1. Key development issues and rationale for Bank involvement

The United Nations Convention on Climate Change (UNFCCC) was adopted at the Rio de Janeiro Earth Summit in June 1992 and subsequently entered into force in March 1994. Its Kyoto Protocol was adopted in Kyoto, Japan in December 1997. It commits the industrialized countries (Annex I countries) to reduce their emissions of greenhouse gases (GHG) by an average of 5.2 percent below their 1990 emission levels during the commitment period of 2008-2012. The Kyoto Protocol established three market-based mechanisms to help the industrialized countries meet these obligations, including Joint Implementation (JI), under Article 6, for investments in projects in other Annex I counties (primarily economies in transition), which reduce emissions of GHG.

Romania was the first industrialized country to ratify the Kyoto Protocol in 2002 and has since then engaged in several JI projects in the energy, industrial and forestry sectors.

One of Romania’s early JI partners is the World Bank’s Prototype Carbon Fund (PCF), a fund of US$ 180 million created by 23 private companies and 6 governments, which has become a benchmark for carbon finance projects. In all its projects, the PCF enhances cash flows by purchasing GHG emission reductions (ER).

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1 http://www.CarbonFinance.org
Prototype Carbon Fund Experience

One of the PCF’s projects is the Romania Afforestation of Degraded Agricultural Land Project. It provides for the afforestation by the National Forest Administration (NFA) of an area of 6,033 ha of degraded agricultural land, under NFA’s administration, at sites located in 7 counties in the Southwest and Southeast of Campia Romana, and for the ecological restoration of a portion of the Lower Danube Plain (Insula Mica a Brailei), through the planting of local species, thereby supporting environmental conservation both locally and at a global level. The species were selected in accordance with the specific conditions of the site and with the targeted objectives (fertilization, land stabilization, ecological reconstruction). The PCF is paying the NFA a price of US $3.6 for each ton of carbon dioxide equivalent (CO2e) (US$ 13.2 per tonne of carbon) sequestered by the project in above- and below-ground biomass and in soils. Each tonne sequestered is called an ER. The ER purchase agreement for this project was signed on September 29, 2003.

BioCarbon Fund

To build on the success of the PCF, the World Bank has launched the BioCarbon Fund, which will focus on providing carbon finance for projects that sequester or conserve greenhouse gases in forests and agro-ecosystems. It is designed to ensure that developing countries, and countries in transition, have an opportunity to benefit from carbon finance in forestry, agriculture and land management. The Fund will help reduce poverty while reducing greenhouse gases in the atmosphere.

The BioCarbon Fund will test and demonstrate how land use, land-use change and forestry (LULUCF) activities can generate high-quality ERs with environmental and livelihood benefits that can be measured, monitored and certified, and stand the test of time.

The Fund represents an important opportunity for the World Bank to simultaneously promote the objectives of the United Nations Convention on Biological Diversity (CBD) and the United Nations Convention to Combat Desertification (CCD), to improve rural livelihoods, and to contribute to the sustainable development objectives of Host Countries, including their activities regarding adaptation to the impacts of climate change. The BioCarbon Fund will also show how LULUCF can help mitigate climate change while other technological options are being developed.

The BioCarbon Fund is expected to begin operations in June 2004 and deliver emission reductions as early as 2004-2005. A typical BioCarbon Fund project will be proposed by an entity associated with the host country such as a private company, an NGO or community group, a government agency or an international partner. A BioCarbon Fund project will be expected to deliver between 400,000 and 800,000 tonnes of CO2e (carbon dioxide equivalent) over a period of 10 to 15 years. Some upfront payment may be possible in some projects subject to an appropriate discount. Usually the finance from the BioCarbon Fund is only a portion of the total finance for the project with the rest usually raised by the project proponents.
This project would seek to capitalize on the success of the PCF project, and contribute to the Romanian government’s objectives for a national system of forested shelterbelts. Shelterbelts protect against wind and soil erosion, increase moisture retention, enhance biological diversity, and improve microclimatic conditions. Ultimately shelterbelts improve soil productivity and agricultural yields. Shelterbelts are an effective store of carbon as they build dense strips of vegetation, while often not taking land away from production. Shelterbelts are also important in meeting EU accession requirements for forested land adjacent to new highways. The Romanian government promotes the establishment of forest shelterbelts near settlements, along roads, on crop land and along irrigation systems. Legislation supporting such establishment includes Law No. 289 “Forest Shelterbelts” (May 15, 2002), Governmental Resolution No. 547 (May 17, 2003) on the establishment of a national system of shelterbelts, and the draft “National Strategy and Action Programme Concerning Desertification, Land Degradation and Drought Prevention and Control” (2000).

At the weekly video-conference with the Prefects held on January 24, the Romanian Prime Minister declared that the establishment of protection forest shelterbelts in the vicinity of public roads is a priority for the Government in light of the damages (including loss of human lives) caused by the 2004 winter snowstorms. At the following Cabinet meeting (February 5, 2004), the Cabinet approved the Governmental Decision regarding the framework content of the studies for the establishment of protection forest shelterbelts, in order to speed up their establishment process.

The Bank, as the trustee of the BioCarbon Fund, is uniquely qualified to provide the incremental financing required for the government to meet the above objectives.

2. Proposed project development objective(s)

The objective of the project is to establish forest shelterbelts near settlements, along roads, on crop land and along irrigation systems, as a way to improve microclimates and control droughts, which have become more prevalent over the recent decades, as well as contribute to mitigation of climate change.

3. Preliminary project description

The project has one component: Establishment of Forested Shelterbelts. Approximately 3,000 hectares (ha) of forest shelterbelts (windbreaks) in sixteen counties throughout Romania will be planted with a variety of locally appropriate species. Species planted would include trees, e.g. \textit{Robinia pseudoacacia}, \textit{Gleditschia triachantos}, \textit{Prunus cerasifera}, \textit{Prunus avium}, \textit{Juglans regia}, \textit{Eleagnus angustifolia}, \textit{Salix} sp., and possibly \textit{Quercus} sp., and shrubs, e.g. \textit{Rosa canina} and \textit{Crataegus monogyna}. The BioCarbon Fund would then purchase the emissions reductions (ERs) generated by the planting.
Details of the total amount of carbon to be sequestered will be determined on the basis of feasibility studies, and the baseline study which follows. The initial expectation is that approximately 300,000 tons of CO2 equivalent will be sequestered.

Shelterbelts do not typically occupy large, discrete blocks of land. They range from 2 meters to as much as 30 meters in width, primarily on field boundaries and along roadsides. Given the average field size and the extent of farm perimeters in the project area, they are unlikely to cover more than 3 percent of a given farm’s arable land. This ratio may be even lower for forest shelterbelts along roads. Therefore, in order to establish 3,000 ha, numerous partners will have to be found. Project partners will mostly consist of private individual owners and communal farm operators, or in some instances, municipalities. The exception would be along roadways, where the land is owned by the state. It should be noted that in no case will the project acquire any land. Further, participation in the project is strictly voluntary, and this point is especially important in regards to involvement of communities, compared to individual owners. The Feasibility Studies under the Japanese PHRD Grant are the main vehicle to identify willing partners. Recommendations for project sites will exclude those areas where the communal owners are not agreed on the benefits from planting the trees.

In the early phase of the PHRD, determination will be made of the exact mechanisms by which financiers, communities and individuals will receive payments related to carbon sequestration. This payment mechanism will be very important in terms of demonstrating to project partners that their participation will yield direct financial benefits. Successful models for community reimbursement in Moldova will be studied for applicability, and new methods will have to be agreed for payment to individuals who agree to shelterbelt establishment on their lands.

Depending on the preferences of local communities on whose land the project would be implemented, measures could also be supported that enhance carbon sequestration through better agricultural techniques such as reduced tillage, while also achieving other environmental benefits.

4. Safeguard policies that might apply

The project is expected to trigger OP/BPs 4.01 (Environmental Assessment), and 4.09 (Pest Management (triggering of 4.12 (Involuntary Resettlement) has to be determined). During the implementation of the PHRD, social and environmental assessments, conducted in a highly participatory manner, will further define the issues that need to be addressed and mitigating measures to be incorporated in the project. If it is determined that access restrictions are an issue, a Process Framework will be used to mitigate the impact of these restrictions. In any case it should be emphasized that there is no land-taking involved in the project; participation in the project is fully voluntary, and plantations will only be established in areas where the individuals or the community have agreed.
5. Tentative financing

Source: ($m.)
BORROWER/RECIPIENT  6
BIOCARBON FUND  1.2
JAPANESE PHRD GRANT (for preparation)  0.6

Total  7.8

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