers the salaries of State employees. The resources for current forest investments are very scarce. Almost all forest investment is dependent on external sources, such as official development assistance (ODA). Demand for financing forests is based on the existing strategic plans. The National Forestry Action Plan, which now includes the Strategic Plan for Agricultural Development, was established with funding from FAO and is currently being implemented with funding from the government and various external donors. The National Forestry Action Programme undertaken with FAO assistance did not have a clear financing strategy/plan, and whether all planned activities were financed cannot be determined, as the records are nonexistent and most of financing was based on ODA sources.

Given the vulnerabilities that characterize small island economies, the country often faces financial difficulties in the implementation of national plans, particularly ones concerning forests.

Under the national programme to fight against poverty (PNLP), forests have been integrated in proposals that the Government submits to development partners for funding. Even with this, the budget currently available does not cover all the needs of the forests. As the country is heavily dependent on foreign aid, financing for forests depends not only on the government budget, but also on the international and donor priorities. Currently, external funding is more targeted towards the general environment, including forests. The largest percentage is allocated to activities addressing climate change that are related to energy.

Funding for the management of forested areas should be strategically diversified. New opportunities for funding should be explored, such as taxation on the distribution of certain products and own-revenue generation, in order to reduce dependence on the State budget.

## 7. FUNDING GAPS AND MAJOR CHALLENGES

The top priority of the government is to develop tourism, as this sector has great potential and contributes substantially to the GDP (15 per cent in 2009). The demand for tourism is increasing, and the development of tourism infrastructure is a priority. The state budget allocates its biggest proportion of funds to tourism infrastructure and education. On the other hand, the forest financing from the state budget is almost nonexistent. The decreasing ODA trend will certainly have a great negative impact on forest financing for the reasons mentioned above.

In fact, the forest is not considered a priority for the government of Cape Verde because it is not an important economic sector. A brief reading of the last three government programmes shows a lack of importance given to forests. Forests are not even mentioned. This means that forests are not a priority, and that is why the state budget neglected it.

However, nowadays new ideas and strategies are being incorporated to connect the tourism sector to forests. So-called “rural tourism” is increasing, and it is considered by the local communities to be a source of income through payment of fees to access the already existing protected areas and natural parks.

The management of natural resources is a challenge that requires financial, technological and human resources. To meet the challenge, a set of priorities related to forest resources in Cape Verde has been defined. These priorities include (a) sustainable management of forested areas, (b) promotion of forestry, (c) understanding the potential of forestry, (d) involvement of all stakeholders who are directly or indirectly involved in the development of forestry, (e) establishing synergy with other public and private institutions and NGOs, (f) valorization of forest products, (g) sustainable management of land, (h) forest research, (i) understanding the biodiversity of forest ecosystems, (j) introduction and selection of new species, and (k) diversification of species in forested areas.

## 8. OPPORTUNITIES AND FUTURE PROSPECTS FOR FOREST INVESTMENT

The Government of Cape Verde gives the private sector a predominant role in the economic development of the country. A series of reforms are being implemented with the aims of liberalizing and diversifying the economy, redefining the role of the State and promoting the private sector. These reforms provide favourable conditions for investment, which is important in promoting competitiveness of the national economy and in promoting and strengthening the entrepreneurial capacity of the country.

The law of sponsorship and tax incentives are some examples of opportunities created by the government that can be utilized for private investment in forests.

To respond to problems and challenges surrounding deforestation and desertification, the following strategies and measures have been identified:

1. Prepare essential tools for planning and management, as well as implement measures necessary for the sustainable management of forest resources and for the mitigation of the effects of desertification, land degradation and climate change.
2. Protect environmental values and scenic forest areas of the Cape Verde Islands and enhance the multi-functionality of forested areas to increase the contribution of forest products in the domestic economy and fight poverty, especially in rural areas.
3. Strengthen capacity of institutions and actors as well as develop an awareness of the multi-functionality of forests through education, communication and information.

We believe that opportunities exist for financing the forests in Cape Verde and we present below some proposals:

### 8.1 Forest product intensification and product diversification

The increase of planted area with fruit plant species that are cost-effective, such as *Phoenix Atlantica* date palm, tamarind etc.

*Phoenix Atlantica* is endemic and is exploited in traditional way. This could be improved with the introduction of modern forestry techniques and training of local communities, increasing, thereby, the economic potential of forested areas. Tamarind is a species that easily adapts to the weather conditions of the country and that is also exploited in the traditional way for juicing, liqueurs and sweets. The modern forestry techniques would also contribute to increasing the economic efficiency of the forests. In addition to fruit trees, the wooded area for production of firewood can also be increased.

### 8.2 Expansion of ecotourism

The afforested areas contribute positively to ecotourism. They still have an untapped potential for attracting tourists to areas rife with endemic species.

### 8.3 Carbon credits

As a country with weak industrial development, Cape Verde has a low rate of greenhouse gas emissions. This represents an opportunity to sell carbon credits to developed countries, creating new income that can be leveraged to finance forestry projects.

### 8.4 Regional collaboration and international support

Being a small economically and environmentally vulnerable country, Cape Verde depends on foreign aid and regional collaboration for its development. On an international level, several



multilateral and bilateral donors have been financing projects related to the United Nations Conventions. On a sub-regional level, it is important to mention the Alliance of West African Countries, of which Cape Verde is a member. Several Alliance-based projects have particularly focused on climate change, biodiversity conservation, and a regional investment programme of the agrarian sector (agriculture, forestry and livestock), among others.

## 9. CONCLUSIONS AND RECOMMENDATIONS

One of the constraints to integrating forests into the national economy is the lack of a forest inventory to ascertain the potential of the sector. A reliable economic analysis of the sector cannot be done in the absence of inventory data. Cape Verde imports a great majority of the wood it consumes from the surrounding countries.

The State has determined the system of exploitation of forest areas. Private areas forested with the support of the State are operated by the owners of the land under licensing and technical assistance from the State. In the high-altitude forest and sub-humid zone, exploitation is to be done solely by the State, although these areas suffer from rampant illegal cutting by private parties.

The main causes of deforestation are related to urbanization and the construction of infrastructure. Economic development and population increase have resulted in the construction of infrastructure and enhancement of urban centres.

In order to have a dynamic national forest sector, new funding schemes that correspond to the challenges and strategies outlined for the sector are strongly recommended. The sustainability of forested areas is highly dependent on the better management of the forest resources.

The financing of forests in Cape Verde essentially comes from the public sector. There is a need to involve private stakeholders more in forest activities and to leverage existing opportunities both nationally and internationally.

Afforestation and funding for sustainable forest management are important measures for mitigating the effects of climate change. New forms of national and international financing must address these two measures.

Over the past 10 years, a total of USD 44,083,245 has been invested in the forests. From this amount, only 23 per cent corresponds to government funding.

Budgetary aid represents approximately 18.8 per cent of external funding and 15 per cent of total investments at the national level. The foreign funding for forests in the 2000-2010 period is USD 33,822,282.

Funding for the management of forested areas should be strategically diversified. New opportunities for funding should be explored, such as taxation on the distribution of certain products and own-revenue generation, in order to reduce dependence on the State budget.

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