

# PROJECT COMPLETION REPORT (PCR)

## A. PROJECT INFORMATION AND KEY DATES

### I. BASIC INFORMATION

Project Reference: P-RW-AAD-001	Project Name: FORESTRY MANAGEMENT SUPPORT PROJECT OF RWANDA	Country: RWANDA
Lending Instruments: ADF Loan Number: 2100150006685 Loan Amount: UA 8.90 million Loan Approval Date: 14 November 2001 Loan Agreement Signature Date: 20 December 2001	Sector: AGRICULTURE	Environmental Classification: Category II ENVIRONMENTAL PROTECTION AND PRESERVATION OF BIODIVERSITY
Initial Commitment: ADF Loan: UA 8 900 000	Amount Cancelled: UA 0	Amount Disbursed: UA 8 879 730.13
% Disbursed: 99.77 %		
Borrower: REPUBLIC OF RWANDA (represented by the Ministry of Finance and Economic Planning)		
Executing Agency: Project Implementation Unit (PIU) set up in various Ministries in the following chronological order: Ministry of Agriculture, Livestock and Forestry from 2002 to October 2003, Ministry of Lands, the Environment, Forestry and Mines from October 2003 to March 2008, Ministry of Natural Resources from March 2008 to December 2009, Ministry of Forestry and Mines from December 2009 to project closing date; The PIU has four field stations (Gisenyi, Gikongoro, Nyagatare, and Kigali-Ngali) set up within Regional Agricultural Directorates. The PIU operates in close collaboration with divisions of the Forestry Directorate, the ISAR, DRSA's and District Foresters. Local Associations operate as service providers.		
Co-financiers: Government of Rwanda: UA 2.06 million Beneficiaries : UA 0.55 million		

### II. KEY DATES

Project Concept Note Approved by Ops. Com.: May 2000	Appraisal Report Approved by Ops. Com.: May 2001	Board Approval: 14 November 2001
Restructuring		

	Original Date	Actual Date	Difference in months [Actual date-Original date]
EFFECTIVENESS	March-02	01/07/2002	3 months

<b>MID-TERM REVIEW</b>	<b>March-06</b>		
<b>CLOSING DATE</b>	<b>31/12/2007</b>	<b>30/06/2010</b>	<b>30 months</b>

### III. RATINGS SUMMARY

<b>CRITERIA</b>	<b>SUB-CRITERIA</b>	<b>RATING</b>
<b>PROJECT OUTPUT</b>	<b>Achievement of outcomes</b>	<b>3</b>
	<b>Achievement of outputs</b>	<b>3</b>
	<b>Timeliness</b>	<b>1</b>
	<b>OVERALL PROJECT OUTPUT</b>	<b>3</b>
<b>BANK PERFORMANCE</b>	<b>Design and Readiness</b>	<b>3</b>
	<b>Supervision</b>	<b>4</b>
	<b>OVERALL BANK PERFORMANCE</b>	<b>4</b>
<b>BORROWER PERFORMANCE</b>	<b>Design and Readiness</b>	<b>3</b>
	<b>Implementation</b>	<b>3</b>
	<b>OVERALL BORROWER PERFORMANCE</b>	<b>3</b>

### IV. RESPONSIBLE BANK STAFF

<b>POSITIONS</b>	<b>AT APPROVAL</b>	<b>AT COMPLETION</b>
<b>Regional Director</b>	<b>Mr. L.B.S. CHAKROUN</b>	
<b>Sector Director</b>	<b>Mrs. F.S. DIOP</b>	<b>Ken B. JOHN</b>
<b>Task Manager</b>	<b>Mr. A. DAGAMAISSA</b>	<b>Albert MWANGI</b>
<b>PCR Team Leader</b>		
<b>PCR Team Members</b>		

### B. PROJECT CONTEXT

This project is consistent with the ADB intervention strategy in Rwanda, as well as with Vision 2020 planning whose cross-cutting priority areas, namely environmental protection and natural resource management, have been retained as the cornerstone for sustainable development. In addition, the project is in line with the Economic Development and Poverty Reduction Strategy as it contributes to increasing the incomes of the population and protecting the environment.

It contributes to the implementation of the national forestry policy, and specifically aims at restoring the wood potential of the country through participatory management of forests and increasing the incomes of the rural population through the development of buffer plantations and district afforestation, the practice of agroforestry, timber management and diversification of forestry activities through the private sector. The Forestry Management Support Project of Rwanda ties in with the resettlement programme for returnees since 1994, sustainable management of forest resources, environmental protection and preservation of biodiversity.

At the end of 2009, the ADB portfolio in Rwanda in the agricultural sector comprised 5 projects under implementation for an overall financing of UA 48.16 million (UA 36.16 million in loans and UA 12 million in grants):

Dairy Cattle Breeding Development Support Project, Environmental Management Institutional Support Project, Inland Lakes Integrated Management and Development Support Project, Bugesera Agricultural Development Support Project and Forestry Management Support Project of Rwanda.

Two Reforestation Support Programmes I and II are being implemented with financing from the Belgian and Dutch Cooperation Agencies, whose interventions are consistent with those of the PAFOR Project.

## C. PROJECT OBJECTIVE AND LOGICAL FRAMEWORK

### 1. State the Project Development Objective(s) as set out in the Appraisal Report

The sector goal of the Project is to contribute to poverty reduction through the development and rational use of forests and forestry plantations in the country, and protect the environment. The specific objectives of the project are to: (i) restore the wood potential of the country through participatory management of forests, and (ii) increase the incomes of the rural population through the development of natural forest buffer zones and district forestations, the practice of agroforestry and the diversification of forestry activities through the private sector.

### 2. Describe the key project components and indicate how each will contribute to achieving the project objectives

#### 2.1 Component A: Forestry Management

This component consists in: (i) enriching the Gishwati natural forest reserve with local species over an area of 700 ha; (ii) protecting the Gishwati and Nyungwe forest areas by planting adapted and fast-growing species in the 1900 ha demarcation buffer zone; (iii) promoting agroforestry in farms for 29,500 ha; (iv) creating State-managed plantations on 2086 ha of completely bare hills in Gikongoro, Kigali-Ngali (Bugesera Area), Umutara and Gitarama provinces and along 105 km of roads in Umutara; (v) rehabilitating 360 km and maintaining 280 km of access roads to the Gishwati forest and the buffer plantations of Nyungwe forest, (vi) maintaining 3000 ha of old-growth buffer plantations around Gishwati and Nyungwe forests; and (vii) improving forest resource management. Actions under this component aim at enriching and preserving existing natural forests, developing and strengthening the buffer plantations around such forests, and involving the population in the sustainable management of forest resources through income-generating agroforestry activities. The implementation of this component is expected to contribute to increasing the incomes of the riparian population of natural forests, particularly through the development of income-generating activities and the sustained and sustainable use of forest resources. A huge wage bill will be injected into the rural areas for the remuneration of works to be executed.

Besides environmental protection, the implementation of this component will contribute to increasing agricultural and forestry production.

#### 2.2 Component B: Protection of Sensitive Areas

This component aims at ecologically and environmentally protecting very sensitive areas, which require urgent protective actions. The areas include: (i) the bare hills in Kigali-Ngali and Gisenyi provinces (3 500 ha); (ii) the lakes in Bugesera region over a total area of 600 ha along lake shores; (iii) the gallery forests along the Kagitumba-Muvumba river in Nyagatare over an area of 194 ha, and (iv) along certain sections of the Gitarama-Mukamira road (240km).

The activities under this component will ensure environmental protection of very fragile areas and ecosystems threatened with extinction, as well as the Muvumba River, which was also threatened with drying up. This will lead to soil stabilization and erosion control on watersheds and lakesides. The relevant roadsides will be protected against erosion, and the risks of landslides will be mitigated. Hence, these activities will contribute to environmental protection, with the ensuing increase in agricultural, forestry and fisheries production in the areas concerned, which will generate income for the riparian communities, thereby contributing to poverty reduction.

#### 2.3 Component C: Training and Promotion of Forestry Activities

The objective of the Training and Promotion of Forestry Activities component is to strengthen the capacities of the staff of the Forestry Directorate, Regional Agricultural Directorates (DRSAs), the Project and those of local communities for sustainable management of forestry resources, environmental protection and the promotion of forestry activities in the private sector.

In this connection, the component comprises 5 major activities:

- (a) Training: (i) long-term academic training in the sub-region for 4 forestry staff of MINAGRI to upgrade them from level A1 to level A0 and for 4 technicians from level A2 to level A1; (ii) short-term training courses for 14 forestry senior staff in agro-forestry, silviculture, water and soil conservation and planning; (iii) training of communities involved in the project and private individuals (about 750 farmers) in agro-forestry, silviculture, water and soil conservation, drought control and the development of forestry products. The training of

beneficiaries will be organized through seminars led by professionals on specific topics. These seminars will be coupled with field demonstrations and followed by inter-village visits.

- b) Exchange of Experiences/Conferences/Seminars: (i) experience exchange trips for beneficiaries (160 persons) upcountry and in the sub-region; and (ii) participation of 8 officials of MINAGRI and from the project in regional and international conferences and seminars
- c) Outreach and Extension: Outreach and extension activities will be essentially based on sensitization meetings for the rural population and district authorities, radio and television programmes, reports, documentaries and flyers. The rural outreach programme will cover about 4,000 farmers. With regard to reduction of pressure on the forests, the project will disseminate improved hearths and stoves so as to reduce wood consumption. With the collaboration of national and international NGOs in the country, the project will support the promotion of appropriate technologies for reducing wood consumption through demonstration sessions, building of hearths and construction of improved stoves, as well as the dissemination of these technologies:
- d) Promotion of Private Operators: The project will also promote forestry activities by putting in place a line of credit to enable private operators in the sub-sector to undertake activities for creating nurseries and private plantations for wood production and development. A credit fund amounting to RWF 500 million will be set up to promote these private enterprises in the sub-sector) Materials and Equipment: The project will train 100 craftsmen/carpenters, as well as provide minimum equipment at the end of the training to help them process wood (kits), purchase audio-visual equipment and teaching aids for training, outreach and extension activities, as well as provide a documentation room:

The activities under this component will strengthen the capacities of national forestry staff and the local population for sustainable management of forestry resources, environmental protection, promotion of forestry activities, and involvement of the private sector.

#### **2.4 Component D: Institutional Support**

This component will build the capacity of the Forestry Directorate and DRSA Provincial Forestry Services in the project area for the implementation of project activities. The Forestry Directorate and the DRSA's will be provided with logistic resources for the monitoring of project activities in collaboration with project outstations. The project will support MINAGRI in setting up and structuring a Forestry Resource Protection Service responsible for enforcing the forestry law to ensure sustainable protection and conservation of the country's forestry resources.)

- a) Procurement of Materials and Equipment: 53 motorcycles, communication and forestry officers' equipment will be procured for the Forestry Protection Service, as well as two sets of computer hardware, a telephone fax, forestry equipment and office supplies for the Forestry Directorate and the DRSA's.
- b) Consultancy Service: The project will cover the expenses relating to the services of a consultant and a forestry policy specialist for a period of 4 months to assist MINAGRI in establishing and structuring the Forestry Resource Protection Service.
- c) Staff: The Government will provide the project with the services of senior staff of the Forestry Directorate, Forestry Services of the Regional Agricultural Services Directorates (DRSA) in the provinces, and district foresters. In the first three years of the project, it will pay the allowances of forestry officers expected to serve in the Forestry Resources Protection Service but whose salaries will be paid by the Government. The officers will subsequently be entirely financed by the Government.
- d) Operating Costs: These will be financed with the project funds, and will comprise the operating costs of the motorcycles and computers. The project will also finance the transport allowances of the staff of the Forestry Directorate, the DRSA's and the district foresters, who will be involved in the execution of project activities. After the fourth year of the project, the operating costs of the Forestry Resource Protection Service will be borne entirely by the Government. The activities under this component will also include capacity building for the Forestry Directorate and DRSA Provincial Forestry Services in the project area so as to monitor the implementation of project activities in conjunction with project outstations. The project will support MINAGRI in establishing and structuring a Forestry Resource Protection Service responsible for enforcing the forestry law to ensure sustainable protection and conservation of forestry resources, while protecting the environment. Furthermore, support for staff, materials, equipment and operating costs facilitate smooth implementation of all the activities of the other Project components.

#### **2.5 Component E: Project Management**

The project will be managed by a Project Implementation Unit (PIU) based in Kigali and located within the Forestry Directorate, under the supervisory authority of MINAGRI. The PIU will be represented in the field by four outstations in Gisenyi, Gikongoro, Umutara and Kigali-Ngali Provinces, the first three of which will be located within the DRSA's, while that of Kigali-Ngali will be located in the Project Implementation Unit in Kigali. Project management will comprise all activities required for implementation of all project components. The following activities will be executed under this component:

- (a) Works: The project includes rehabilitation works for offices that will accommodate the Project Implementation Unit and the Kigali-Ngali outstation in Kigali, as well as the outstations in Gisenyi, Gikongoro and Umutara Provinces that will be made available to the project by the Government.
- (b) Procurement of Materials and Equipment: The PIU will be provided with five (5) 4-wheel vehicles (one per outstation and one for the PIU), 5 sets of computer hardware, communication equipment (telephone, fax) and office equipment and furniture for the PIU and outstations.
- (c) Staff: The project will recruit a Project Manager, a Forestry Engineer, a national senior staff in charge of administrative and financial management, a monitoring-evaluation officer, two secretaries, two drivers, a messenger and a watchman for the PIU. Recruitment of staff for

the outstations will comprise four foresters (level A1 or higher) to serve as outstation chiefs, four monitoring-evaluation officers for the outstations, three secretaries, three accountants, four drivers and three watchmen. An Engineer, who is a specialist in forestry management, will be recruited at the sub-regional level and appointed for a 5-year period.

d) Technical Assistance: An administrative and financial manager will be recruited at the international level for a period of 24 months (12 months in the 1st year, 6 months in the 2nd year and 6 months in the 3rd year). He/she will put in place the administrative, financial and accounting management system of the project and will train a national senior staff in charge of administrative and financial management.

e) Studies: A mid-term review will be conducted in the third year of project implementation. The project accounts will be audited each year by an auditing firm appointed on the basis of a shortlist. Other studies and short-term consultancies, including environmental monitoring, will also be financed by the project from the second year of the project.

f) Training: A workshop will be organized for project start-up and training of the administrative and financial management team in the development and use of accounting software.

g) Operating Costs: The project will finance the operating costs of the PIU and outstations, including expenses relating to the rolling stock (vehicles and motorcycles), and office equipment and supplies. In addition, the project will cover the salaries of project staff under contract, as well as the transport allowances of the DRSA, Forestry Directorate and MINAGRI staff involved in project implementation. The activities of this component are indispensable for project implementation, and guarantee the attainment of expected outcomes so as to achieve project objectives.

**3. Provide brief assessment (up to two sentences) of the project objectives, along the following 3 dimensions: Insert a working score, using the scoring scale provided in Appendix 1**

PROJECT OBJECTIVE DIMENSIONS		ASSESSMENT	SCORE
RELEVANT	a) Relevant to the country's development priorities.	The Project, as designed, is consistent with vision 2020 of the Government of Rwanda, which acknowledges that the development of the forestry sector is a national priority. Environmental protection and sustainable management of natural resources constitute a cross-cutting sector that incorporates the six pillars of such planning by 2020. Furthermore, the project is in line with the planning formulated in the Economic Development and Poverty Reduction Strategy (EDPRS) whose logical framework for 2007-2011 gives pride of place to the sustainable management of forestry resources. In addition, the Programme is consistent with the overall objective of the National Forestry Policy, published in 2004, which makes forestry one of the pillars of the economy and national ecological viability.	4
ACHIEVABLE	b) Objectives deemed achievable considering the contributions to the project and proposed timeframes.	The project appraisal report is well designed, and the allocation of resources by component is realistic for achievement of objectives. However, some scheduled expenditures were not made or were reduced due to changes in the administration, management methods and functioning of State services, failure to recruit technical assistance and the use of farmers' associations instead of enterprises for the production and planting of seedlings. The balance was invested in plantations during the extension period.	2
CONSISTENT	c) Consistent with the Bank's national or regional strategy.	Project objectives are consistent with the Bank's medium-term intervention strategy, which lays emphasis on three key sector-based themes at country level, namely: (i) agriculture and rural development, (ii) enhancement of human resources and private sector development, and (iii) economic integration and regional cooperation. The objective of such a medium-term intervention strategy is two-fold, namely: adoption of a country-based approach to better meet the expectations of beneficiaries with strong commitment and ownership, and the adoption of a participatory approach for sustainable development.	4
	d) Consistent with the general priorities of the Bank.	Project objectives are consistent with ADB's general priorities, namely the poverty reduction, improving the living standards of African communities, and the mobilization of resources for the economic and social progress of its Regional Member Countries.	4

**4. Present the overall project objective, the major components of the project, the major activities of each component and their expected outputs, outcomes and indicators for measuring achievement of outcomes.**

**Overall and Specific Project Objectives:**

**The sector goal of the project is to contribute to poverty reduction through sustainable management and use of the country's forests**

and forest plantations, and protect the environment. Its specific objectives are to: (i) restore the wood potential of the country through participatory management of forests, and (ii) increase the incomes of the rural population through development of natural forest buffer zones and district forestation, the practice of agroforestry and diversification of forestry activities through the private sector.

COMPONENTS	ACTIVITIES	OUTCOMES	EXPECTED OUTCOMES	MEASURABLE INDICATORS
<b>Component 1: Forestry Management</b>	A1: Enrichment and rehabilitation of the Gishwati natural forest with adapted native forest species ( <i>Carapa grandiflora</i> , <i>Symphonia globulifera</i> , <i>Croton megalocarpus</i> and <i>Polycias fulva</i> )	O1: 800 ha of the remaining 1003 ha of Gishwati natural forest have been enriched	EO1: 700 ha of the remaining 1003 ha of Gishwati natural forest have been enriched and rehabilitated	Protected area; number of native seedling species planted; seedling regeneration rate
	A2: Creation of buffer forestations for protection of Gishwati and Nyungwe natural forests with fast-growing species	O2: 1778.53 ha of plantations have been created for protection of Gishwati and Nyungwe forests	EO2: 1900 ha of plantations have been created for protection of Gishwati and Nyungwe forests	Area planted; number of seedlings of fast-growing species; seedling regeneration rate
	A3: Reforestation of 2,086 ha of bare hills in Gikongoro, Kigali-Ngali (Bugesera Zone), Umutara and Gitarama Provinces	O3: 8995 ha of forestations have been created with various species of <i>Eucalyptus sp</i> , <i>Acacia melanoxylon</i> , <i>Acacia mearnsii</i> , <i>Jacaranda</i> , etc.	EO3: 2086 ha of forestations are created on bare hills in the Kigali Ngali, Gitarama, Gikongoro, and Umutara provinces	Planted area; number of seedlings of fast-growing species planted; seedling regeneration rate
	A4: Execution of silvicultural works in the old plantations of Gishwati and Nyungwe	O4: Execution of silvicultural works on 1870 ha of the old plantations of Gishwati and Nyungwe	EO4: Execution of silvicultural works on 3000 ha of the old plantations of Gishwati and Nyungwe	Area maintained, number of pruned or thinned trees
	A5: Rehabilitation of access roads to Gishwati and Nyungwe plantations	O5: Rehabilitation of 310 km of access roads to Gishwati and Nyungwe plantations	EO5: Rehabilitation of 360 km of access roads to Gishwati and Nyungwe plantations	Number of kilometres of rehabilitated forest roads.
	A6: Maintenance of access roads to Gishwati and Nyungwe plantations	O6: Maintenance of 113 km of access roads to Gishwati and Nyungwe forest plantations	EO6: Maintenance of 280 km of access roads to Gishwati and Nyungwe forest plantations	Number of kilometres of rehabilitated forest roads.
	A7: Maintenance of new plantations	O7: Routine maintenance works on new plantations over 17587 ha.	EO7: Routine maintenance works on new plantations over 8970 ha	Area maintained, number of seedlings maintained
	A8: Road protection through tree planting	O8: Protection by roadside forestation over a distance of 229.5 km in the former Umutara province (kayonza-kagitumba road and other roads)	EO8: Road protection over a distance of 105 km in the Mutara area	Number of kilometres of protected roads, number of forest seedlings planted
	A9: Pasture enrichment in the Mutara area with appropriate fodder species	O9: Pasture enrichment in the Mutara area covered 2300 ha with the use of appropriate fodder species	EO9: Pasture enrichment in the Mutara area with the use of appropriate fodder species over 3000 ha	Area of enriched pasture, number of grass fodder stock planted
	A10: Promotion of agroforestry	O10: Production and distribution of 32,739 million agroforestry seedlings to the local population of the project area.	EO10: Promotion of agroforestry over 29 500 ha in the project area.	Number of beneficiary households, number of agroforestry seedlings distributed.
<b>Component 2: Protection of sensitive areas</b>	A 1: Protection of bare hills with forestations	O 1: 5422.88 ha of bare hills in the Kigali-Ngali and Gisenyi provinces have been protected by reforestations	EO1: 3500 ha of bare hills in Kigali-Ngali and Gisenyi provinces are protected by reforestations	Protected area, number of agroforestry seedlings planted; seedling regeneration rate
	A 2: Protection of River Muvumba with forestations	O 2: River Muvumba was protected over 127 ha of	EO2 River Muvumba is protected with native	Protected area, number of agroforestry seedlings

		<i>Acacia kirikii</i> forestations	species forestations over 194 ha	planted; seedling regeneration rate
	A3: Protection of lakes in the Bugesera area and of Lake Muhazi in the Umutara province	O2: 567.56 ha of plantations have been created for the protection of lakes in the Bugesera area and of Lake Muhazi	EO2: Creation of 600 ha of plantations for the protection of lakes in Bugesera and Lake Muhazi in Umutara Province	Protected area, number of agroforestry seedlings planted; seedling regeneration rate
	A4: Protection of degraded roads	O4: 241 km sections of roads constructed without protection: Gitarama-Mukamira, Gitarama-Kibuye, Kigali-Ruhengeri , Kigali- Butare have been protected by plantations of <i>Grevellia robusta</i> , <i>Maesopsis eminii</i> , <i>Cedrella</i> , <i>Acacia melanoxylon</i> and <i>Jacaranda</i>	EO4: Protection of the immediate surroundings of some sections of the Gitarama-Mukamira and Kigali-Ruhengeri roads over 240 km	Number of km protected, number of seedlings planted; seedling regeneration rate
<b>Component 3: Training and promotion of forestry activities</b>	A1: Long-term academic training for forestry staff of the Ministry in charge of forestry, for them to be upgraded from level A1 to level A0 and from A2 to level A1	O1: 8 Staff members, including 3 women, were on long-term training course in Kenya and Tanzania, 7 completed their level A0 studies and have been recruited by the National Forestry Authority	EO1: Long-term academic training in the sub-region for 4 forestry staff of MINAGRI for them to be upgraded from level A1 to level A0 and for 4 technicians from level A2 to level A1	Number of trained staff, who completed their studies prior to project closure
	A2: Participation in short-term training courses and conferences for forestry staff	O 2: A short-term training course was organized in Swaziland for the Project Coordinator in 2005.	EO2: Short-term training courses for 14 forestry senior staff in agro-forestry, silviculture, water and soil conservation and planning	Number of short-term training courses, number of participants
	A3: Training of the population involved in the project and private individuals through seminars	R3: Several training sessions were organized for the population (more than 1800 persons) involved in seedling production activities in nurseries, agroforestry plantation, silviculture, water and soil conservation, drought control and the development of forestry products. Similarly, several farmer associations were trained. They are specialized in seedling production, as well as creation and maintenance of forest plantations. These associations executed contracts for the project.	RA3: Organization of seminars for the population involved in the project and private individuals (about 750 farmers) in agroforestry, silviculture, water and soil conservation, drought control and development of forestry products..	Number of training sessions organized by groups of farmers, private individuals and for associations, number of association members, number of trained farmers or operators.
	A4: Organization of experience exchange trips for the beneficiary population within the country and sub-region	O4: Study and experience exchange trips were organized within the country for the population and operators. Experience exchange trip between the staff of MINIRENA, NAFA, ISAR and the PAFOR Project and those of the UGANGA Forestry Service in 2008	EO4: Experience exchange trips for the beneficiary population (160 persons) within the country and in the sub-region	Number of study trips, number of participants

	A5: Outreach and extension activities	O6: The training of timber sector stakeholders, 347 agro-livestock farmers and 108 craftsmen/carpenters. The project implemented on a yearly basis, outreach programmes to sensitize the population on forest resource management, maintenance of forest plantations and other development activities through the media (radio and television). In addition, it produced a documentary film on project outputs, which is often broadcast on national television. To increase its exposure in the country, the project had tee-shirts, caps and calendars printed and distributed during the national tree weeks. Furthermore, it conducted training programmes for the construction and dissemination of hearths and improved stoves for timber management, particularly in urban centres and wood-deficient areas. In this connection, 75 500 improved hearths have been disseminated by associations which have contracted with the project.	EO6: a) Organize for 4000 persons: (i) sensitization meetings for rural communities and district authorities; (ii) radio and television programmes; (iii) production of reports, documentaries and flyers. b) dissemination of improved hearths and stoves to reduce wood consumption. c) organization of demonstration sessions, building of hearths and construction of improved stoves as well as the dissemination of such technologies (d) training of 100 craftsmen/carpenters and supply of basic equipment for wood value enhancement e) Procurement of audio-visual equipment and teaching aids for training, outreach and extension activities as well as the furnishing of a documentation room.	Number of sensitization meetings, number of training sessions by professional staff; frequency of broadcast of radio and television programmes on themes relating to plantation management and other forestry development activities; number of improved hearths disseminated, number of beneficiary households using improved hearths.
	A6: Promotion of private operators	O7: Financing of 115 private operator projects for activities related to timber production and processing (nurseries, plantations, sawing, joinery, arts and craft, equipment) for the sum of RWF 148.35 million loaned by the Agro-livestock Farmers' Savings and Loans Fund. This activity has generated 483 permanent jobs and 1669 temporary jobs in timber SMEs.	EO7: A credit fund amounting to RWF 500 million is set up to enable private operators in the sub-sector to create private nurseries and plantations for wood production and development. This fund is managed by a specialized credit institution.	Number of projects financed, loan amount, disbursement rate.
<b>Component 4: Institutional Support</b>	A1: Capacity building for the Forestry Directorate and Forestry Services of the Regional Agricultural Directorate in the provinces and providing support to Forestry Services of the Ministry and Districts, and to NAFA	O1: a) Establishment of the Forestry Protection Service in Rwanda through the recruitment and equipping of 150 operational forest guards since 2004. b) Revision of the forestry law by a consultant and organization of workshops to validate this bill; c) support for the production of seedlings and management of plantations and logistic resources (20 motorcycles); d) providing NAFA with forestry,	EO1: a) Establishment and structuring of the Forestry Protection Service with 53 motorcycles, communication equipment and equipment for 150 forest guards. b) payment of the allowances of forest guards for a period of 3 years and for a consultant, forestry policy specialist, for 4 months; c) provision of logistics support, office and forestry equipment to the forestry	Forestry Protection Service is operational, number and type of equipment supplied, staff/months of the consultant

		office and computer hardware worth a total amount of RWF 51 279 000.	services of the Ministry, Districts and to NAFA.	
	A2: Preparation of forestry management plans for the districts	R2: Preparation of 20 district forestry management plans which will serve as the basis for preparation of a national forestry plan	RA2: Preparation of 20 district forestry management plans	Number of district forestry management plans prepared and validated by Districts, PAFOR Project, and NAFA
	A3: Inventory and map of plantations of the Nyungwe buffer area	O3: 8363 ha of plantations of the buffer area of the Nyungwe natural forest have been inventoried and mapped	EO3: Inventory and map of plantations of the Nyungwe buffer area	Inventoried and mapped area
	A4: Development of thinning products in the Nyungwe buffer plantations	O4: Sale of thinning products estimated at 180000 m3 of timber for a total value of RWF 200 million to the benefit of the FFN	EO4: Development of thinning products in the Nyungwe buffer plantations	Volume of dressed timber, Amount of timber sale
<b>Component 5: Project Management</b>	A1: Rehabilitation and furnishing of offices of the Project Implementation Unit (PIU) and Outstations	O1: One office at the PIU headquarters accommodating the Kigali-Gitarama outstation was rehabilitated in 2004 and furnished. The DRSA's made available 3 offices in perfect condition for the Gikongoro, Gisenyi and Umutara outstations in 2003. Furniture for the headquarters and outstation offices were procured end 2004.	EO1: The offices of the PIU and outstations in the DRSA's are renovated and furnished.	Number of offices renovated and furnished
	A2: Procurement of rolling stock	O2: In 2004, procurement of 6 ISUZU pick-up vehicles with double traction, 1 ISUZU Trooper Jeep and 35 SUZUKI TF 125 motorcycles.	EO2: Procurement of 5 4x4 vehicles (one per outstation and one for the PIU), and 53 motorcycles for the forestry services of DRSA's, Outstation workers.	Number of vehicles procured and operational, number of motorcycles procured and operational
	A3: Recruitment of national staff	O3: At end 2002, the Project had just recruited the following staff: 1 project coordinator, 1 administrative and financial chief, 1 monitoring-evaluation officer, 4 Outstation chiefs, 1 driver, 1 messenger and 1 watchman. The support staff was recruited and installed in 2004: 1 accountant, 1 executive secretary, 4 secretaries/accountants for outstations, 1 project topographer, 4 monitoring-evaluation technicians in the outstations and 4 drivers.	EO3: Recruitment of national staff: a) For the PIU: 1 project coordinator, 1 administrative and financial chief, 1 monitoring-evaluation officer, 1 accountant, 2 secretaries, 2 drivers, 1 messenger and 1 watchman. b) For the outstations: 4 forestry engineers, 4 Outstation chiefs, 4 monitoring-evaluation officers, 3 secretaries, 3 accountants, 4 drivers, 3 watchmen	Number of workers recruited per position

	A4: Recruitment of Technical Assistance	O4: Unsuccessful competitive bidding in 2004 after publication of invitation to tender in 2003 and 2004.	EO4: Recruitment of 1 forest management specialist at sub-regional level for 5 years, 1 administrative and financial manager at international level for 24 months.	
	A5: Conduct of studies and account auditing	R5: Conduct of studies: (i) update of forestry law, (ii) impact assessment of agroforestry; and auditing of accounts for 2002-2003, 2004, 2005, 2006, 2007, 2007, 2008, and 2009.	RA5: Update of forestry law, impact assessment of agroforestry, annual auditing of accounts by independent firms.	Study report validated, audit report approved
	A6: Training	R6: Staff training on the use of the project financial and management accounting software was conducted during the first quarter of 2005.	RA: Training of the project administrative and financial management team on development and use of the accounting software.	Number of training sessions, number of workers trained.

**N.B: Activities A2, A3 and A4 of component 4: Institutional support was not scheduled in the project appraisal report.**

5. CHARACTERISTICS OF THE LOGICAL FRAMEWORK		APPRAISAL	SCORE
LOGICAL	a) Expect a logical sequence to the achievement of the project's development objectives.	The matrix presented in the project appraisal report comprises the (overall) sector goal, specific objectives, achievements (expected outcomes) and activities. Furthermore, it restates the objectively verifiable indicators, means of verification, key assumptions, as well as resources available for the implementation of project activities. Activities, outcomes and outputs are linked by a causal relation for the achievement of project objectives. However, the logical framework should serve as an instrument for the planning and monitoring-evaluation of project activities. To that end, the matrix presented in the project appraisal report should have clearly stated the expected outcomes, indicators and the relevant means of verification for each component.	2
MEASURABLE	b) Quantify the objectives and outputs.	Some objectives and expected outcomes are quantified and measurable, while others were simply not stated.	2
DETAILED	c) State the key risks and assumptions.	The key risks and assumptions mentioned were well identified at project appraisal.	3

## D. OUTCOMES AND OUTPUTS

### I. OUTCOMES OBTAINED

In the table below, for each main activity, assess the actual vs. expected outcomes. Import the expected outcomes from the logical framework in Section C. Score the extent to which the expected outcomes were achieved. Weight the scores by the activities' approximate share of project costs. Weighted scores are auto-calculated by the computer. The overall outcome score will be auto-calculated as the sum of the weighted scores. Override the auto-calculated score, if desired and justify.

MAIN ACTIVITIES	Appraisal Score	Average appraisal score (rounded up)	Share of project costs in percentage	Weighted Score
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Expected Outcomes	Actual Outcomes		of component	(as stated in the Appraisal Report)	
<b>COMPONENT A: FOREST MANAGEMENT</b>			<b>3</b>	<b>32.42</b>	<b>0.972</b>
1. Enrichment and rehabilitation of Gishwati natural forest over 700 ha of the remaining 1003 ha	1. Enrichment and rehabilitation of Gishwati natural forest over 800 ha of the remaining 1003 ha.	3			
2. Protection of Gishwati and Nyungwe natural forests by 1900 ha of buffer forestations	2. Protection of Gishwati and Nyungwe natural forests by 1778.53 ha of buffer forestations	3			
3. Reforestation of 2,086 ha of bare hills in Gikongoro, Kigali-Ngali (Bugesera area), Umutara and Gitarama Provinces	3. Reforestation of 8995 ha of bare hills in Gikongoro, Kigali-Ngali (Bugesera area), Umutara and Gitarama Provinces	3			
4. Silvicultural works on 3000 ha of the old plantations of Gishwati and Nyungwe (clearing, pruning, and thinning).	4. Silvicultural works on 1870 ha of the old plantations of Gishwati and Nyungwe (clearing, pruning, and thinning).	3			
5. Rehabilitation of 360 km of access roads to Gishwati and Nyungwe plantations	5. Rehabilitation of 310 km of access roads to Gishwati and Nyungwe plantations.	2			
6. Maintenance of 280 km of access roads to Gishwati and Nyungwe forest plantations	6. Maintenance of 113 km of access roads to Gishwati and Nyungwe forest plantations	2			
7. Maintenance works on new plantations over 8970 ha	7. Routine maintenance works on new plantations over 17587 ha.	3			
8. Road protection over a distance of 105 Km in Mutara area	8. Protection by roadside afforestation over a distance of 229.5 km in the former Umutara province (kayonza-kagitumba road and other roads)	3			
9. Pasture enrichment in Mutara area with the use of appropriate fodder species over 3000 ha	9. Pasture enrichment in the Mutara area covered 2300 ha with the use of appropriate fodder species	2			
10. Promotion of agroforestry over 29 500 ha in the project area.	10. Production and distribution of 32.739 million agroforestry seedlings to the local population of the project area (equivalent to 32 700 ha of hills managed and exploited for agroforestry).	4			
<b>COMPONENT B: PROTECTION OF SENSITIVE AREAS</b>			<b>3</b>	<b>9.67</b>	<b>0.29</b>
1. Protection of 3500 ha of bare hills in Kigali-Ngali and Gisenyi provinces by reforestation.	1. 5422.88 ha of bare hills in Kigali-Ngali and Gisenyi provinces are protected by reforestation.	3			
2. River Muvumba is protected by native species afforestation over 194 ha	2. River Muvumba was protected over 127 ha by Acacia kirikii afforestation.	2			

3. Creation of 600 ha of plantations for the protection of lakes in Bugesera and Lake Muhazi in Umutara province	3, 567.56 ha of plantations have been created for the protection of lakes in the Bugesera area and of Lake Muhazi	3			
4. Protection of the immediate surroundings of some sections of the Gitarama-Mukamira and Kigali-Ruhengeri roads over 240 km	4. 241 km-long sections of roads constructed without protection: Gitarama-Mukamira, Gitarama- Kibuye, Kigali-Ruhengeri, Kigali-Butare have been protected by plantations of <i>Grevellia robusta</i> , <i>Maesopsis eminii</i> , <i>Cedrella</i> , <i>Acacia melanoxylon</i> and <i>Jacaranda</i>	3			
<b>COMPONENT C: TRAINING AND PROMOTION OF FORESTRY ACTIVITIES</b>			<b>2</b>	<b>13.04</b>	<b>0.26</b>
1. Long-term academic training in the sub-region for 4 forestry staff of MINAGRI for upgrade from level A1 to level A0 and for 4 technicians from level A2 to level A1	1. Eight (8) Staff members including 3 women were sent on a long-term training course in Kenya and Tanzania, 7 completed their level A0 studies and have been recruited by the National Forestry Authority	3			
2. Participation in short-term training courses for 14 forestry senior staff in agro-forestry, silviculture, water and soil conservation and planning	2. A short-term training course on environmental impact assessment was organized in Swaziland for the Project Coordinator in 2005	1			
3 Organization of seminars for the population involved in the project and private individuals (about 750 farmers) in agroforestry, silviculture, water and soil conservation, drought control and development of forestry products...	3. Several training sessions were organized for the population (more than 1800 persons) involved in seedling production activities in nurseries, agroforestry plantation, silviculture, water and soil conservation, drought control and development of forestry products. Furthermore, several farmer associations were trained. They are specialized in seedling production, and creation and maintenance of forest plantations. These associations executed contracts for the project	2			
4. Experience exchange trips for the beneficiary population (160 persons) within the country and in the sub-region	4. Study and experience exchange trips were organized within the country for the population and operators. Experience exchange trips between the staff of MINIRENA, NAFA, ISAR and the PAFOR Project and those of UGANGA Forestry Service in 2008	2			

<p>5. (a) Organize for 4000 persons: (i) sensitization meetings for rural communities and district authorities; (ii) radio and television programmes; (iii) production of reports, documentaries and flyers</p> <p>b) dissemination of improved hearths and stoves to reduce wood consumption</p> <p>c) organization of demonstration sessions, building of hearths and construction of improved stoves, as well as dissemination of such technologies</p> <p>d) training of 100 craftsmen/carpenters and supply of basic equipment for timber development</p> <p>e) Procurement of audio-visual equipment and teaching aids for training, outreach and extension activities, as well as the furniture for a documentation room.</p>	<p>5. The training of timber sector stakeholders involved 347 agro-livestock farmers and 108 craftsmen/carpenters. The project implemented outreach programmes each year to sensitize the population on forest resource management, maintenance of forest plantations and other development activities through the media (radio and television). In addition, it produced a documentary film on project outputs, which is often broadcast on national television. To increase its exposure in the country, the project had tee-shirts, caps and calendars printed and distributed during the national tree weeks. Furthermore, it conducted training programmes for the construction and dissemination of hearths and improved stoves for timber management, particularly in urban centres and wood-deficient areas. In this connection, 75 500 improved hearths have been disseminated by associations, which have contracted with the project.</p>	3			
<p>6. A credit fund amounting to RWF 500 million has been set up to enable private operators in the sub-sector to create private nurseries and plantations for wood production and processing. The fund is managed by a specialized credit institution.</p>	<p>6. Financing of 115 private operator projects for activities related to timber production and processing (nurseries, plantations, sawing, joinery, arts and craft, equipment) for the sum of RWF 148.35 million lent by the Agro-livestock Farmer Savings and Loans Fund. This activity has generated 483 permanent jobs and 1,669 temporary jobs in timber SMEs.</p>	1			

<b>COMPONENT D: INSTITUTIONAL SUPPORT</b>			<b>3</b>	<b>25.98</b>	<b>0.779</b>
1. a) Establishment and structuring of the Forestry Protection Service with 53 motorcycles, communication equipment and equipment for 150 forest guards. b) payment of allowances to forest guards for a period of 3 years, as well as for a consultant forestry policy specialist for 4 months; c) provision of logistics support, office and forestry equipment to the forestry services of the Ministry, Districts and NAFA.	1. (a) Establishment of the Forestry Protection Service in Rwanda through recruitment and equipping of 150 operational forest guards since 2004. b) Revision of the forestry law by a consultant and organization of workshops to validate the bill; c) support for the production of seedlings and management of plantations and logistic resources (20 motorcycles); d) providing NAFA with forestry, office and computer hardware worth a total of RWF 51 279 000.	3			
2. Preparation of 20 district forestry management plans	2. Twenty (20) district forestry management plans have been prepared for the Ministry, and will serve as basis for the preparation of a national forestry plan.	4			
3. Inventory and map of buffer plantations of Nyungwe natural forest	3. 8363 ha of plantations of the buffer area of Nyungwe natural forest were identified and mapped from 2008 to 2010.	3			
4. Processing of thinning products in Nyungwe buffer plantations	4. Sale of thinning products estimated at 180000 m3 of timber for a total value of RWF 200 million for the benefit of FFN	4			
<b>COMPONENT E: PROJECT MANAGEMENT</b>			<b>2</b>	<b>18.89</b>	<b>0.377</b>
1. The PIU headquarters and outstations in the DRSA are renovated and furnished.	1. One PIU headquarters office accommodating Kigali-Gitarama outstation was rehabilitated in 2004 and furnished. The DRSA provided 3 offices in perfect condition for Gikongoro, Gisenyi and Umutara outstations in 2003. Furniture for these headquarters and outstations was procured end 2004.	3			
2. Procurement of 5 4x4 vehicles (one per outstation and one for the PIU), and 53 motorcycles for DRSA forestry services and outstation workers.	2. In 2004, procurement of: 6 ISUZU pick-up vehicles with double traction, 1 ISUZU Trooper Jeep and 35 SUZUKI TF 125 motorcycles.	3			

3. Recruitment of national staff for the PIU and outstations	3. At end 2002, the project had recruited the following staff: 1 project coordinator, 1 administrative and financial manager, 1 monitoring-evaluation officer, 4 outstation managers, 1 driver, 1 messenger and 1 watchman. The support staff was recruited and installed in 2004: 1 accountant, 1 executive secretary, 4 secretaries/accountants for outstations, 1 project topographer, 4 monitoring-evaluation technicians in outstations and 4 drivers.	3			
4. Recruitment of: 1 forest management specialist at sub-regional level for 5 years, 1 administrative and financial manager at international level for 24 months.	4. Unsuccessful competitive bidding in 2004 after publication of call for tenders in 2003 and 2004.	1			
5. Update of forestry law, impact assessment of agroforestry, annual auditing of accounts by independent firms	5. Conduct of studies: (i) update of forestry law, (ii) agroforestry impact assessment; and auditing of accounts for 2002-2003, 2004, 2005, 2006, 2007, 2007, 2008, and 2009.	2			
6. Training of the project administrative and financial management team on the development and use of the accounting software.	6. Staff training on the use of the project's financial and management accounting software was conducted during the first quarter of 2005.	2			
<b>OVERALL OUTCOME SCORE [corresponds to the sum of the weighted score for components]</b>					<b>2.678</b>
The auto-calculated score was overridden. Indeed, an overall appraisal score for outcomes by activity was awarded and the average score for the component calculated. A weighted score was calculated for each component, whose percentage share in project cost has been stated clearly in the appraisal report.					
The new overall score (rounded up) for outcomes is:					<b>3</b>

## II. OUTPUTS

1. Using the available monitoring data, assess the achievement of expected outputs for each major activity. Import the expected outputs from the logical framework in Section C. Score the extent to which the expected outputs were achieved. Weighted scores are auto-calculated by the computer. The overall output score will be auto-calculated and will correspond to the mean appraisal score. Override the auto-calculated score, if desired, and provide justification.

OUTPUTS		Working Score
Expected	Actual	
<b>1. Gishwati natural forest is enriched and restored; Nyungwe and Gishwati natural forests and plantations are protected and managed in a sustainable manner.</b>		<b>3</b>
a) 700 ha of the remaining 1003 ha of Gishwati forest are enriched and rehabilitated	a) Enrichment of 800 ha of the remaining 1003 ha of Gishwati natural forest	3
b) 1900 ha of buffer plantations for the protection of Gishwati and Nyungwe natural forests are created	b) Protection of Gishwati and Nyungwe natural forests by 1778.53 ha of buffer forestations.	3
c) 3000 ha of the old plantations of Gishwati and Nyungwe are managed and made productive by silvicultural works (clearing, pruning, thinning)	c) Execution of silvicultural works on 1870 ha of the old plantations of Gishwati and Nyungwe (clearing, pruning, thinning) to make them productive.	3
d) 2086 ha of bare hills in Gikongoro, Kigali-Ngali (Bugesera area), Umutara and Gitarama provinces are reforested.	d) Reforestation of 8995 ha of bare hills in Gikongoro, Kigali-Ngali (Bugesera area), Umutara and Gitarama Provinces.	3
e) 360 km of access roads to Gishwati and Nyungwe plantations are rehabilitated	e) Rehabilitation of 310 km of access roads to Gishwati and Nyungwe plantations.	2
f) 280 km of access roads to Gishwati and Nyungwe forestry plantations are maintained.	f) Maintenance of 113 km of access roads to Gishwati and Nyungwe forestry plantations.	2
g) 17587 ha of new plantations are maintained.	g) Maintenance of 17587 ha of new plantations.	3
h) 105 Km of roads in the Mutara area are protected.	h) Protection by roadside forestations over a distance of 229.5 km in the former Umutara province (kayonza-kagitumba roads and other roads).	3
i) 3000 ha of pasture enriched in the Mutara area with the use of appropriate fodder species	i) Pasture enrichment in the Mutara area covered 2300 ha with the use of appropriate fodder species	2
j) 29 500 ha in the project area are managed and exploited for agroforestry.	j) Production and distribution of 32.739 million agroforestry seedlings to the local population of the project area (equivalent to 32 700 ha of hills managed and exploited for agroforestry).	4
<b>2. Ecologically sensitive areas are protected</b>		<b>3</b>
k) 3500 ha of bare hills in Kigali-Ngali and Gisenyi Provinces are protected by forestations (erosion-sensitive hills).	k) A 5422.88 ha area of bare hills in Kigali-Ngali and Gisenyi Provinces are protected by forestations.	3
l) 194 ha of the Muvumba River banks are protected by native species forestations.	l) The Muvumba River banks are protected by forestations of <i>Acacia kirikii</i> over 127 ha.	2
m) 600 ha of plantations created for the protection of lakes in the Bugesera area and Lake Muhazi in Umutara Province	m) 567.56 ha of plantations have been created for the protection of lakes in the Bugesera area and Lake Muhazi	3
n) 240 km in the immediate surroundings of some sections of the Gitarama-Mukamira and Kigali-Ruhengeri roads are protected against erosion.	n) The 241 km-long sections of roads constructed without protection, namely: Gitarama-Mukamira, Gitarama-Kibuye, Kigali-Ruhengeri and Kigali-Butare have been protected against erosion by plantations of <i>Grevillia robusta</i> , <i>Maesopsis eminii</i> , <i>Cedrella</i> , <i>Acacia melanoxylon</i> and <i>Jacaranda</i> .	3
<b>3. Staff of the Project, the Ministry in charge of Forestry, farmers and forest craftsmen are trained and equipped, and private operators supported.</b>		<b>2</b>

o) 8 forestry staff of MINAGRI receive long-term academic training	o) Eight (8) staff members, including 3 women, were sent on a long-term training course in Kenya and Tanzania; 7 completed their level A0 studies and have been recruited by the National Forestry Authority.	3
p) 14 forestry senior staff participated in short-term training courses, and 750 farmers have been trained.	p) A short-term training course on forestry management was organized in Swaziland for the Project Coordinator in 2005. Several training sessions were organized for the population (more than 1800 persons) involved in seedling production activities in nurseries, agroforestry plantation, silviculture, water and soil conservation, drought control and the development of forestry products. In addition, several farmer associations were trained. They are specialized in seedling production, and creation and maintenance of forest plantations. These associations executed contracts for the project.	2
q) The project administrative and financial management team is trained on the development and use of the accounting software.	q) Staff training on the use of the project financial and management accounting software during the first quarter of 2005.	2
r) 100 craftsmen/carpenters are trained and equipped, 4000 persons are sensitized, and 75 000 improved hearths are disseminated.	r) The training of timber sector stakeholders involved 347 agro-livestock farmers and 108 craftsmen/carpenters. The project implemented outreach programmes each year to sensitize the population on forest resource management, maintenance of forest plantations and other development activities through the media (radio and television). In addition, it produced a documentary film on project achievements, which is often broadcast on national television. To increase its exposure in the country, the project had tee-shirts, caps and calendars printed and distributed during the national tree weeks. Furthermore, it conducted training programmes for the construction and dissemination of hearths and improved stoves for timber management, particularly in urban centres and wood-deficient areas. In this connection, 75 500 improved hearths have been disseminated by associations which have contracted with the project.	3
s) A credit fund amounting to RWF 500 million is set up to enable private operators in the sub-sector to establish private nurseries and plantations for wood production and value enhancement.	s) 1: The sum of FRW 148.35 million has been loaned by the Agro-livestock Farmers' Savings and Loans Fund for the financing of 115 private operator projects for activities related to timber production and processing (nurseries, plantations, sawing, joinery, arts and craft, equipment). This activity has generated 483 permanent jobs and 1669 temporary jobs in timber SMEs.	1
<b>4. The Forestry Department of the Ministry in charge of Forestry, the Forestry Services of DRSA's, Districts, and NAFA are strengthened and equipped.</b>		<b>3</b>
t) Strengthening of the Forestry Department, DRSA Forestry Services, Districts and NAFA: 1. Establishment and structuring of an operational forest protection service with 53 motorcycles and communication equipment for 150 forest guards; 2. Payment of the allowances of forest guards for three (3) years and forestry policy expert/consultant four (4) months; 3. Providing the forestry services of the Ministry, Districts and NAFA with logistical support, office equipment and forestry equipment.	1) Establishment of the Forestry Protection Service in Rwanda through recruitment and equipping of 150 operational forest guards since 2004. 2) Revision of the forestry law by a consultant, and organization of workshops to validate the bill; 3) Support to Districts for the production of seedlings and management of plantations and logistical resources (20 motorcycles). 4) Providing NAFA with forestry and office equipment, as well as computer hardware worth a total of FRW 51 279 000.	3
u) 20 district forestry management plans are prepared.	u) 20 district forestry management plans for the Ministry are prepared and validated for the Ministry; they will serve as basis for the preparation of a national forestry plan.	4
v) The Nyungwe natural forest buffer plantations (Nyamagabe and Nyamasheke districts) are identified and mapped.	v) The Nyungwe natural forest buffer plantations are identified and mapped over an area of 8,363 ha from 2008 to 2010.	2
w) Processing of thinning products in Nyungwe buffer plantations	w) Sale of thinning products estimated at 180000 m3 of timber for a total value of RWF 200 million for the benefit of the National Forestry Fund (FFN).	4
x) The PIU headquarters and outstation offices in the DRSA's are renovated and furnished.	x) One PIU headquarters office accommodating the Kigali-Gitarama outstation was rehabilitated in 2004 and furnished.	3

	The DRSA provided 3 offices in perfect condition for Gikongoro, Gisenyi and Umutara outstations in 2003. Furniture for these headquarters and outstation offices were procured end 2004.	
y) Update of forestry law, impact assessment of agroforestry, annual auditing of accounts by independent firms.	y) Conduct of studies: (i) update of forestry law, (ii) agroforestry impact assessment; and auditing of accounts for 2002-2003, 2004, 2005, 2006, 2007, 2007, 2008, and 2009.	2
<b>OVERALL OUTPUT SCORE</b> [corresponding to the average appraisal score]		<b>2.75</b>

<b>The new overall output score (rounded up) is:</b>	<b>3</b>
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**2. Other outputs:** Comment on the additional outputs not captured in the logical framework, including cross-cutting issues (e.g. gender).

As regards the project output on gender, it should be noted that 58% of paid labour in seedling production, plantation and maintenance works are women, thus providing substantial incomes to households many of which are headed by women. Such income distribution to female labour has contributed to improving the living standards of their families and reducing rural poverty.

**3. Risks to sustained achievement of outputs.** State the factors that affect, or could affect, the long-term or sustained achievement of project outputs. Indicate if any new activity or institutional change is recommended to sustain outputs. The analysis should be based on the sensitivity analysis in Annex 3, if relevant.

a) The protection of Nyungwe and Gishwati natural forests is threatened by illegal logging and cattle grazing on buffer plantations.  
b) The huge size of the country's population and the scarcity of land have led to increased pressure on forests by the population in search of arable lands, thereby constituting a threat to biodiversity.  
Hence, NAFA should provide for adequate funds to ensure proper security and maintenance of created forests and plantations. Furthermore, it should invest in the development of plantations so as to enable the riparian populations to participate in the management of the forest stand, a source of income for them.

## E. PROJECT DESIGN AND READINESS FOR IMPLEMENTATION

**1. Indicate the extent to which the Bank and the Borrower ensured that the project was commensurate with the Borrower's capacity to implement the project, by designing appropriately and putting in place the necessary implementation arrangements. Consider all major design aspects, such as the extent to which lessons were learnt from previous PCRs in the sector or in the country (name a few key PCRs); whether the project is based on serious analytical studies (name a few key documents); whether the Bank and the Borrower adequately evaluated the capacity of the executing agencies and project implementation unit, the degree of consultations and partnerships, the project's economic justification and the arrangements made for technical assistance.**  
**[Up to 250 words. Any other narrative on project implementation should be included in Annex 6 entitled: Project Description]**

The Borrower and the ADB have ensured proper project implementation by setting up a Project Implementation Unit (PIU), placed under the supervisory authority of MINAGRI and comprising 1 Project Coordinator, 3 Central Services and 4 Outstations. The PIU will work in close collaboration with the Forestry Directorate, ISAR, DRSA, and the Districts. In addition, the Borrower has established a National Project Steering Committee chaired by the Secretary-General of MINAGRI for the conduct of activities.

The implementation of project activities is consistent with the principles of accountability and empowerment of the beneficiary population through decentralization and State divestiture from productive sectors under privatization. The project, by design, fosters a participatory approach at the local level and gives impetus to beneficiary farmers by ensuring their involvement in the implementation of project activities.

The monitoring-evaluation of project implementation is designed in such a manner as to comprise internal and external monitoring, Bank supervision missions, a mid-term review and a final evaluation, including the Borrower's completion report.

The design took account of lessons drawn from the completion reports of similar projects implemented in Rwanda that incorporated an agroforestry component (Mutara Development Project, Byumba Rural Development Project, Cattle Livestock Development Support Project).

Project design is based on Government planning instruments, namely: (i) Vision 2020, Economic Development and Poverty Reduction Strategy, and National Forestry Policy.

2. For each dimension of project design and implementation readiness, provide a brief assessment (not more than 2 sentences). Insert a working score using the scoring scale provided in Appendix 1.				
PROJECT DESIGN AND READINESS FOR IMPLEMENTATION DIMENSIONS		APPRAISAL	Working Score	
REALISM	a) Due to its complexity, the project is underpinned by an analysis of the country's capacity and political commitment.	The project is not complex in design. However, situational changes occurring during project implementation had an impact, such as political and administrative reforms, which undermined the conduct of certain activities, like the furnishing of the Forestry Department which was phased out, the sale of some operational vehicles and failure to procure motorcycles, payment of reduced allowances to district foresters and logistical support to former Regional Agricultural Services Directorates (DRSA).	3	
RISK ASSESSMENT AND MITIGATION	b) Project design includes adequate risk analysis.	Design takes account of obvious risks at appraisal. However, mitigation "post-conflict" measures were not well considered	2	
USE OF COUNTRY SYSTEMS	c) Project procurement, financial management, monitoring and/or other systems are based on systems already in use by the government and/or other partners.	Bank procurement procedures were used, while the country system was used for bids assessment and contract award.	3	
For the following dimensions, provide separate working scores for Bank performance and Borrower performance:			Working Score	
			Bank	Borrower
CLARITY	d) Responsibilities for project implementation are clearly defined.	As regards implementation, responsibilities were clearly defined for the Bank and other stakeholders.	4	4
PROCUREMENT READINESS	e) Documents required for implementation (specifications, design, procurement, etc.) are ready at appraisal.	Project implementation, procurement and disbursement arrangements are those stipulated in the appraisal report and loan agreement. However, all procurement documents should be prepared at the beginning and during implementation.	2	2
MONITORING READINESS	f) Indicators and monitoring schedule are adopted.	Project monitoring and implementation indicators were clearly stated and complied with during supervision missions.	3	3
BASELINE DATA	g) Baseline data collection is	Some general baseline data were available at project	3	3

	completed or on-going.	appraisal. The agroforestry impact assessment and the district forestry management plans will be useful for the preparation of the national forestry plan. Other data are currently available from several studies conducted under other operations such as PAREF and FAO.		
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## F. IMPLEMENTATION

**1. State the major characteristics of project implementation with reference to: compliance with schedules, quality of construction or other works, performance of consultants, effectiveness of Bank supervision and effectiveness of Borrower oversight. Assess how well the Bank and the Borrower ensured compliance with safeguards [At most 300 words]. Any other statement on project implementation should be presented in Annex 6 entitled: Project Description]**

The project was implemented 3 months behind schedule and closed with a 30-month gap and a 99.77% disbursement rate. At project closure, maintenance and safety operations on plantations created in 2008 and 2009 had not yet been conducted and ought to be financed with the undisbursed balance.

The performance of Seedling Production and Planting Associations and contractors was satisfactory on the whole; performance deadlines were met. Forestry seedlings from ISAR were not often of good quality, and produced malformed or stunted plants. Belated procurements led to delays in planting, which should be carried out during the rains. Some forestations were damaged by wild fire, termites, drought, cattle, and farmers, and should be replanted. Works oversight by project officers was inefficient for want of adequate staff.

Financial management was undermined by the instability of 2 staff members accused of misappropriation of funds and replaced in 2008 after ten months of absence. The sum of RWF 96.5 million from the revolving fund was not yet accounted for at the time of preparation of the report under consideration. The performance of consultants is satisfactory. Bank performance consisted in 14 supervision missions conducted in 8 years (1.75 missions per year). The Bank's intervention, through supervision, strengthened project implementation: the concerted resolution of problems was very timely and effective. As regards the Borrower's performance, delays in the fulfilment of conditions precedent to loan effectiveness and the first disbursement and in the recruitment of staff members impacted on project implementation. However, to cope with the difficulties encountered, the Borrower held consultations with the Bank, and measures were jointly taken and implemented to speed up project implementation. The Government reimbursed the funds misappropriated by the accountants.

**2. Comment on the role of other partners (for instance donors, NGOs, enterprises, etc.). Assess the effectiveness of co-financing arrangements and/or donor coordination, if applicable.**

There was smooth coordination with the interventions of the other development partners, particularly with respect to the implementation of the National Forestry Policy and Environmental Sector Strategic Plan. For the identification of reforestation sites, the project took account of the activities of the other partners, with a view to undertaking complementary activities and avoiding duplication. During project appraisal, other institutions were also involved in forestry management in conjunction with MINAGRI. They are: MINALOC, MINITEERE, MINECOFIN, MINICOM, and ORTPN. Project activities were designed to ensure complementarity with those of the above-mentioned institutions. Activities were coordinated during project implementation.

**3. Harmonization: State whether the Bank made explicit efforts to harmonize instruments, systems and/or approaches with other partners.**

The Bank made efforts to harmonize its interventions with those of the other Technical and Financial Partners of Rwanda in the forestry sub-sector, such as the FAO, and the Belgian and Dutch Cooperation Agencies.

**4. For each dimension of project implementation, assess the extent to which the project achieved the following objectives. Provide a brief assessment (up to two sentences) and insert an appraisal score using the scoring scale in Appendix 1.**

PROJECT IMPLEMENTATION DIMENSIONS	APPRAISAL	Working Score
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<b>TIMELINESS</b>	a) Extent of project adherence to the original closing date. If the number on the right is: below 12, score 4 between 12.1 and 24, score 3 between 24.1 and 36, score 2 above 36.1, score 1	Difference in months between the original closing date and the actual closing date, or the date of 98% disbursement	The project recorded a delay at start-up and experienced implementation difficulties. The last disbursement deadline was extended twice (total duration of 30 months)	2
		30 months		
<b>BANK PERFORMANCE</b>	b) The Bank complied with:			
	Environmental safeguards	Project activities involve environmental protection		4
	Fiduciary arrangements	In general, fiduciary arrangements were complied with. However, the instability of key accounting management staff adversely impacted on financial management. Since 2005, audit reports have been submitted on a regular basis. Reports for 2009 and the final report will be transmitted to the Bank by end November 2010.		3
	Project covenants	The Bank has defined a number of conditions precedent to effectiveness of the first disbursement as well as other conditions. By and large, the conditions precedent to the first disbursement only aim at establishing a framework that ensures smooth implementation and monitoring.		4
	c) Bank supervision was satisfactory in terms of the skills mix and practicality of solutions.	Bank supervision was deemed satisfactory, and helped to resolve crucial issues such as difficulties relating to financial management, extending the closing date and speeding up the implementation of activities.		4
	d) Bank supervision of project management was satisfactory.	Bank supervision of project management was deemed satisfactory, given that the supervision rate stands at 1.75 supervision missions per year since effective start-up of the project.		3
<b>BORROWER PERFORMANCE</b>	e) The Borrower complied with:			
	Environmental safeguards	Key project activities involve environmental protection.		4
	Fiduciary arrangements	Government's counterpart funds were paid on a regular basis and audit reports were produced and transmitted to the Bank. The Government repaid to the project all the funds appropriated by the accountants.		3
	Project covenants	The Government recorded delays in signing the loan agreement and its effectiveness, as well as in fulfilling the conditions precedent to the first disbursement.		2
	f) Borrower was responsive to Bank supervision findings and recommendations	The Government and the PIU have always implemented the various Bank supervision recommendations within the stipulated timeframes.		3
	g) Borrower collected and used monitoring information for decision-making	The lessons drawn from the project implementation, such as involving beneficiaries in forestry resource management and the use of local associations for the production and planting of seedlings were used by other operators in forestry management as instructed by NAFA.		2

## G. COMPLETION

1. Was the PCR submitted on schedule in compliance with Bank Policy?			
Date 98% disbursement rate is achieved (or closing date, if applicable)	Date PCR was sent to pcr@afdb.org	Difference in months	WORKING SCORE (auto-calculated) If the difference is 6 months or less, the score is 4. If the difference is above 6 months, the score is 1.
30/06/2010	15/11/2010	6	4

Briefly describe the PCR process. Describe the Borrowers' and co-financiers' involvement in producing the document. Highlight any major differences of opinion concerning the assessments made in this PCR. Describe the team composition and confirm whether a site visit was undertaken. Mention any major collaboration from other development partners. State the extent of field office involvement in producing this report. Indicate whether comments from Peer Reviewers were received on time (provide names and positions of Peer Reviewers)  
[At most 150 words]

The PRC was prepared by a consultant after field visits guided by the project team and meetings with the authorities of decentralized administrative entities representing the beneficiaries. The PRC was prepared in close collaboration with the Project Implementation Unit. In addition, the key partners of the sector, particularly the NAFA, were consulted. On the whole, the PCR process has helped to establish the fact that the project has achieved its set objectives, despite a few delays. Nevertheless, the impact of the project is noticeable, especially with respect to environmental protection: natural forests are protected and the number of mammals has increased, erosion on bare hills has been controlled, and the forest cover in the formerly arid Mutara and Bugesera areas has increased. The various stakeholders have appreciated the achievements of the project, and recommended that measures be taken to ensure their sustainability.

## H. LESSONS LEARNT

Summarize the key lessons the Bank and the Borrower suggested by the project's outputs.

[At most 300 words. Any other statement on project implementation should be presented in Annex 6 entitled : Project Description]

To ensure the immediate start-up of Projects, it is imperative that staff recruitment proposals be submitted to the Bank's Board of Directors simultaneously with the project document, rather than after the signing of agreements. As regards the double extension of last disbursement dates, the lesson learnt here is that the implementation schedule is often too extensive at appraisal. The appraisal report preparation team should step up efforts to design an appropriate schedule for each component, taking procurement delays into account. The Government and Steering Committee should do their utmost to facilitate immediate start-up of projects.

## I. PROJECT RATING SUMMARY

All appraisal scores are auto-calculated by the computer from the relevant section of the PCR.

CRITERIA	SUB-CRITERIA	Working Score
PROJECT OUTPUT	Achievement of Outcomes	3
	Achievement of Outputs	3
	Timeliness	2
	<b>OVERALL FOR PROJECT OUTPUT SCORE</b>	
BANK PERFORMANCE	<b>Design and readiness</b>	
	Project objectives are relevant to country development priorities	4

	Project objectives are feasible with the project inputs and in the expected timeframe	2
	Project objectives are consistent with the Bank's country or regional strategy	4
	Project objectives are consistent with the Bank's overall priorities	4
	The logical framework presents a logical causal chain for achieving the project development objectives.	2
	Objectives and outputs, as presented in the logical framework, are measurable and quantifiable	2
	The logical framework presents the risks and key assumptions	3
	The country's capacity and political commitment are commensurate with the project's complexity	3
	The project design includes adequate risk analysis	2
	The procurement, financial management and monitoring systems and/or other processes are based on those already used by the Government and/or other partners.	3
	Project implementation responsibilities are clearly defined	4
	Documents required for implementation (documents on technical specifications, design, procurement, etc.) are ready at appraisal.	2
	Monitoring indicators and monitoring plan are adopted.	3
	Baseline data collection is completed or on-going	3
	<b>DESIGN AND READINESS SUB-SCORE</b>	<b>3</b>
	<b>Supervision:</b>	
	Bank complied with:	
	Environmental safeguards	4
	Fiduciary arrangements	3
	Project covenants	4
	Bank supervision was satisfactory in terms of skills mix and feasibility of solutions	4
Bank supervision of project management was satisfactory	3	
The PCR was submitted on a timely basis	4	
<b>SUPERVISION SUB-SCORE</b>	<b>4</b>	
<b>OVERALL BANK PERFORMANCE SCORE</b>	<b>4</b>	
<b>BORROWER PERFORMANCE</b>	<b>Design and readiness</b>	
	Responsibilities for project implementation are clearly defined	4
	Documents required for project implementation (on technical specifications, design, procurement, etc.) are ready at appraisal	2
	Monitoring indicators and monitoring plan are adopted; baseline data collection is completed or on-going.	3
	<b>PROJECT DESIGN AND READINESS SCORE</b>	<b>3</b>
	<b>Implementation</b>	
	Borrower complied with:	
	Environmental safeguards	4
	Fiduciary arrangements	3
	Project covenants	2
Borrower was responsive to Bank supervision findings and recommendations	3	
Borrower collected and used monitoring information for decision-making	2	
<b>IMPLEMENTATION SUB-SCORE</b>	<b>3</b>	
<b>OVERALL BORROWER PERFORMANCE SCORE</b>	<b>3</b>	

## J. PROCESSING

STAGE	SIGNATURE AND REMARKS	DATE
Sector Manager clearance		
Regional Director clearance		
Sector Director approval		

## Scoring Scale and Comments

SCORE	COMMENTS
4	<b>Very Satisfactory</b> - Completely implemented, flawless
3	<b>Satisfactory</b> - Most of the objectives have been achieved despite a few shortcomings
2	<b>Average</b> - Partially achieved. Almost as many outputs as shortcomings
1	<b>Poor</b> - Very few outputs with serious shortcomings
NA	Not Applicable

**N.B.:** Figures are rounded up to the nearest decimal point. For the calculations, only whole numbers are used.

**LIST OF ANNEXES**

**Mandatory Information**

**1. Project Cost and Financing**

- a. Project Cost by Component
- b. Resources by Source of Finance

**2. Bank Contributions.** State the key team members and their duties during project preparation and supervision. Provide a consolidated list of preparation, supervision and completion missions in chronological order. State the date and scores awarded by the previous supervision report.

**3. Economic Analysis (ERR) and Financial Analysis, if applicable.** Recalculate the Economic Rate of Return based on costs and profits at completion, and compare them with estimates at appraisal. Break down by component, as appropriate. Analyze the sensitivity of the ERR to key assumptions. Present a financial analysis for project beneficiary entities.

**4. Procurement Plan. Please attach the most recent Procurement Plan**

**5. List of Supporting Documents**

**Optional Information**

**6. Project Description.** Key factors not considered in the general framework but which have had an impact on project design and implementation. These factors, both positive and negative, may comprise: climate and weather conditions, political changes, contract or personal issues, technical issues, procurement processes and interactions with other partners. If any of these factors is significant enough to impact on working scores, it should be mentioned in the framework, and referred to the current Annex.

**Project Cost and Financing**

**a) Summary of Project Cost Estimate by Component**

COMPONENTS		In RWF million			In UA million			% For. Ex
		For. Ex.	Local Curr.	Total	For. Ex	Local Curr.	Total	
A.	Forestry Management	835.66	976.72	1812.38	1.49	1.75	3.24	45.98
B.	Protection of Sensitive Areas	246.5	286.9	533.4	0.44	0.51	0.95	46.31
C.	Training, Promotion of Forestry Activities	718.13	52.77	770.9	1.28	0.09	1.38	92.75
D.	Institutional Support	359.44	1070.76	1430.2	0.64	1.91	2.56	33.5
E.	Project Management	498.2	585.9	1084.1	0.89	1.05	1.94	45.87
Base Cost		2657.93	2973.05	5630.98	4.75	5.32	10.07	47.16
Physical Contingencies		203.79	234.38	438.17	0.36	0.42	0.78	47.43
Price Escalation		143.09	224.52	367.61	0.26	0.4	0.66	39.39
<b>Total Project Cost</b>		<b>3004.81</b>	<b>3431.95</b>	<b>6436.76</b>	<b>5.36</b>	<b>6.13</b>	<b>11.51</b>	<b>46.65</b>

**b) Sources of Finance**

SOURCES	In RWF million			In UA million			% Total
	For. Ex	Local Curr.	Total	For. Ex	Local Curr.	Total	
<b>ADF</b>	3004.8	1970.33	4975.13	5.37	3.53	8.9	77.29
<b>GOV'T OF RWANDA</b>	0	1153.25	1153.25	0	2.06	2.06	17.92
<b>BENEFICIARIES</b>	0	308.37	308.37	0	0.55	0.55	4.79
<b>TOTAL</b>	<b>3004.8</b>	<b>3431.95</b>	<b>6436.75</b>	<b>5.37</b>	<b>6.14</b>	<b>11.51</b>	<b>100</b>

**c) ADF Disbursements by Expenditure Category:**

See file: RW PAFOR disbursement by category

[RW PAFOR disbursement by category](#)

**d) ADF Disbursement List:** See file: RW PAFOR disbursement 2003 to 2010

[RW PAFOR disbursements 2003 to 2010](#)

**e) Justification for Revolving Funds:** See file RW situation justification RF PAFOR provided by the ADB.

[RW situation justification RF PAFOR](#)

**f) Financing the counterpart contribution of the Government of the Republic of Rwanda:**

The counterpart contribution of the Government of the Republic of Rwanda stands at RWF **863 273 201**, i.e. 75% of the projected amount.

Bank Contributions

a) List of key members of the Bank team and their duties during preparation and supervision

No.	Mission	Date	Number of days	Number of persons	Composition
1	Identification Preparation	07/05/00 26/05/00	20		
2	Pre-appraisal	dic-00			
3	Appraisal	02/04/01 19/04/01	18	2	M.L. KANE, Agricultural Economist and Mission Leader, A. DAGAMAISSA, Water and Forestry Engineer and Forestry Expert
4	Launch	01/06/02 12/06/02	12	1	A. DAGAMAISSA, Forestry Expert and Mission Leader
5	Supervision	05/12/02 15/12/02	8	1	A. DAGAMAISSA Forestry Expert and Mission Leader
6	Supervision	01/06/03 15/06/03	15	1	A. DAGAMAISSA, Forestry Expert and Mission Leader
7	Supervision	27/10/03 12/11/03	17	1	A. DAGAMAISSA, Forestry Expert and Mission Leader
8	Supervision	16/05/04 28/05/04	13	1	A. DAGAMAISSA, Forestry Expert and Mission Leader
9	Monitoring	17/11/04 05/12/04	19	1	A. DAGAMAISSA, Forestry Expert and Mission Leader
10	Supervision	16/04/05 29/04/05	14	1	A. DAGAMAISSA, Forestry Expert and Mission Leader
11	Supervision	20/12/2005 29/12/05	10	1	A. DAGAMAISSA, Forestry Expert and Mission Leader
12	Supervision	16/09/06 30/09/06	15	2	A. DAGAMAISSA, Forestry Expert and Mission Leader; J. NYIRIMANA , Agronomic Expert at RWCO
13	Supervision	26/03/07 06/04/07	12	2	A. DAGAMAISSA, Forestry Expert and Mission Leader; J. NYIRIMANA , Agronomic Expert at RWCO
14	Monitoring	05/12/07 06/12/07	1	1	J.L KROMER, Fisheries Expert at OSAN.3 Division
15	Improving the performance of the agricultural sector portfolio	25/03/08 08/04/08	15	6	R. MAROUKI, Agro-economist and Mission Leader; C.L TAWAH, Livestock Specialist, OSAN.1; J. RIBEIRO, Procurement Specialist, OSAN.0; J. NYIRIMANA, Agronomic Expert, RWFO; G.KARARA, Procurement Assistant, RWFO; M. Akpem BEYUO, Financial Specialist, FFCO.3
16	Audit	14/07/08 24/07/08	11	2	O. MBAZUMUTIMA, Mission Leader; C. MBOUKEM, Consultant
17	Supervision	23/11/2008 02/12/08	10	2	A. DAGAMAISSA, Forestry Expert and Mission Leader; J. NYIRIMANA , Agronomy Expert at RWCO

b) Score awarded by the mission to improve performance of the agricultural sector portfolio from 25/03/ to 08/04/2008

PROJECT PERFORMANCE CRITERIA	Score
<b>A. Lending Conditions</b>	
Fulfilment of conditions precedent to effectiveness	2
Fulfilment of general conditions	2
Fulfilment of other conditions	2
<b>B. Procurement of Goods and Services</b>	
Procurement of consultancy services	2
Procurement of goods and services	3
<b>C. Financial Performance</b>	
Foreign exchange availability	2
Cost management	2
Local currency availability	
Disbursement inflows	1
Cost management	2
<b>D. Activities and Outputs</b>	
Compliance with implementation schedule	2
Performance of contractors	2
Performance of project management	2
<b>E. Impact on development</b>	
Likelihood that project objectives will be achieved	3
Likelihood that advantages will be preserved during the project investment phase	2
Project's contribution to institutional capacity building	3
Expected Rate of Return	2
<b>F. Overall rating</b>	
At present	<b>2.13</b>
Trend over time	
Legend:	
3=	highly satisfactory
2=	satisfactory, with a few shortcomings
1=	dissatisfactory, need close monitoring by the Bank
0=	highly unsatisfactory, with extensive shortcomings

**Annex 3. Economic Analysis (ERR) and Financial Analysis**

Financial analysis was conducted on the basis of eucalyptus and pine cultivation patterns, as well as agricultural outputs from agro-forestry methods that combine the production of maize, beans and fruits. Products from forest cultivation comprise various silvicultural products, as well as fuelwood and charcoal. Based on these patterns designed for a 30-year farming and rotation period, the financial spin-offs amount to about RWF 400 billion at peak production period, for an Internal Rate of Return (IRR) of 11.26% and a Net Present Value (NPV) of over RWF 6 billion. In addition, the project generated direct and indirect jobs estimated at close to RWF 186.12 million per year throughout the project, and at RWF 98.11 million per year during the production period. The outcomes of financial analysis are summarized below. See details in the attached Excel files.

With Project Situation													
No.		UNITS	YIELD / HA / YR										
	With Project Benefits		2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012
1	Eucalyptus	'000 RWF	0.00	0.00	0.00	182,400,000.00	234,240,000.00	238,464,000.00	240,000,000.00	244,800,000.00	250,080,000.00	250,080,000.00	307,680,000.00
2	Pine	'000 RWF	0.00	0.00	0.00	53,200,000.00	61,460,000.00	71,281,000.00	83,002,850.00	97,045,322.50	110,113,136.00	115,524,449.60	252,000,000.00
3	Maize	'000 RWF	0.00	0.00	288,000.00	288,000.00	288,000.00	288,000.00	288,000.00	288,000.00	288,000.00	288,000.00	288,000.00
4	Beans	'000 RWF	0.00	0.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00	120,000.00
5	Fruits	'000 RWF	0.00	0.00	0.00	0.00	0.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00	150,000.00
	<b>With Project Benefits</b>	<b>'000 RWF</b>	<b>0.00</b>	<b>0.00</b>	<b>408,000.00</b>	<b>236,008,000.00</b>	<b>296,108,000.00</b>	<b>310,303,000.00</b>	<b>323,560,850.00</b>	<b>342,403,322.50</b>	<b>360,751,136.00</b>	<b>366,162,449.60</b>	<b>560,238,000.00</b>
	<b>With Project Costs</b>	<b>'000 RWF</b>											
6	Eucalyptus	'000 RWF	0.00	0.00	525,000.00	245,000.00	245,000.00	245,000.00	245,000.00	245,000.00	245,000.00	245,000.00	245,000.00
7	Pine	'000 RWF	105,000.00	105,000.00	105,000.00	105,000.00	105,000.00	105,000.00	105,000.00	105,000.00	105,000.00	105,000.00	105,000.00
8	Maize	'000 RWF	0.00	0.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00
9	Beans	'000 RWF	0.00	0.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00
10	Fruits	'000 RWF	0.00	0.00	233.00	81.00	81.00	91.00	91.00	91.00	91.00	91.00	91.00
11	<b>Project Costs</b>	<b>'000 RWF</b>	<b>0.00</b>	<b>603,002.55</b>	<b>581,402.09</b>	<b>365,001.16</b>	<b>730,002.32</b>	<b>584,001.86</b>	<b>1,095,003.48</b>	<b>1,277,504.06</b>	<b>1,168,003.71</b>		
	<b>With Project Costs</b>	<b>'000 RWF</b>	<b>105,000.00</b>	<b>708,002.55</b>	<b>1,353,635.09</b>	<b>857,082.16</b>	<b>1,222,083.32</b>	<b>1,076,092.86</b>	<b>1,587,094.48</b>	<b>1,769,595.06</b>	<b>1,660,094.71</b>	<b>492,091.00</b>	<b>492,091.00</b>
12	Opportunity Cost of Cap.	10.50%											
13	Discount Factor										1.00	0.9050	0.8190
14	compounding Rate		2.22	2.01	1.82	1.65	1.49	1.35	1.22	1.11			
	<b>Adjusted Project Benefits</b>	<b>'000 RWF</b>	<b>0.00</b>	<b>0.00</b>	<b>742,734.90</b>	<b>388,810,616.34</b>	<b>441,468,024.41</b>	<b>418,670,931.24</b>	<b>395,075,886.87</b>	<b>378,355,671.36</b>	<b>360,751,136.00</b>	<b>331,368,732.67</b>	<b>458,825,986.36</b>





With Project Situation												
No.		UNITS	YIELD / HA / YR									
	With Project Benefits		2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
1	Eucalyptus	'000 RWF	250,080,000.00	250,080,000.00	72,940,000.00	72,940,000.00	72,940,000.00	72,940,000.00	72,940,000.00	72,940,000.00	72,940,000.00	352,940,000,00
2	Pine	'000 RWF	258,878,075.91	254,994,904.77	251,169,981.20	247,402,431.48	243,691,395.00	240,036,024.08	236,435,483.72	232,888,951.46	229,395,617.19	225,954,682,93
3	Maize	'000 RWF	66,705.68	56,699.83	48,194.85	40,965.63	34,820.78	29,597.66	25,158.02	21,384.31	18,176.67	15,450,17
4	Beans	'000 RWF	27,794.03	23,624.93	20,081.19	17,069.01	14,508.66	12,332.36	10,482.51	8,910.13	7,573.61	6,437,57
5	Fruits	'000 RWF	40,669.21	34,568.83	29,383.50	24,975.98	21,229.58	18,045.14	15,338.37	13,037.62	11,081,97	9,419,68
	With Project Benefits	'000 RWF	509,093,244.83	505,189,798.35	324,207,640.74	320,425,442.09	316,701,954.03	313,035,999.25	309,426,462.61	305,872,283.52	302,372,449.44	578,925,990,35
	With Project Costs	'000 RWF										
6	Eucalyptus	'000 RWF	245,000.00	245,000.00	245,000.00	245,000.00	245,000.00	245,000.00	245,000.00	245,000.00	245,000.00	245,000,00
7	Pine	'000 RWF	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000.00	175,000,00
8	Maize	'000 RWF	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000.00	96,000,00
9	Beans	'000 RWF	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000.00	46,000,00
10	Fruits	'000 RWF	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91.00	91,00
11	Project Costs	'000 RWF										
	With Project Costs	'000 RWF	562,091.00	562,091.00	562,091.00	562,091.00	562,091.00	562,091.00	562,091.00	562,091.00	562,091.00	562,091,00
12	Opportunity Cost of Cap.	10.50%										
13	Discount Factor		0.273080309	0.247131501	0.223648418	0.2024	0.1832	0.1658	0.1500	0.1358	0,12	0,1112
14	compounding Rate											
	Adjusted Project Benefits	'000 RWF	139,023,340.65	124,848,313.37	72,508,525.82	64,853,070.66	58,008,550.90	51,888,758.53	46,416,690.28	41,523,558.52	37,147,909.56	64,365,467,92
	Adjusted Project Costs	'000 RWF	153,495.98	138,910.39	125,710.76	113,765.40	102,955.11	93,172.04	84,318.59	76,306.42	69,055,58	62,493,74

	Without Project Situation											
	<b>Adjusted without Project Benefits</b>	'000 RWF	28,820.38	28,474.53	28,132.84	27,795.24	27,461.70	27,132.16	26,806.58	26,484.90	26,167,08	25.853,07
	<b>Adjusted Costs Without Project</b>	'000 RWF	442,881.90	442,881.90	442,881.90	442,881.90	442,881.90	442,881.90	442,881,90	442,881.90	442,881,90	442.881,90
	<b>Margin Without Project</b>	'000 RWF	-414,061.52	414,407.37	414,749.06	-415,086.66	-415,420.20	415,749.74	-416,075.32	-416,397.00	-416,714,82	-417.028,83
	<b>NET PROJECT BENEFITS</b>	'000 RWF	138,994,520.27	124,819,838.84	72,480,392.98	64,825,275.41	57,981,089.20	51,861,626.37	46,389,883.70	41,497,073.62	37,121,742,49	64.339.614,84
	<b>NET PROJECT COSTS</b>	'000 RWF	-289,385.92	303,971.51	317,171.14	-329,116.50	-339,926.79	349,709.86	-358,563.31	-366,575.48	-373,826,32	-380.388,16
	<b>CASH FLOW</b>	'000 RWF	139,283,906.19	125,123,810.35	72,797,564.12	65,154,391.92	58,321,015.99	52,211,336.22	46,748,447.01	41,863,649.10	37,495,568.80	64,720,003.00
	<b>NPV</b>	'000 RWF										
	<b>IRR</b>	%										

Economic analysis was conducted using the above patterns, based on the baseline price method consisting in adjusting financial prices to their free market value. Hence, taxes, subsidies, transfers and interest rate payments were phased out. Furthermore, labour was processed in accordance with the scarcity of employment opportunities, using a *conversion* factor of 0.6. Agricultural products were excluded from the analysis on account of their inelastic demand on the market and because they are nontradable and hence of little use for economic analysis. Under such conditions, the Economic Rate of Return (ERR) stands at 12.09% with a net present value (NPV) of more than RWF 4.2 billion. The outcomes of the economic analysis reveal that the project's rate of return is deemed satisfactory, given that the economic rate of return is higher than the capital opportunity cost (COC) estimated at 10.5%, and the NPV is significantly positive.

**Sensitivity Analysis:** However, the rate of return steadily falls below threshold values, whenever expected prices or production drop.

Previous Procurement Plan

1) PAFOR PROJECT PROCUREMENT PLAN FOR 2008

Procurement Description	Cost Estimate	Source of Finance	Procurement Method	Preparation of BD		Lapse-of-Time BD		Publication	Public Opening of Bids	Bid Assessment	Lapse-of-Time Appraisal Report		Notification and Signing of Contract	Contract Management	
				Start	End	NTB	ADF				NTB	ADF		Start	End
Rehabilitation of bridges around Gishwati	80000000	ADF	District Procurement Commission	01/02/2008	07/02/2008			11/02/2008	15/03/2008	15/03/2008			01/04/2008	01/04/2008	30/11/2008
Maintenance of Gishwati roads over a 100 km distance	30000000	ADF	Idem	01/02/2008	07/02/2008			11/02/2008	15/03/2008	15/03/2008			01/04/2008	01/04/2008	30/11/2008
Preparation of Gishwati Management Plan	30000000	ADF	Idem	01/01/2008	11/01/2008			14/01/2008	14/01/2008	14/01/2008			01/03/2008	01/03/2008	30/11/2008
Maintenance of forestations over 300 ha	15000000	ADF	Idem	01/01/2008	11/01/2008			14/01/2008	14/01/2008	14/01/2008			01/03/2008	01/03/2008	30/02/2009
2 000 000 agroforestry seedlings at Gisenyi Outstation	60000000	ADF	Idem	01/01/2008	11/01/2008			14/01/2008	14/01/2008	14/01/2008			01/03/2008	01/03/2008	30/02/2009
PAFD Burera, Musanze	30000000	ADF	Idem	01/01/2008	11/01/2008			14/01/2008	14/01/2008	14/01/2008			01/03/2008	01/03/2008	30/11/2008
Production of replacement seedlings over 25 ha in Ruhango	600000	ADF	Idem	01/04/2008	11/04/2008			14/04/2008	12/05/2008	12/05/2008			01/06/2008	01/06/2008	31/12/2008
Production of replacement seedlings over 202 ha in Bugesera	4848000	ADF	Idem	01/04/2008	11/04/2008			14/04/2008	12/05/2008	12/05/2008			01/06/2008	01/06/2008	31/12/2008
Maintenance of 327 ha at Kigali Gitarama Outstation	16350000	ADF	Idem	01/04/2008	11/04/2008			14/04/2008	12/05/2008	12/05/2008			01/06/2008	01/06/2008	30/05/2009

Preparation PAFD Nyanza	15000000	ADF	Idem	01/01/2008	11/01/2008			14/01/2008	14/02/2008	14/02/2008			01/03/2008	01/03/2008	30/11/2008
Production of replacement seedlings in the East Province	46200000	ADF	Idem	15/01/2008	31/01/2008			04/02/2008	11/03/2008	14/03/2008			22/04/2008	02/06/2008	31/12/2008
Maintenance of young plantations in the East Province	100000000	ADF	Idem	15/01/2008	27/02/2008			03/03/2008	11/04/2008	17/04/2008			12/05/2008	26/05/2008	25/04/2008
Preparation of PAFD in the East Province	45000000	ADF	Idem	15/01/2008	31/01/2008			12/02/2008	18/03/2008	25/03/2008			07/04/2008	07/04/2008	31/10/2008
Production of agroforestry seedlings in Nyaruguru Nyamagabe	60000000	ADF	Idem	04/01/2008	04/01/2008			14/01/2008	22/02/2008	25/02/2008			15/03/2008	20/03/2008	28/11/2008
Postponement of creation of forestations in 2007 by 70%	67200000	ADF	Idem	2007				2007						01/09/2007	31/10/2008
Creation of forestations	225000000	ADF	Idem	02/01/2008	02/01/2008			07/01/2008	07/02/2008	13/02/2008			28/02/2008	15/03/2008	15/03/2009
Maintenance of young plantations	60000000	ADF	Idem	04/01/2008	04/01/2008			14/01/2008	19/02/2008	27/02/2008			12/03/2008	15/03/2008	15/03/2009
Maintenance of roads	5000000	ADF	Idem	04/01/2008	04/01/2008			14/01/2008	19/02/2008	27/02/2008			12/03/2008	15/03/2008	15/03/2009
Preparation of PAFD Gisagara Huye	30000000	ADF	Idem	08/02/2008	08/02/2008			18/02/2008	20/03/2008	24/03/2008			02/04/2008	15/04/2008	18/07/2008
Maintenance of 200 ha of Gishwati forestations	10000000	ADF	Idem	01/01/2008	11/01/2008			14/01/2008	14/02/2008	14/02/2008			01/03/2008	01/03/2008	30/12/2008
Production of 20 ha of replacement seedling plants around Bugesera lakes	480000	ADF	Idem	01/04/2008	11/04/2008			14/04/2008	12/05/2008	12/05/2008			01/06/2008	01/06/2008	31/12/2008
Production of 68 ha of replacement seedlings around Yanze	1632000	ADF	Idem	01/04/2008	11/04/2008			14/04/2008	12/05/2008	12/05/2008			01/06/2008	01/06/2008	31/12/2008
Maintenance of 120 young plantations around Bugesera lakes	6000000	ADF	Idem	01/04/2008	11/04/2008			14/04/2008	12/05/2008	12/05/2008			01/06/2008	01/06/2008	31/12/2008

Maintenance of 120 ha of young plantations on the edges of Gitarama roads	10000000	ADF	Idem	01/04/2008	11/04/2008		14/04/2008	12/05/2008	12/05/2008		01/06/2008	01/06/2008	31/12/2008
Maintenance of 68 ha of young plantations around YANZE	3400000	ADF	Idem	01/04/2008	11/04/2008		14/04/2008	12/05/2008	12/05/2008		01/06/2008	01/06/2008	31/12/2008
Production and dissemination of improved hearths for Gikongoro	200000000	ADF	Idem	04/01/2008	04/01/2008		14/01/2008	19/02/2008	27/02/2008		12/03/2008	15/03/2008	15/10/2008

Annex 4 (2). Procurement Plan

2) PAFOR PROJECT PROCUREMENT PLAN FOR 2009

Description	Procurement Method	Estimated Amount	Planning with respect to Achievements	Preparation transmission by Agency	Lapse-of-Time	Invitation Publication Date	Bids Submission Deadline	Lapse-of-Time Request on Bids Assessment Report	Lapse-of-Time	Contract Notification	Lapse-of-Time on Contract	Contract Duration	Contract Finalization Due Date (delivery)
Auditing of Accounts 2008	International Competitive Bidding	12000000		05/01/2009	15/01/2009	02/02/2009	05/03/2009			25/03/2009	30/03/2009	1 month	02/05/2009
Final Report	Local Competitive Bidding			01/06/2009	15/06/2009	20/06/2009	27/07/2009			15/08/2009	20/08/2009	4 months	20/12/2009
Auditing of Accounts 2009	International Competitive Bidding	12000000		01/06/2009	15/06/2009	20/06/2009	25/06/2009			15/08/2009	20/08/2009	1 month	30/12/2009
NAFA Offices Equipment			Projected Dates	05/01/2009	10/01/2009	25/02/2009	27/03/2009	02/04/2009	05/04/2009	15/04/2009		4 month	31/08/2009
		150000000	Actual Dates										
Documentary Film	Local Competitive Bidding	8000000		ene-09	ene-09	02/02/2009	03/02/2009			10/03/2009		1 month	30/04/2009

List of Supporting Documents

No. Doc	Title of Documents	Source
1	Identification Report	ADF
2	Project Appraisal Report	ADF
3	Loan Agreement	ADF
4	Disbursement Tables and Ledger	ADF
5	Progress Reports	PAFOR
6	Audit Reports	PAFOR
7	Bank Mission's Aide memoires	PAFOR

MONTHLY CURRENCY RATES / TAUX MENSUELS DES MONNAIES

Exchange rates on 30 NOVEMBER 2010 / Taux de change au 30 NOVEMBRE 2010

APPLICABLE FOR THE MONTH OF DECEMBER 2010 / APPLICABLE POUR LE MOIS DE DECEMBRE 2010

REGIONAL COUNTRIES / PAYS REGIONAUX			
COUNTRY / PAYS		CURRENCY / MONNAIES	RATE PER UA/ TAUX PAR RAPPORT A L'UC
ALGERIA/ALGERIE	DZD	ALGERIAN DINAR	113.990
ANGOLA	AON	KWANZA	142.861
BOTSWANA	BWP	PULA	10.3233
BURUNDI	BIF	FRANC	1915.51
CAPE VERDE/CAP VERT	CVE	ESCUDO	125.079
CFA COUNTRIES/PAYS CFA	XAF	CFA FRANC	769.995
CFA COUNTRIES/PAYS CFA	XOF	CFA FRANC	769.995
COMOROS/COMORES	KMF	COMORIAN FRANCS	577.496
CONGO DEM REP/REP DEM CONGO	CDF	Congo Franc	1428.16
DJIBOUTI	DJF	DJIBOUTI FRANC	279.340
EGYPT/EGYPTE	EGP	POUND	8.59038
ERITREA/ERYTHREE	ERN	ERITREA NAKFA	24.1663
ETHIOPIA/ETHIOPIE	ETB	BIRR	25.6661
GAMBIA/GAMBIE	GMD	DALASI	42.0505
GHANA	GHS	CEDI	2.22053
GUINEA/GUINEE	GNF	FRANC	9376.25
KENYA	KES	SHILLING	125.706
LESOTHO	LSL	MALOTI	10.8795
LIBERIA	LRD	LIBERIAN DOLLAR	112.776
LIBYA/LIBYE	LYD	LYBIAN DINAR	1.93240
MADAGASCAR	MGA	ARIARY	3135.44
MALAWI	MWK	KWACHA	230.089
MAURITANIA/MAURITANIE	MRO	OUGUIYA	429.049
MAURITIUS/I.MAURICE	MUR	RUPEE	46.6938
MOROCCO/MAROC	MAD	DIRHAM	12.7934
MOZAMBIQUE	MZN	METICAIS	56.2407
NAMIBIA/NAMIBIE	NAD	NAMIBIAN DOLLAR	10.8795
NIGERIA	NGN	NAIRA	224.511
RWANDA	RWF	RWANDA FRANC	929.420

SAO TOME & PRINCIPE/	<b>STD</b>	DOBRA	29327.2
SEYCHELLES	<b>SCR</b>	RUPEE	19.2691
SIERRA LEONE	<b>SLL</b>	LEONE	6277.14
SOMALIA/SOMALIE	<b>SOS</b>	SHILLING	2445.02
SOUTH AFRICA/AFRIQUE DU SUD	<b>ZAR</b>	RAND	10.8795
SUDAN/SOUDAN	<b>SDG</b>	SUDANESE POUND	3.69206
SWAZILAND	<b>SZL</b>	LILANGENI	10.8795
TANZANIA/TANZANIE	<b>TZS</b>	SHILLING	2330.51
TUNISIA/TUNISIE	<b>TND</b>	DINAR	2.21055
UGANDA/OUGANDA	<b>UGX</b>	SHILLING	3425.23
ZAMBIA/ZAMBIE	<b>ZMK</b>	KWACHA	7324.87
<b>NON-REGIONAL COUNTRIES / PAYS NON-REGIONAUX</b>			
ARGENTINA/ARGENTINE	<b>ARS</b>	PESO	6.10683
AUSTRALY/AUSTRALIE	<b>AUD</b>	AUSTRALIAN DOLLAR	1.58637
BRAZIL/BRESIL	<b>BRL</b>	REAL	2.63395
CANADA	<b>CAD</b>	DOLLAR	1.56606
CHINA/CHINE	<b>CNY</b>	RENMINBI YUAN	10.1864
DENMARK/DANEMARK	<b>DKK</b>	KRONE	8.74868
EUROPEAN EURO/EURO EUROPEEN	<b>EUR</b>	EUROPEAN EURO	1.17385
HONG KONG	<b>HKD</b>	HONG KONG DOLLAR	12.1806
INDIA/INDE	<b>INR</b>	RUPEE	70.2469
JAPAN/JAPON	<b>JPY</b>	YEN	128.394
KOREA/COREE	<b>KRW</b>	WON	1765.78
KUWAIT/KOWEIT	<b>KWD</b>	DINAR	0.430726
NEW ZELAND/NOUVELLE ZELAND	<b>NZD</b>	NEW ZEALAND DOLLAR	2.04583
NORWAY/NORVEGE	<b>NOK</b>	KRONE	9.49767
SAUDI ARABIA/ARABIE S.	<b>SAR</b>	RIYAL	5.72167
SINGAPORE/SINGAPOUR	<b>SGD</b>	SINGAPORE DOLLAR	2.01265
SWEDEN/SUEDE	<b>SEK</b>	KRONA	10.6919
SWITZERLAND/SUISSE	<b>CHF</b>	FRANC	1.52242
THAILAND	<b>THB</b>	BAHT	46.0982
TURKEY/TURQUIE	<b>TRY</b>	LIRA	2.24782
U.K./ROYAUME UNI	<b>GBP</b>	POUND STERLING	0.982598
U.S.A/E.U.	<b>USD</b>	US DOLLAR	1.52578
UNITED ARAB EMIRATES/	<b>AED</b>	DIRHAM	5.60340

<b>MONTHLY MOVING AVERAGE RATES /</b>			
<b>MOYENNE MOBILE MENSUELLE DES TAUX DE CHANGE</b>			
AUSTRALY/AUSTRALIE	<b>AUD</b>	AUSTRALIAN DOLLAR	1.67965
CANADA	<b>CAD</b>	DOLLAR	1.58416
CFA COUNTRIES/PAYS CFA	<b>XOF</b>	CFA FRANC	754.041
DENMARK/DANEMARK	<b>DKK</b>	KRONE	8.56112
EUROPEAN EURO/EURO EUROPEEN	<b>EUR</b>	EUROPEAN EURO	1.14953
JAPAN/JAPON	<b>JPY</b>	YEN	134.257
SWEDEN/SUEDE	<b>SEK</b>	KRONA	11.0625
SWITZERLAND/SUISSE	<b>CHF</b>	FRANC	1.59543

TUNISIA/TUNISIE	<b>TND</b>	DINAR	<b>2.16637</b>
U.K./ROYAUME UNI	<b>GBP</b>	POUND STERLING	<b>0.98564</b>
U.S.A/E.U.	<b>USD</b>	US DOLLAR	<b>1.52652</b>

No.	OUTPUTS	UNITS	PRICES	
			Financial	Economic
			'000 RWF	
<b>a.</b>	<b>Forest Products</b>			
1.	<u>Eucalyptus</u>			
	Fuel Wood	m <sup>3</sup>	60.00	60.00
	Poles (Electrical transmission)	m <sup>3</sup>	12.00	12.00
	Saw logs	m <sup>3</sup>	80.00	80.00
2.	<u>Pine</u>			
	Fuel Wood	m <sup>3</sup>	60.00	60.00
	Charcoal	stalks	40.00	40.00
	Saw logs	m <sup>3</sup>	80.00	80.00
<b>b.</b>	<b>Agricultural Products</b>			
1.	Maize	kg	0.30	0.30
2.	Beans	kg	0.30	0.30
3.	Fruits	kg	0.60	0.60
<b>c.</b>	<b>Indirect Benefits</b>			
1.	Improved Water Availability	lump sum		
2.	Improved Health	lump sum		
3.	Improved Life Expectancy	lump sum		
4.	Availability of Good Quality Honey	lump sum		
5.	Increased Fish Production	lump sum		
6.	Erosion control	lump sum		
7.	Drought Mitigation	lump sum		
8.	Food Security	lump sum		
9.	Flood Control	lump sum		
10.	Improved Environment	lump sum		
11.	Improved Biodiversity	lump sum		
12.	Increased Tourism	lump sum		
	<b>INTPUTS</b>			
<b>d.</b>	<b>Forest Products</b>			
13.	<u>Eucalyptus</u>			
	Cost of Creation	ha	150.00	150.00
	Cost of Maintenance	ha	70.00	70.00
14.	<u>Pine</u>			
	1 <sup>st</sup> Commercial of thinning	ha	30.00	30.00
	2 <sup>nd</sup> Commercial of thinning	ha	20.00	20.00
	Cost of thinning	ha	50.00	50.00
<b>e.</b>	<b>Agricultural Products</b>			
15.	<u>Maize</u>			
	Purchased inputs	ha	30.00	30.00
	Bird scaring	ha	5.00	2.50
	Other labour	ha	70.00	17.00
	Harvesting	ha	15.00	8.00

16.	<u>Beans</u>			
	Purchased inputs	ha	30.00	33.00
	Other labour	ha	70.00	35.00
	Harvesting	ha	15.00	8.00
17.	<u>Fruits</u>			
	Seedlings	ha	12.00	12.00
	Tree protection	ha	20.00	20.00
	Production Costs	ha	6.00	6.00
	Investment Inputs Costs	ha	120.00	132.00
	Operating Inputs Costs	ha	60.00	66.00
	Labour	ha	15.00	8.00
	Harvesting	ha	10.00	6.00



**PINE**

No	OUTPUTS	UNITS	YIELD / HA															
			2002	2003														
1	Saw Logs	m <sup>3</sup>	0.00	0,00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	800.00
2	Fuel Wood	m <sup>3</sup>	0.00	0,00	0.00	160.00	176.00	193.60	212.96	234.26	257.68	283.45	400.00	472.00	556.96	657.21	775.51	800.00
3	Charcoal	m <sup>3</sup>	0.00	0,00	0.00	140.00	175.00	218.75	273.44	341.80	400.00	400.00	400.00	400.00	400.00	394.00	388.09	382.27
	<b>Output Value</b>	'000 RWF	0.00	0,00	0.00	15,200.0 0	17,560.0 0	20,366.0 0	23,715.1 0	27,727.2 4	31,460.9 0	33,006.9 9	72,000.0 0	44,320.0 0	49,417.6 0	55,192.7 7	62,054.2 7	127,290.7 5
	<b>INTPUTS</b>	.																
5	Cost of Thinning	'000 RWF	30.00	30,00	30.00	30.0	30.00	30.00	30.00	30.00	30.00	30.00	30.00	20.00	20.00	20.00	20.00	20.00
	<b>Production Cost</b>	'000 RWF	30.00	30,00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	30.00	20.00	20.00	20.00	20.00	20.00
	Gross Margin	'000 RWF	- 30.00	- 30,00	- 30.00	15,170.0 0	17,530.0 0	20,336.0 0	23,685.1 0	27,697.2 4	31,430.9 0	32,976.9 9	71,970.0 0	44,300.0 0	49,397.6 0	55,172.7 7	62,034.2 7	127,270.7 5

No	OUTPUTS	UNITS	YIELD / HA															
			2018	2019														
1	Saw Logs	m <sup>3</sup>	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
2	Fuel Wood	m <sup>3</sup>	840.00	882.00	926.10	972.41	1,000.00	1,000.00	985.00	970.23	955.67	941.34	927.22	913.31	899.61	886.11	872.82	
3	Charcoal	m <sup>3</sup>	376.53	370.89	365.32	359.84	354.45	349.13	343.89	338.73	333.65	328.65	323.72	318.86	314.08	309.37	304.73	
	<b>Output Value</b>	'000 RWF	65,461.3 8	67,755.4 6	70,178.9 3	72,738.0 4	74,177.8 3	73,965.1 6	72,855.6 9	71,762.8 5	70,686.4 1	69,626.1 1	68,581.7 2	67,553.0 0	66,539.7 0	65,541.6 0	64,558.4 8	
	<b>INTPUTS</b>	.																
5	Cost of Thinning	'000 RWF	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	
	<b>Production Cost</b>	'000 RWF	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	50.00	
	Gross Margin	'000 RWF	65,411.3 8	67,705.4 6	70,128.9 3	72,688.0 4	74,127.8 3	73,915.1 6	72,805.6 9	71,712.8 5	70,636.4 1	69,576.1 1	68,531.7 2	67,503.0 0	66,489.7 0	65,491.6 0	64,508.4 8	





