

Environmental and Labor Issues.

This is a category III project according to the IIC's environmental and labor review procedure because it could produce certain effects that may be avoided or mitigated by following generally recognized performance standards, guidelines, or design criteria. The principal environmental and social issues related to this project include sustainable forestry practices, air emissions, wastewater, solid waste, noise, occupational health and safety, fire safety, emergency response, and labor issues.

Maderas Cultivadas de Costa Rica (MCC) is part of the Grupo Los Nacientes group, which also includes Reforestación Industrial Los Nacientes (RIN) and Maderas Cultivadas de Centro América (MCCA), among others. The group's plantations are located principally in northern Costa Rica, in the cantons of San Carlos, Los Chiles, and Sarapiquí, and in the department of Río San Juan in southern Nicaragua.

RIN has been FSC certified for good forest management since February 2001 and was recertified in May 2006. MCC's industrial operations have FSC chain-of-custody certification, which guarantees that MCC's products are made of certified wood from plantations that are run according to good forest management principles. Both certifications are valid until 2011. The FSC is a nonprofit, nongovernmental organization that promotes sustainably managed forests through independent third-party certification. FSC certification ensures that forest plantations and resources are managed in an environmentally appropriate, socially just, and economically viable manner. At the IIC's request, the borrower will maintain current FSC certification for its forestry operations in Costa Rica and obtain certification for its forestry operations in Nicaragua.

Sustainable Forestry Practices: These practices consist of reforesting land previously used for farming and managing sustainable forest plantations for commercial lumbering. The principal species used for reforestation is melina (*Gmelina arborea*), followed by teak (*Tectona grandis*) and acacia (*Acacia mangium*), plus, to a lesser extent, other species. The properties are used for forestry (forest plantations and protection of natural forests), industrial activities, and administrative operations (housing, offices, warehouses, and others). There are no indigenous communities in the area of influence of the plantations and natural forests managed by the company, and no culturally or historically significant sites were identified during the most recent inspection, which was carried out by the certifying agency in July 2008. Operations include nurseries, planting seedlings from the nurseries, maintaining plantations for obtaining wood, and transporting and processing the wood.

The forest plantations and wood processing plant, located in the municipality of San Carlos, Costa Rica, have all of the requisite authorizations. These include operating permits issued by the health (Ministerio de Salud) and environmental and energy (Ministerio de Ambiente y Energía, or MINAE) authorities, respectively. Since 2001, reforesting operations in Costa Rica have been certified for forest management practices by the FSC, an independent, international agency. The certification, which is valid until 2011, covers 7,945 hectares including plantations (4,410 hectares) and natural forest in the northern part of the province of Alajuela, and in the Saraquí canton (Heredia province) and the Santa Cruz canton (Guanacaste province). The production of sawn wood for furniture, laminated boards and beams, construction lumber, and other products from sustainable forest plantations holds FSC chain-of-custody certification. This certification ensures that MCC products come from certified melina wood from plantations managed in keeping with good forest management practices.

Methods approved by the certifying agency have always been used for pest control. Among other products, pesticides containing the active ingredient chlorpyrifos have been used in minimal amounts under carefully controlled conditions to control leaf cutter ants (*Atta* sp) when plantations and other products have been in danger of significant damage from this pest and biological methods

did not work. Chlorpyrifos was recently added to the list of products whose generalized use is not authorized by the FSC. However, a response justifying its use and requesting that the FSC grant an exception in this particular case has been sent.

Maderas Cultivadas de Centro América carries out reforestation activities with the species melina (*Gmelina arborea*); it has forest plantations in southern Nicaragua. MCCA currently has 1,918 hectares planted in *Gmelina arborea*, i.e., 62% of a total area of 3,084 hectares. The remaining 38% of the land is a forest protection area that MCCA has conserved in keeping with Nicaraguan forestry law. The project to be financed with support from the IIC will make it possible to increase the plantation area by purchasing land in Nicaragua where MCCA has an environmental management plan approved by the environmental authority Ministerio del Ambiente y los Recursos Naturales (MARENA). The environmental management plan was implemented in 2006, as was confirmed by forestry authorities and MARENA during the project evaluation visit. In compliance with Nicaraguan forestry law, the plantations are registered with the forestry authority Instituto Nacional Forestal (INAFOR) and have been approved by the city environmental council and INAFOR. Inspectors from these national and municipal agencies have made numerous field visits to the planted areas. The existing plantations are in a farming and cattle-raising area. Purchasing new land for reforestation will not involve resettling because the land will be purchased from people who have owned the farms for more than thirty years. MCCA has carried out flora and fauna and carbon fixation studies in the melina plantations; it also has abundant data supporting melina as a noninvasive species. MCCA seeks to replicate in Nicaragua the sustainable forestry plantation management model that has been successfully established in Costa Rica. As part of the project to be carried out with financing from the IIC, the Borrower will develop a plan for obtaining FSC certification for all of its forestry operations in Nicaragua.

Air Emissions: Air emissions from the plant are primarily a result of combustion processes in two, 1,000-HP boilers. The boilers rely on biomass as their energy source; both have cyclone separators to significantly reduce particulate matter emission levels. The boilers are inspected yearly and hold the pertinent operating permits. The company runs emissions tests on the combustion gases, and the results show compliance with domestic regulations.

Solid Waste: Most of the solid waste is scrap wood and lumber, dry shavings, and sawdust, which are used to fire the boilers. Other waste, such as metal, paper, glass, and plastic, is stored temporarily for reuse or sale to external recyclers. Office, cafeteria, and restroom refuse is collected and disposed of by the city sanitation service.

Wastewater: Domestic wastewater from the administrative offices and the cafeteria is discharged into septic tanks for treatment. Industrial wastewater consists of washwater and contains solids in suspension and leachates from wood shavings. This wastewater is channeled to a series of biological oxidation ponds for treatment prior to discharge into a body of water. Effluent quality in the ponds is checked regularly by means of chemical tests carried out by an authorized laboratory.

Fire Protection and Emergency Response: The plantations and forests have fire prevention plans and firebreaks, and workers are trained in conjunction with MINAE in Costa Rica and MARENA in Nicaragua. The industrial plant has a firefighting system consisting of a network of hydrants and hoses connected to a water tank. There are also strategically located extinguishers and an alarm system. Training in firefighting and related equipment is offered regularly, and firefighting drills are held. Nevertheless, the company should ensure that replacement extinguishers are on hand in all areas during extinguisher refilling and maintenance.

Occupational Health and Safety: All employees working in high noise areas must wear ear protection devices. Workers receive training in order to integrate safe workplace practices and

ensure that all workers use the appropriate protective gear, such as safety gloves, dust masks, and earplugs. The machinery has the requisite guards. Workers are provided with health care and first aid services. All work-related accidents are recorded and analyzed immediately and thoroughly. Gasoline and diesel fuel storage tanks at processing centers are above ground and have dikes to contain leaks or spills; these tanks are in restricted access areas. However, the company needs to ensure that signs in the finished product warehouse and forklift areas are replaced upon completion of floor maintenance work in the laminates and planks areas.

Labor Issues: It is company policy not to employ minors. Employees receive social security benefits; the wages paid by the company are above the national minimum wage for the sector. The facilities have rest rooms with running water and soap for worker hygiene. Nevertheless, the company will ensure that the restrooms and showers for plant workers are clean and in good working order. The cafeteria is in good working order; the workers are provided with hot meals. Although there are no labor unions at present, there is an employee solidarity association to protect workers' economic, social, and cultural interests. Hiring policies and procedures are in place, and new employees attend an induction course covering labor policies and procedures, including occupational safety and health practices. Ministerio de Trabajo approval of the internal regulations has been requested.

Monitoring and Annual Reporting: The borrower will develop an action plan and a timeline for the following: i) applying for and obtaining FSC certification for all the forestry operations in Nicaragua; and ii) improving the occupational health and safety issues mentioned herein. The borrower shall also maintain current FSC certification for the sustainable management of plantations and natural forest, as well as chain-of-custody certification for its operations in Costa Rica. The plan will describe who will be responsible for monitoring the implementation of these measures. The borrower will submit annual reports summarizing monitoring data showing that its facilities continue to comply with domestic law and IIC environmental standards in the following areas: sustainable forestry practices, air emissions, wastewater, solid waste, noise, occupational health and safety, fire safety, emergency response, and labor issues.