



**New Partnership for  
Africa's Development (NEPAD)  
Comprehensive Africa Agriculture  
Development Programme (CAADP)**



**Food and Agriculture Organization  
of the United Nations  
Investment Centre Division**

## **GOVERNMENT OF THE REPUBLIC OF ANGOLA**

### **SUPPORT TO NEPAD–CAADP IMPLEMENTATION**

**TCP/ANG/2908 (I)  
(NEPAD Ref. 05/15 E)**

**Volume V of VI**

### **BANKABLE INVESTMENT PROJECT PROFILE**

**Revitalization of Angola Forestry Sector**

*December 2005*



## **ANGOLA: Support to NEPAD–CAADP Implementation**

**Volume I: National Medium–Term Investment Programme (NMTIP)**

*Bankable Investment Project Profiles (BIPPs)*

**Volume II: Irrigation Rehabilitation and Sustainable Water Resources Management**

**Volume III: Rehabilitation of Rural Marketing and Agro–Processing Infrastructures**

**Volume IV: Agricultural Research and Extension**

**Volume V: Revitalization of Angola Forestry Sector**

**Volume VI: Integrated Support Centres for Artisanal Fisheries**



## NEPAD–CAADP BANKABLE INVESTMENT PROJECT PROFILE

**Country:** Angola

**Sector of Activities:** Forestry

**Proposed Project Name:** **Revitalization of Angola Forestry Sector**

**Project Area:** Selected Regions of Angola

**Duration of Project:** 5 years

**Estimated Cost:** Foreign Exchange .....US\$44.2 million  
Local Cost..... US\$30.6 million  
**Total .....US\$74.8 million**

**Suggested Financing:**

<i>Source</i>	<i>US\$ million</i>	<i>% of total</i>
<i>Government</i>	8.8	12
<i>Financing institution(s)</i>	44.2	59
<i>Private sector</i>	21.8	29
<i>Total</i>	<b>74.8</b>	<b>100</b>



**ANGOLA:**  
**NEPAD–CAADP Bankable Investment Project Profile**  
*“Revitalization of Angola Forestry Sector”*

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### **Abbreviations**

CAADP	Comprehensive Africa Agriculture Development Programme
CCPA	Angola Paper Company “ <i>Companhia de Celulose e Papel de Angola</i> ”(CCPA)
FAO	Food and Agriculture Organization of the United Nations
GDP	Gross Domestic Product
MINADER	Ministry of Agriculture and Rural Development
NEPAD	New Partnership for Africa’s Development



## I. PROJECT BACKGROUND

### A. Project Origin

I.1. In order to contribute to the sustainable development of the country’s natural resources, the Government of Angola, via the *Ministry of Agriculture and Rural Development* (MINADER), has developed this project profile to support the revitalisation of Angola’s forestry sector. The project fits within the framework of the national implementation of NEPAD/CAADP and is in compliance with the country’s strategy to contribute actively to the sustainable development of renewable resources.

I.2. Although the need to improve forest resource management is highly relevant in the context of Angola, particularly given the cultural, social, economic and financial importance of forestry resources, the current framework supporting the Forestry Sector is not well developed. The proposed project is aimed at improving the forest resource management and supporting more sustainable exploitation of forest resources.

### B. General Information

I.3. With a surface area of 1,246,700 km<sup>2</sup> and a coastline of 1,650 km, Angola is well endowed with natural resources and good conditions from which to launch agricultural development. Nonetheless, the petroleum industry sector dominates the country’s productive structure (comprising over 50 percent of the GDP from 2001 to 2003), and exports (90 percent of exports during the same three-year period). The breakdown of GDP by sector is shown in the following table:

Sector	1999	2000	2001	2002	2003 (*)
Agriculture, Forestry & Fishing	6.4	5.8	8.5	8.7	8.1
Extractive Industries	67.1	66.9	57.6	54.4	51.2
Processing Industries	3.3	3.1	4.0	4.1	3.8
Construction	3.1	2.8	3.8	3.8	3.5
Business Services	15.0	14.5	15.8	15.5	15.0
Non-business Services	4.9	6.8	10.2	11.5	15.9
Import Duties & Taxes	0.2	0.1	0.1	2.0	2.5
(*) CONSULT projections.					

I.4. Another important feature of the structure of the Angolan economy is the predominance of the “grey market”, which is estimated at over 30 percent of GDP according to recent studies. Forest activity has a significant share in informal economic sector and implementation the present project could play a role in formalizing it.

I.5. While there is a need to formalize grey market activity, the dynamism of the thousands of “grey market” Angolan businessmen should be preserved. The formal sector, in contrast to the grey market has been slow to take advantage of the opportunities created by the end of the war and the opening of roads throughout the country.

I.6. Angola’s forest resources are abundant, well distributed across the country, and have high potential to supply sufficient quantities for internal consumption as well as export. The estimated harvestable area is approximately 40 percent of the country’s forestry areas, around 53 million ha (45 percent of Angola’s total surface). In terms of protected areas, Angola has 7 Forest Reserves and Parks corresponding to 7.9 million ha (6.6 percent of the country).

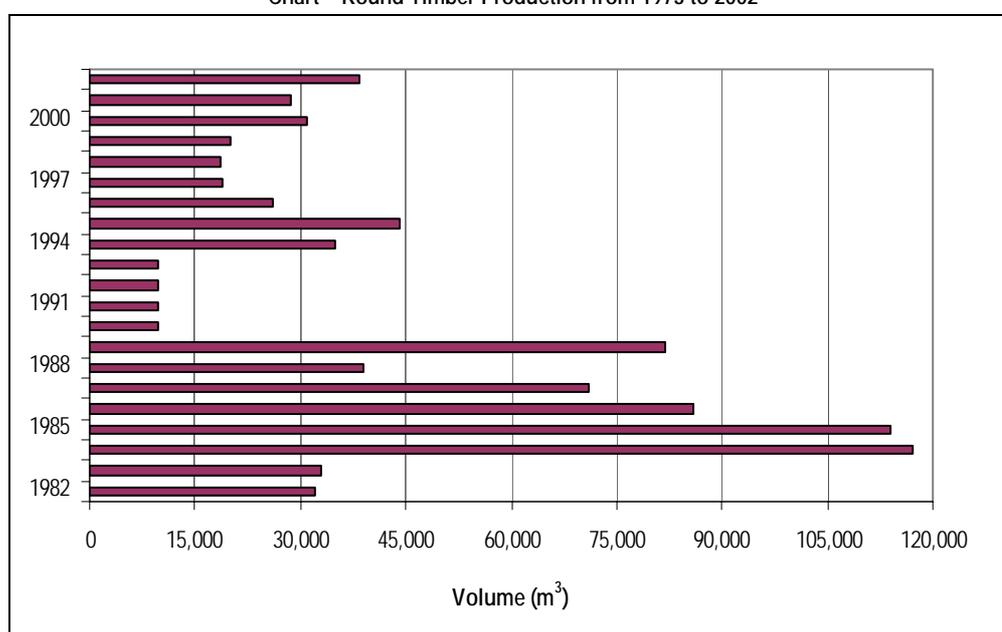
I.7. The evolution of round timber production in the country over the past 20 years is shown in the following table and diagram:

**Table 2: Evolution of Round Timber Production from 1982 to 2002**

Year	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992
Volume (m <sup>3</sup> )	31,400	31,200	115,700	113,900	86,421	67,975	36,909	81,100	9,336	8,000	8,200
Year	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Volume (m <sup>3</sup> )	8,300	33,885	42,000	25,155	18,050	16,900	19,900	30,650	27,641	38,712	

Source: Institute of Forestry Development – MINADER.

**Chart – Round Timber Production from 1973 to 2002**



Source: Institute of Forestry Development – MINADER

I.8. Although current production is substantially lower when compared to 1973 data (when 555,149 m<sup>3</sup> of round timber were produced) and data from the early 1980s, production has increased slightly over the past few years to around 30,000 m<sup>3</sup>.

I.9. If the exploitation potential is assumed at 40 percent (an optimistic view), national production of round timber would be expected at approximately 125,000 m<sup>3</sup>. If the resources of the National Forestry are also exploited, it may be possible to reach annual sustained production of 330,000 m<sup>3</sup>.

I.10. In the current context, however, increased production will depend on various factors such as mine clearance, entrepreneurial capacity building, and improved transport networks, all of which would require substantial development in the medium to long term.

I.11. The ownership and size of registered forestry plantations, based on 1991 data, the latest year statistics were collected, are listed in the following table:

Species	Owner	Surface (ha)
<i>Eucalyptus</i> spp.		60,000
	Benguela Railway	38,000
	State	10,000
	Private Sector	20,000
<b>Sub-total</b>		<b>128,000</b>
<i>Pinus patula</i>	Angola Paper Company (CCPA)	8,000
	State	4,500
	Divers Privates	3,500
<b>Sub-total</b>		<b>16,000</b>
<i>Cupressus</i>	Angola Paper Company (CCPA)	2,000
	State	500
	Private Sector	1,500
<b>Sub-total</b>		<b>4,000</b>
<b>Total</b>		<b>148,000</b>
Source: Institute of Forestry Development – MINADER		

I.12. Because the statistical data is out of date, the current distribution of ownership and rate of species exploitation may have changed. Nonetheless, there may not be significant changes, and eucalyptus is still likely to be the most harvested species as it is the most common timber species in the forested areas of the country.

I.13. Major actors in the sector include the Angola Cellulose and Paper Company (*Companhia de Celulose e Papel de Angola*, CCPA), as a result of their high level of timber production, and the *Institute of Forestry Development*, which promotes and coordinates the activities and programs pertaining to the sector. It is part of the MINADER and also coordinates with the *Ministry of Urban Development and the Environment*.

## **II. PROJECT AREA**

II.1. Angola has several forestry reserves in the country, the biggest of which is Quiçama Park, 70 km off the capital city Luanda. It consists of 910,000 ha of dense and varied forest and has good potential in terms of eco-tourism development. The second largest reserve is the 450,000 ha Umpulo reserve, located in the central area of the country. Due to their size, these two reserves are considered as the most important in terms of restructuring and re-developing the forestry resources within the reserve system.

II.2. Other existing reserves where project activities are also likely to occur include:

- Cacongo – 65,000 ha
- Béu – 140,000 ha
- Quibinda – 10,000 ha
- Quibaxi–Piri – 20,000 ha
- Samba Lucala – 48,000 ha
- Golungo – 55,000 ha
- Calucala – 80,000 ha

- Cassai – 190 000 ha
- Lóvua – 135,000 ha
- Luizavo – 40,000 ha
- Macondo – 75,000 ha
- Lucusse – 245,000 ha
- Luena – 180,000 ha
- Cubal e Catumbela – 60,000 ha
- Cubal da Ganga – 9,700 ha
- Chongoroi – 65,000 ha

II.3. In all, Angola has 2,777,700 ha of parks and reserves where the project will be active; within the parks the project would focus primarily on better management, better exploitation of the natural resources (flora and fauna), and control of illegal felling.

II.4. Some areas of the above-mentioned reserves have been converted into natural parks for purposes of exploiting tourism opportunities, as well as providing an *in situ* laboratory for studies related to environmental impact and development of rare species. There are eleven natural parks in the country (size in ha is indicated where known):

- Bicuar National Park – 7,900 km<sup>2</sup>
- Chimalavera National Park
- Iona National Park – 15,150 km<sup>2</sup>
- Quiçama National Park – 9,960 km<sup>2</sup>
- Kameia National Park – 14,450 km<sup>2</sup>
- Kangandala National Park – 630 km<sup>2</sup>
- Mupa National Park – 6,600 km<sup>2</sup>
- Búfalo Partial Reserve – 400 km<sup>2</sup>
- Luando Partial Reserve – 8,400 km<sup>2</sup>
- Mavinga Partial Reserve
- Namibe Partial Reserve – 4,450 km<sup>2</sup>

II.5. The component of the project focusing on training of high level and medium level professionals will have a focus on various areas of the country.

II.6. Project activities supporting the specialization for students in agriculture will take place in the institutes already in place. For example, the university level Agriculture Institute in Lubango, will provide a specialization in forestry.

II.7. The project would also support the creation and construction of a post-secondary and university-level Forestry School. The location for the construction of the school will be chosen by taking into consideration different criteria such as decentralization and the areas where substantial reforestation efforts are targeted.

### III. PROJECT RATIONALE

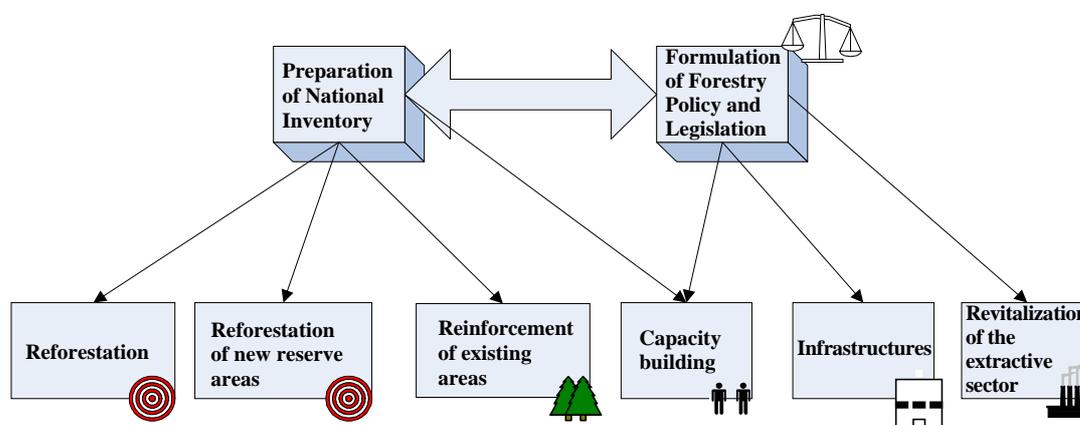
III.1. Forestry resource management can play an important role in the process of rehabilitation and reconstruction of Angola in the post-war period. The country’s forestry potential is largely unexploited due to lack of investment and management of natural resources; as the country embarks upon developing its basic infrastructure in the various sectors of the economy, forestry should be included as part of this development strategy. The forestry sector presents an opportunity for the country to attract private investment into the sector and, through an effective use of forestry resources, promote sustained increases national and rural incomes.

III.2. The project will build on the government’s current activities in the forestry sector and take an integrated approach to the use and management of forestry resources. The government is funding with its own budgetary resources the rehabilitation of some existing natural reserves and parks and intends to expand this activity at national level. The government is also in the process of developing a legal framework to support the sector. In the absence of an established forestry law, the Government of Angola requested assistance from FAO in developing a National Forestry law. The first draft of the law will be circulated among different stakeholders at national level for comments and suggestions and then will be sent to the National Assembly for approval. This project is expected to be implemented within the framework of the new forestry law.

### IV. PROJECT OBJECTIVES

IV.1. The long term vision of the project is to promote better management of the country’s forest resources for the benefit of current and future generations. Angola’s recent history has shown the importance of forest resources in providing a livelihood to millions of people; during the war it was in the forests that people found the means of survival when they could not farm. The implementation of this project would also be seen as way to launch the process of national awareness of the “sleeping” wealth of forestry resources.

IV.2. The overall objective of the project is organized planned reforestation and forestation through improvements to the legal and institutional framework supporting of the forestry sector, investments in related infrastructure and capacity building for better forest management. This can be represented broadly as follows:



IV.3. The national inventory of forest resources and the formulation of forestry policy and legislative framework will provide the initial structure of the project and allow the remaining components to contribute to the overall project objective.

IV.4. Other specific project objectives would include:

- Organization and programming of a Global Plan for the Forestry Sector.
- Updating information on the current situation of the forests of the country.
- Building the capacity of technical professionals specialized in forestry.
- Better development of the renewable resources resulting from the exploitation of forests.
- Improvement in the environment and the landscape configuration of the country.

## V. PROJECT DESCRIPTION

V.1. The initial departure point for the project would be the execution of a *National Forestry Resource Inventory*, which would develop a data base on topography, soil diversity, vegetation using satellite technology (most likely through a company hired through an invitation to tender). After this phase, the full set of project activities would commence including training, forestation and reforestation activities, development of natural parks and infrastructure development.

V.2. The project would support the revitalization of the forests through the implementation of five components: (i) preparation of a *National Forestry Resource Inventory*; (ii) forestation and reforestation (iii) strengthening of forest protection of existing reserves and parks; (iv) training in forestry engineering; and (v) reactivation/establishment of felling and sawing units

### **Component 1: National Forestry Resource Inventory**

V.3. Activities under the first component of the project would represent the departure point for identifying the overall forest potential of the country and designing subsequent interventions to be supported by the project. The component would support collection of satellite image data and field analysis of the country’s geographical area. It is expected that the results of the forest inventory would be of use not only for the immediate needs of the project but also for other agencies, who could potentially use the results on a cost recovery basis.

### **Component 2: Forestation and Reforestation**

V.4. The second component would support two types of activity: creation of new forest reserves and replacement of vegetation to re-forest areas.

V.5. The reforestation component would focus primarily on those areas that suffered from illegal and indiscriminate tree-felling, often practiced by companies or private groups that used sophisticated equipment to remove timber from large portions of forested areas. This has occurred in Kuando Kubango Province, in particular in Cuangar, Calai, Dirico and Mucusso, which are located on the border with Namibia. In addition to rehabilitation of forest ecosystems, reforestation would also serve to control desertification in areas on the edge of arid zones.

V.6. Component activities would also involve the forestation of new areas, however, the selection of areas to be planted with new and varied species would depend on the results of the forest inventory.

### **Component 3: Strengthening Forest Protection and Management**

V.7. Illegal logging is widespread and a number of fringe group operators have used sophisticated equipment for the intensive felling of trees and sawing of lumber. In the Namibian border area, for example, wood is transported during the night on improvised rafts across the Kubango River to the Namibian side where it is marketed. The third component would provide funds for protection of forest resources and the development of strategies to combat illegal felling. In particular, funding would be provided to set up support, monitoring and protection centres inside reserves and national parks. Funding would also be provided to support construction or rehabilitation of basic facilities for the manpower mobilized to guard and maintain forestry resources. The areas most severely affected by illegal tree-felling and areas of highest environmental value would be targeted.

V.8. Funding would also be provided under the third component to improve and develop other aspects of existing reserves and parks. New plants and trees would be purchased in order to promote greater biological diversity in forestry resources and funding would be provided to further develop income generation activities such as the promotion of eco-tourism.

### **Component 4: Training in Forestry Engineering**

V.9. Given the dearth of existing human resources in the sector, it is also important to build the capacity of mid-level technical staff and higher-level professionals in the forestry sector through training and educational opportunities.

V.10. Current university-level training related to forestry is offered through the agricultural engineering programme, which includes the first three years of basic study in agronomy training with the option to specialize in forestry engineering in the fourth to sixth years.

V.11. The project would supplement this by building a post-secondary school and a university-level forestry engineering institute designed to train mid- and upper-level technical staff in the skills required to carry out forestry resources management. The facilities would also cater for short term training for existing staff.

### **Component 5: Reactivation/Establishment of Felling and Sawing Units**

V.12. The fifth component would support development of commercial wood processing production for internal consumption and for export. Most wood cutting and processing plants are in a state of advanced degradation and in some cases are little more than walls. In an effort to support formalization of the sector and promote better management, the project would tentatively support the reactivation/establishment of twelve wood processing centres – six in the north, three in the centre and three in the south of the country. Prior to releasing funds for the processing centres, feasibility and marketing studies would be required to ensure their viability.

V.13. The processing centres would be held by private sector actors and the government would be in charge of implementing a bidding process for the award of licenses for the projects. Some proportion of the projects would most likely be handed over to wood-producers' cooperatives and used as a springboard for the development of small scale businesses in the forestry sector. Like other potential recipients of licenses, wood-producers' cooperatives would have to incorporate sound

organizational measures and demonstrate sufficient viability to keep the centres going during the initial years of its operation.

V.14. In order to provide access to the necessary financial resources, there may be a need for a special credit line to support development of the processing centres. There may also be a need to provide some incentives for investment. These issues would require further assessment during implementation of the project including an evaluation of what type of government assistance, if any, would be required.

V.15. Construction would not be expected to begin until after the first two to three years of project implementation to allow a period for licenses to be awarded and collection of data on each unit’s location and feasibility.

## **VI. INDICATIVE COSTS**

VI.1. The annual investment costs shown in table 4 below would cover Phase I of the programme over the initial five–year period (2006/2010). They have been budgeted on the basis of ongoing project/activities, however a more detailed costing would be required based on a financial assessment of technical activities to be supported by project.

<b>Component</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>Total</b>
1. National Forestry Resources Inventory	5,000,000	4,000,000	3,000,000	3,000,000	2,500,000	17,500,000
2. Forestation & Reforestation	6,000,000	7,000,000	8,000,000	7,000,000	6,300,000	34,300,000
3. Strengthening Forest Protection and Management	1,500,000	1,500,000	2,000,000	2,500,000	2,500,000	10,000,000
4. Training in Forestry Engineering	500,000	500,000	500,000	500,000	500,000	2,500,000
5. Reactivation/Establishment of Felling and Sawing Units	1,000,000	2,000,000	3,000,000	3,000,000	1,500,000	10,500,000
<b>Total</b>	<b>14,000,000</b>	<b>15,000,000</b>	<b>16,500,000</b>	<b>16,000,000</b>	<b>13,300,000</b>	<b>74,800,000</b>

## **VII. PROPOSED SOURCES OF FINANCING**

VII.1. The proposed project has strong interest and support from the government, who would provide one of source of funding (12%) with the support of other financing institutions (59%) and the private sector (29%).

VII.2. The beneficiary communities, including smallholder and commercial farmers, would contribute in kind by providing labour for civil works as well as materials.

## VIII. PROJECT BENEFITS

VIII.1. The project is expected generate positive results and bring various benefits to the national economy including improvements in the standard of living of the populations benefiting from forest resources. Sustainable development is based on this need to use, manage and revitalize existing natural resources in order to maintain their value for future generations and ensure improved economic, social, environmental welfare. This is particularly important in Angola since the country is heavily dependent from non-renewable resources, namely, oil and diamonds.

VIII.2. There are several benefits that would generated by the project, including indirect benefits for other sectors. Expected benefits include:

- Improvement in the environment and long term sustainability of forest ecosystems;
- Increased availability of detailed information on the country’s geographical features (currently non-existent);
- Development of wood production, which would contribute to the nation’s economy;
- Enhanced educational level of national human resources in the areas of forest management;
- Improved landscape and restoration of deforested areas;
- Preservation of possibly endangered flora and fauna species;
- Development of poor communities located inside national reserves;
- Reduction in illegal felling and formalization of forest sector activities;
- Development of eco-tourism.

## IX. IMPLEMENTATION ARRANGEMENTS

IX.1. Overall authority for the Forestry Sector Revitalization project would be located with MINADER, but which would also, in consultation with the *Institute of Forestry Development* and the *Ministry of Urban Planning and the Environment*, appoint a coordinating committee specifically for the project.

IX.2. This committee would be headed by a Project Manager and would incorporate representatives of MINADER and the *Ministry of Urban Planning and the Environment*, along with members of business associations active in the forestry sector and would have oversight over implementation of project activities. Provincial delegations of the *Forestry Development Institute* would also play an active role in monitoring and defining reforestation and forestation activities.

IX.3. After funding has been secured, the project would be implemented in stages as follows:

IX.4. ***Phase 1 – National Forestry Resource Inventory.*** This first phase would focus on gathering of information and development of the inventory. A company would be contracted to undertake the methodological work of drafting the inventory, which would then be used as for designing subsequent project activities.

IX.5. The first phase would last between 18 and 36 months.

IX.6. ***Phase 2 – Reforestation, forestation, construction of infrastructures and improvements in the national parks and reserves.*** After the project’s specific areas of implementation have been defined, the project’s core activities and investment components would be implemented, namely:

- Reforestation and forestation
- Creation of support infrastructure for monitoring and supervising forest resources
- Actions to promote better exploitation of existing natural parks
- Construction of forestry sector training centres
- Construction of wood processing plants.

IX.7. This phase will last five years. Activities would generally follow the first phase, however some activities could begin relatively quickly given that many of the most degraded areas are well known.

## **X. TECHNICAL ASSISTANCE REQUIREMENTS**

X.1. In the initial phase of implementation technical assistance would be required in the *National Forestry Resource Inventory*, which would be contracted out to a company who would provide technical services for gathering satellite data and field observations in order to set up the database and the develop models of Angola’s geographic and forest characteristics.

X.2. In later stages of the project, technical assistance may be required to supplement the limited human resources that are available in the forestry sector. An assessment would be required during implementation to determine exact needs.

## **XI. ISSUES**

XI.1. The design of the project is considered sufficient to achieve its objectives but the project itself is also highly dependent on conditions within Angola that could affect its overall implementation. The project would likely be affected by:

- A macro–environment that may be challenging to development, and which is characterized by the remaining effects of the war, weak institutional structures, economic problems, structural adjustments, and a need to progress on the development of legislative bodies.
- A practically non–existent public service system, especially lacking in the area of public health;
- Limited financial resources for investment, negligible entrepreneurial activity in the private sector, the State as the principal employer, and limited private sector structures designed for development;
- Underdeveloped entrepreneurial class lacking in training in basic areas of business administration;

- An almost complete lack of mid- and upper-level professional people and very poor educational institutions;
- Lack of financial instruments to support entrepreneurs and a weak banking network;
- A road network requiring major repairs making it extremely difficult for people and goods to circulate;
- Slow or even non-existent telecommunications systems.

XI.2. The end of the war has created enormous financial and human resource demands and the Angolan Government is experiencing great difficulty in trying to cope with situation and meet the requests for intervention made by a wide variety of institutions and entities. These difficulties are not likely to subside in the short term and may even grow in proportion with the complexity of the action requested.

XI.3. Project implementation would also be affected by the fragmented state of the sector, which is characterized by a variety of intersecting authorities and responsibilities among public agencies. Past experience suggests the mandates of the various ministries and public agencies should be thoroughly analyzed to avoid overlapping activities and unproductive squabbling.

XI.4. In addition, the scarcity of manpower currently assigned to the forestry sector means that efforts to revitalize forested areas will require a great deal of background extension work to raise the awareness of leaders and the general population on the importance of resource conservation. Human resources connected to the forestry sector are generally few and far between and the available number of technical people and senior professionals is much lower than required. This situation is illustrated by the following table which shows the human resources working in the *Forestry Development Institute*:

Mid-level technical staff by specialization		Senior technical staff by specialization	
Foresters	73	Foresters	18
Agronomists	26	Agronomists	10
Veterinarians	1	Veterinarians	1
Accountants	9	Biologists	1
Health care providers	1	Agro-foresters	2
Work economists	5	Master's degree holders	1
Teachers	1	Industrial economists	2
Pre-university level	5	Bachelor's degree holders	3
<b>Total</b>	<b>121</b>		<b>38</b>

## **XII. POSSIBLE RISKS**

XII.1. Owing to the project's level of expected benefits, phased project design, and focus on decentralized implementation, risks to project implementation are limited. The greatest risk to the project are those factors related to the country context such as poor infrastructure and limited human resource capacity, which may slow down implementation. Appropriate planning and use of technical assistance, however, may mitigate some of these risks.

XII.2. Another risk may be the lack of sensitivity to environmental and forestry issues despite their impact on the living standards of the population and contribution to the economy and the social and cultural life of the country. Greater efforts would be made to increase awareness on the importance of more effectively managing forest resources and developing forest products.