

## Key information

<b>Project title</b>	<b>Nyungwe Community Carbon Scheme</b>
<b>Project location (country and region/district)</b>	Neighboring Nyungwe National Park, Nyaruguru District, Republic of Rwanda
<b>Project coordinator &amp; contact details</b>	<u>Contact Person</u> : Michel Masozera, Ph.D.  Director, Rwanda Program, Wildlife Conservation Society, Tel: +250788300483
<b>Summary of proposed activities (max 30 words)</b>	The project will generate carbon offsets through afforestation/reforestation activities focusing on native and naturalized tree species with multiple purposes through two main agroforestry systems: <b>boundary planting with Grevillea Spp</b> and <b>mixed spp (Grevillea, Tonna serrata &amp; Polyscias fulva)</b> woodlots of <b>Alley planting</b> .
<b>Summary of proposed target groups (max 30 words)</b>	Small – scale landholding farmers averaging 0.68ha per household neighboring Nyungwe National Park. Perhaps the poorest and geographically most isolated communities in Rwanda depending on crop production, casual laboring and group savings as their major sources of income.

## 1 Project objectives and activities 500 words

### 1.1 Project Objectives

The proposed community carbon sequestration project aims at promoting initiatives that will improve livelihoods and contribute to conservation. The carbon scheme is expected to produce long-term, verifiable voluntary emission reductions by

- Combining carbon sequestration with rural livelihood improvements through small-scale, farmer led, forestry/agroforestry projects
- Reducing pressure on natural resources in and around Nyungwe National Park.
- Building capacity for local communities to find solutions to their environmental and livelihood challenges

The proposed project is expected to generate significant environmental and livelihood benefits beyond carbon sequestration. The project area is characterized with highly populated highlands with fertile but nutrient-depleted soils. Most areas are located on steep slopes and there is barely an area located on flat terrain. The area is highly susceptible to erosion due to steep slopes that are almost devoid of vegetation. By increasing tree cover in this area and integrating community land management with broader conservation goals, the proposed project will greatly contribute to control of soil conservation and thus improve agricultural productivity.

Furthermore, the project will contribute to Soil stabilisation and improved moisture retention on slopes as well as increasing soil fertility and soil nutrients. By controlling soil erosion, the project is expected reduce sedimentation downstream. Nyungwe N.P is an important water catchment area that contributes 70% of the water in Rwanda (Masozera, 2002). It contributes enormously to sustaining the flow of several rivers and streams which, besides having abundant aquatic life, also possess potential for hydropower production (AREDI, 2000). Increasing tree cover in this area will greatly contribute to buffering the potential impacts on water quality of these rivers and streams from disturbance in upland ecosystems

In addition, the project seeks to reduce pressure on Nyungwe National Park by addressing challenges such as illegal firewood collection. This will especially reduce pressure on the established buffer zones around the forest. The management of these buffer zones has been observed to be a subject of recurrent controversy between conservation agencies, local authorities and communities. Discontent has been repeatedly expressed about local peoples' lack of access to tree resources within the buffer zones (Gapusi, 1998). The establishment of woodlots in homesteads is expected to reduce this conflict.

Combined, the benefits expected from proposed community carbon sequestration scheme for the communities around Nyungwe National Park will promote sustainable livelihoods and reduce rural poverty, deliver global benefits by sequestering carbon and conserving biodiversity.

### 1.2 Carbon Sequestration Activities

The project will generate carbon offsets through afforestation/reforestation activities focusing on native and naturalized tree species with multiple purposes. Basing on average landholdings of 0.68ha, the project will promote two agroforestry systems; **boundary planting with Grevillea Spp and mixed spp (Grevillea, Tonna serrata & Polyscias fulva) woodlots of Alley planting**. The species were selected through a farmer led process in which farmers were requested to identify the most preferred trees. The project used focus group discussions as well as a household survey to collect information from the targeted project beneficiaries. The

tree list generated from the consultations was compared with the most dominant species on farm. The project is currently using data collected from the field to develop technical specifications for these farming systems.

These agroforestry systems were proposed because they will ensure that the project activities are not displacing already existing agricultural activities since they require only about 10% of the farmland. The project will mainly promote the establishment of strips of woodlots along the hill slopes.

### 1.3 Other Activities

WCS and Adenya are already working with these communities to support conservation and livelihood improvement activities. For example, WCS is assisting Rwanda Development Board (RDB) in its conservation efforts of Nyungwe through research and monitoring programs; institutional support and capacity building; community conservation and outreach programs; ecotourism development; development of park infrastructure and sustainable financing opportunities. In an effort to link local communities to the conservation of Nyungwe N.P, PCFN supports community projects including beekeeping associations and improving quality and production of honey; local cooperatives and handicraft production; installation of fuel-saving stoves; conservation education and awareness building based on site-level strategy. The proposed carbon sequestration project will be introduced as part of a wider conservation and livelihoods improvement programme.

## 2 Target groups/communities

The project is targeting small – scale landholding farmers (averaging 0.68ha per household) neighbouring Nyungwe National Park in Nyaruguru District. These are perhaps the poorest and geographically most isolated communities in Rwanda. Households depend on crop production, casual laboring and group savings as their major sources of income. These common income-generating activities, nevertheless, register low levels of income at household level, an indication of prevalent shortage of financial capital in most families for investment in more lucrative enterprises. Current livelihood strategies and expenditure patterns emphasize short-term survival rather than long-term development priorities. Farm production cycles are also oriented towards working within relatively short, seasonal rotations, as opposed to perennial cropping systems. The proposed project will introduce tree planting as an additional livelihood strategy and thus support each participating household to design tree planting activities that meet their livelihood needs.

The communities have a history of working in organized groups. For example, WCS has been working with them in the establishment of beekeeping associations. WCS has also been working with Adenya, a local NGO through which communities have been mobilized to participate in community development initiatives. The project will borrow from this experience to mobilize farmers into carbon cooperatives through which carbon sequestered across multiple landholders would be aggregated.

### 3 Description of proposed project area – 500 words

#### 3.1 Physical environment

The project is targeting communities around Nyungwe National Park (NNP), which is situated in the south western hills of Rwanda, bordering the Republic of Burundi. The area lies within the Albertine Rift valley with an elevation ranging from 1600m to 2950. It is located in Southwest Rwanda (2°17' -2°50' S, 29°07' -29°26' E). The study area also shares borders with NNP to the east and to the south lies the Republic of Burundi.

The geology of Nyungwe is composed of very old Precambrian rocks mainly of granite, quartzite and dolerite (Storz 1982). The dolerite is the main parent rock contributing to the fertility of the soil. According to Plumptre et al (2004), areas surrounding Nyungwe National Park suffer from poor agricultural output due to soils which were previously protected by the forest becoming poor and fragile over time. Furthermore, soil exhaustion and land fragmentation are serious problems in the Nyungwe hills. The soils are particularly vulnerable and are now being degraded because of unwise human activities. Such practices like over cultivation, cultivation on steep slopes are causing soil problems including soil erosion hence, soil infertility. The proposed tree planting project presents an opportunity to rejuvenate the currently degraded soils.

Nyungwe is one of the most significant rain forests in Africa being one of the few large extant forests remaining between the altitudes of 1,600-2,900 masl (Weber, 1989; Plumptre et al., 2002). With an area of 1,013 km<sup>2</sup>, Nyungwe N.P is one of the largest protected areas in Rwanda; and forms part of one of the largest and biologically important contiguous blocks of lower montane forests in Africa (Vedder et al, 1992; Plumptre et al, 2002). Its high altitude swamps (e.g. Kamiranzovu and Uwasenkonko) are habitats to several endemic plant and animal species. With more than 240 plant species, Nyungwe N.P is the richest forest remaining in Rwanda. It is endowed with various vegetation types e.g. savanna grassland, high altitude wetland, bamboo, montane forest, and acacia which are all habitats to unique wildlife species. The Figures 1 & 2 below show the location of the proposed project area.

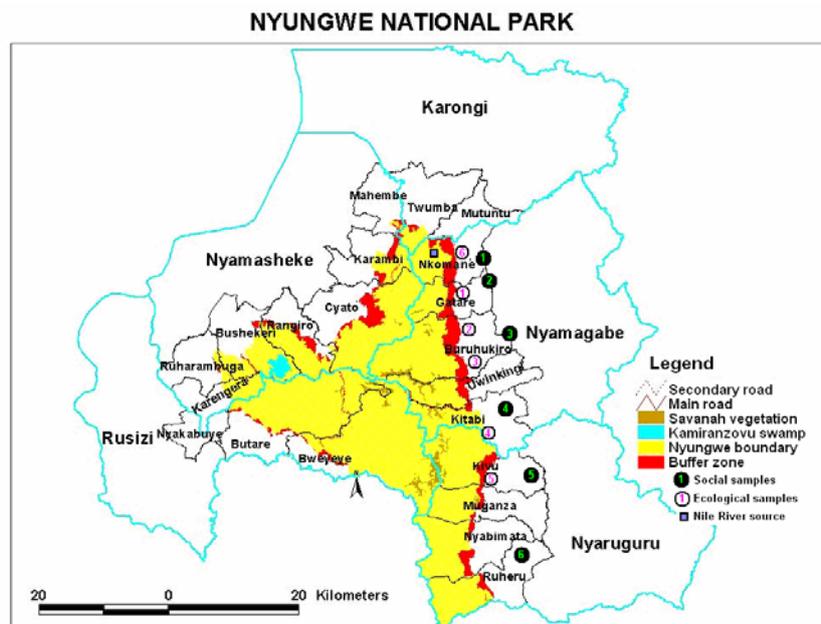


Figure 1. Map of Nyungwe National Park with the location of Nyaruguru district



Figure 2. Map Nyaruguru district the proposed project area

### 3.2 Socio-economic environment

Nyaruguru is one of eight districts which comprise the Southern Province of Rwanda. The district is located southwest of the province and covers an expanse of 1,010 km<sup>2</sup>. Administratively, Nyaruguru district constitutes of 14 sectors, 72 cells and 332 villages. The district borders the district of Huye in the east; Nyamagabe and Huye districts to the north; the Western Province and the Republic of Burundi to the west; and the Republic of Burundi to the south. The Afromontane regions in which Nyaruguru is located are among the most densely populated areas, not only in Rwanda but also in Africa (Plumptre et al, 2004). The most densely populated areas have an average population density of 400 inhabitants per km<sup>2</sup> (GOR, 2002).

The proposed project targets perhaps the poorest and geographically most isolated communities in Rwanda. Households depend on crop production, casual laboring and group savings as their major sources of income. The main crops reported by respondents include sweet potatoes, wheat, Irish potatoes, maize, beans, cocoyams, bananas, cassava, peas and cabbages. Other crops grown by less than 5% of respondent households include leafy vegetables, sorghum, eggplants, tea, passion fruits, avocado, trees, coffee, carrots, onions and sunflower. The main types of livestock kept by households are cattle, goats, pigs, sheep and poultry. Animals are reared under a strict zero grazing arrangement where owners source for fodder to feed their livestock using a cut and carry system.

WCS and ADENYA have worked with these communities mobilising them for conservation and community development initiatives. For example, WCS has mobilized beekeepers into 10 associations and 9 cooperatives through which capacity has been developed to enhance the financial viability and sustainability of their activities. These cooperatives are grouped under a union, and are registered with the Rwanda Cooperative

Agency (RCA), the national body that authorizes and regulates activities of cooperatives in Rwanda. These networks are indicative of significant social capital resources among individual members. These groups will form the basis from which carbon farmers will be recruited.

Furthermore, there are Savings and Cooperative Organisations (SACCOs) in all the sectors, which though are undercapitalized. The prospect of engaging these SACCOs in the payment of carbon farmers is mutually beneficial to the carbon project and the financial institutions. Most members of the local community have accounts with the SACCOs, which helps in transferring carbon finances to land users. The idea engaging SACCOs into the payment mechanisms on a carbon sequestration scheme presents a number of positives for the SACCOs and the local communities. The use of farmers' SACCO accounts to access carbon finances will also enhance client commitment, deter migration to other financial institutions, and provide justification for people to open accounts as opposed to where there has been no apparent benefit. The carbon funds are thus likely to improve the liquidity of the SACCOs, which in turn may also enhance their capacity to provide loans to community members at affordable interest rates.

Moreover, there are a number of institutions at national level (e.g. the DNA, REMA, RDB, MINIFOM etc.) that coordinate the procedures and activities of various projects involved in the carbon market.

***Additional information:***

As part of the process to design the proposed project, a biomass as well as socio-economic assessment has been conducted. This has produced technical information that has been used to estimate the current carbon baselines. These have also been compared with the satellite imagery to estimate the trends in vegetation cover over a period of twenty years (1988 to 2007). The results indicate that the carbon baseline is estimated to be an average of 2.6 tonnes of carbon per hectare in the absence of project activities. Most of the trees encountered during the assessment in the landscape are Eucalyptus planted sometime back on marginal lands. This is consistent with the information from the land cover analysis, which shows that forest cover both within the natural forests and plantations has been decreasing. There were no indications that the subsistence farmers are likely to reforest their land substantially without the project. It is therefore unlikely that the baseline will increase in the absence of project intervention. A copy of the biomass assessment report is attached.

<b>4 Ownership of carbon rights and land-tenure</b>
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According to the feasibility assessment, the majority of households in the proposed project area have documentation to prove they own land whose average size was about 1.7 Acres (0.68ha) per household, although a standard deviation of 103 Acres (2.5 Acres) indicates that land sizes varied widely across households. Land ownership is normally confirmed with documents signed on transfer of a parcel of land from one person to another. In case of purchase, an agreement is made between the buyer and the seller with witnesses to testify to and endorse the transfer. When land is transferred through inheritance, the will of the deceased is often considered an authoritative enough indication of rightful occupancy by the one to whom the land is bequeathed. The communities seem to be having an efficient system of confirming land ownership by the trust vested in neighbors and kindred, who intervene in case the owner's tenure over a piece of land is being challenged.

Furthermore, there is an ongoing land registration exercise in Rwanda although by the time of the feasibility assessment this process had not yet reached the project area. The project will tap into the ongoing land registration exercise to further support tenure.

## **5 Description of applicant organisation(s) and proposed governance structure 750 words**

This community carbon sequestration project is being developed by WCS Rwanda with technical assistance from the Environmental Conservation Trust of Uganda (ECOTRUST) WCS will work through community structures building on the groups that have already been mobilized to participate in the wider conservation and development initiatives mainly through L'Association pour le Development de Nyabimata (ADENYA).

### **Wildlife Conservation Society (WCS)**

WCS first started working in Nyungwe in 1985 and later created the Projet Conservation de la Foret de Nyungwe (PCFN) to develop applied research, training and tourism in the area. In order to protect the ecologically important forest, WCS assists RDB in its conservation efforts through research and monitoring programs; institutional support and capacity building; community conservation and outreach programs; ecotourism development; development of park infrastructure and sustainable financing opportunities.

In an effort to link local communities to the conservation of Nyungwe N.P, PCFN supports community projects including beekeeping associations and improving quality and production of honey; local cooperatives and handicraft production; installation of fuel-saving stoves; conservation education and awareness building based on site-level strategy. The proposed community carbon project will be developed.

### **Association pour le Development de Nyabimata (ADENYA)**

L'Association pour le Development de Nyabimata (ADENYA) is a local and rural nongovernment organization established in 1982 as a successor to the then Centre d'Animation Globale de Nyabimata (CAGN), itself established by volunteers from SVI and FDH way back in 1973. The organization's vision forecasts a rural area with all the necessities for its population's wellbeing and capacities. ADENYA strives to enable rural populations to progressively fight poverty, ignorance, misery and social injustice. The organizations values are "quality results, a spirit of openness and participation". ADENYA's activities are concentrated in Nyabimata sector where the organization's offices are situated. However, different projects/interventions are scattered throughout the South Province of the country.

### **Environmental Conservation Trust of Uganda (ECOTRUST)**

ECOTRUST has extensive experience with supporting communities to develop capacity in addressing environmental conservation issues. Since its inception, ECOTRUST has been supporting communities to come up with innovative ways of improving livelihoods through sustainable environmental management approaches. ECOTRUST has for about a decade been promoting one of the most successful cooperative carbon offsetting schemes,- Trees for Global Benefits, linking small scale landholder farmers to the voluntary markets.

Below is a summary of the key responsibilities in a Plan Vivo project.

#### **Adenya Administrative**

- Registration and recording of plan vivos and sale agreements;

- Managing the use of project finance in the Plan Vivo and making payments to producers;
- Coordinating and recording monitoring;
- Evaluating and monitoring plan vivos;
- Conducting preliminary discussions and continued workshops with communities;
- Helping groups/individuals to demonstrate land-tenure;
- Advising on issues such as mobilisation, setting up bank accounts, dispute resolution etc.

#### **WCS Technical**

- Providing technical support and training to producer organisations in planning and implementing project activities;
- Developing, reviewing and updating forestry and agroforestry systems (technical specifications);
- Negotiating sales of Plan vivo Certificates;
- Reporting to the Plan Vivo Foundation;
- Contracting project validation and verification;
- Managing project data.

#### **ECOTRUST : External Technical Support/Project Development Services**

ECOTRUST has been involved right from the beginning providing technical assistance to develop certain aspects of the project. ECOTRUST will continue providing assistance in the following areas:

- Assisting in technical aspects of project design and development;
- Providing training to project technicians;
- Developing carbon modelling and technical specifications
- Gathering socio-economic information for project registration and reporting purposes;
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### **6 Community-led design plan submitted 300 words**

The project has been preceded by an extensive consultative process that was a major part of the feasibility assessment. The process included a rapid rural appraisal (RRA). The RRA combined the community survey (in four villages) and institutional surveys (4 SACCOs, District departments, Conservation organizations etc). This component mainly involved focus group discussions (FGDs); key informant interviews (KIIs) and transect drives/walks. A checklist of issues guided the data collection exercises to generate information that was principally qualitative data (e.g. community profiles, land tenure dynamics and conflict resolution mechanisms, local perception of tree growing, agricultural production and other livelihood constraints, and issues to do with community institutions). The information generated during these assessments have been used to generate recommendations on desired farming systems, project management guidelines,

The project will continue involving stakeholders from local to national level in refining the project design. The process will include, stakeholders' workshops, consultative meetings, field visits etc. Project participants will be facilitated to form organized farmer groups through which the views and priorities of communities will continue to influence the decision making process of the project throughout its development and implementation. These farmer groups will have leadership structures, and the leaders will be responsible for mobilizing the community to meet on a regular basis (among themselves and with the project staff).

## **7 Additionality Analysis Provided 300 words**

This project is an initiative of a collaboration between WCS Rwanda and Rwanda Development Board (RDB) to promote sustainable biodiversity conservation in and around Nyungwe National Park. The project seeks to reduce deforestation in this area and it is not a result of any legislative decree. The feasibility assessment indicates that tree planting using carbon credits as an incentive would be highly additional. The Socio-economic assessment observed very limited tree planting activity in the project area. Farmer's inability to access planting material was identified as a big challenge to tree growing, although land shortage and high rates of tree mortality are also major concerns. When asked, which stages of tree growing they found most problematic, the majority (88%) of farmers indicated accessing planting material as the major challenge. Many did not indicate facing any other challenges in subsequent stages, although this was largely because of non involvement rather than conduciveness of the context within which those stages would have taken place. The proposed project will be introducing strategies to address these barriers to tree planting. Attached is a copy of the detailed socio-economic assessment report

## **8 Compliance with regulations and notification of relevant bodies**

The project developers have since inception working with Rwanda Environmental Management Authority (REMA) as well as the Rwanda Development Board (RDB). REMA serves as the secretariat of Designated National Authority (DNA) of Rwanda, responsible for coordinating carbon projects. The DNA Secretariat has CDM Project Approval Procedures, which have been officially approved by the DNA Steering Committee consisting of members from public, private, non-profit and academic institutions.

REMA is currently working on VCM project approval procedures to ensure that all VCM projects in Rwanda contribute to sustainable development and apply an established voluntary carbon market standard which requires the use of an independent 3rd party auditor to certify emissions reductions.

REMA has participated in the development process through the stakeholder consultations and review of the Project Idea Note.

For projects in national parks, it will also be crucial that is involved as the management of national parks fall under the jurisdiction of RDB. Furthermore, the Ministry in Charge of Forest and Mines (MINIFOM) will also be kept involved in forestry related projects.

## **9 Sources of start-up funding identified**

The project start up costs are provided by USAID under a World Conservation Society (WCS) managed project for the conservation of Nyungwe National park. The WCS Rwanda in collaboration with the Rwanda Development Board (RDB) is undertaking activities to promote sustainable biodiversity conservation in and around Nyungwe National Park (NNP). A carbon sequestration project has been proposed as a strategy for generating conservation finance and reducing pressure on the park. In this endeavor, the Plan Vivo system – a multi-institutional framework for managing voluntary carbon credits is to be adopted.