

Country Name	Participatory Forest Management													
Republic of Nicaragua														
I. Project Outline														
Background	<p>In Nicaragua, the forest coverage sharply decreased from 7 million ha in 1940s to 3.3 million ha in 2007 according to the survey by the National Forest Institute (INAFOR: Instituto Nacional Forestal). The serious deforestation inducing soil erosion and destruction of nature had been caused by large scale logging, disordered exploration by traditional swidden cultivation, transformation to cultivated land for cotton and sugar cane production. At the same time, disaster control based on recover of water and soil conservation function through forest management and forestation in the river basin areas became an urgent issue in order to mitigate damage of natural disasters such as hurricanes. Under this situation, the government of Japan conducted a development study, “the Master Plan Study on Forest Management for Disaster Prevention in the Northern Pacific Region in the Republic of Nicaragua”, supporting elaboration of participatory forest management plan and implementations during the period from 2000 to 2004. Based on the results of the study, the government of Nicaragua requested the government of Japan a technical cooperation project aiming at capacity building of local people for forest management as well as establishing supporting system based on collaboration between INAFOR and the Municipal Environmental Offices.</p>													
Objectives of the Project	<p>Through preparation of the Forest Management Plan for Disaster Prevention in the 9 target villages of the three target municipalities in León Prefecture, establishment of administrative support system in the 3 target municipalities as well as trainings on participatory forest management for the staff of INAFOR and municipal staff and on forest management and soil and water conservation for the target villagers, the project aimed at implementing forest management and water/soil conservation activities in the 9 target villages, thereby contributing to improvement of soil and water conservation in the watershed areas in the 3 target municipalities. The project objectives are as follows:</p> <ol style="list-style-type: none"> Overall Goal: Soil and water conservation will be improved through forest management activities of the villagers in the three target municipalities (San José de Achuapa, El Sauce and Santa Rosa del Peñon). Project Purpose: Sustainable forest management activities by participants will be promoted in the target communities in the three target municipalities. 													
Activities of the project	<ol style="list-style-type: none"> Project Site : 9 villages of 3 target municipalities in León Prefecture (San José de Achuapa Municipality: 1) Gauanacaste, 2) Las Lajas, 3) El Pajarito – Las Brisas , El Sauce Municipality: 4) Cerro Colorado, 5) El Guayabo, 6) El Cacao, Santa Rosa del Peñon: 7) Talolinga, 8) El Coyol, and 9) El Charco) Main Activities: 1) Guidance for formation of villagers’ groups and formulation of disaster prevention and forest management plan under participation of the villagers, 2) Setting up of “Joint Technical Team” (ETC: Equipo Técnico Conjunto) composed of INAFOR and the target municipalities for promotion of participatory forest management activities, 3) Technical transfer of management and technical skills for forest management to the INAFOR and the municipal officers as well as the villagers, 4) Environmental education in the target villages by INAFOR and the municipal environmental offices of the target municipalities Inputs <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Nicaraguan Side</td> </tr> <tr> <td>1) Dispatch of Experts: 5 persons</td> <td>1. Staff allocated: 10 persons</td> </tr> <tr> <td>2) Acceptance of trainees in Japan: 1 person</td> <td>2. Land and facilities: project office, electricity, water supply</td> </tr> <tr> <td>3) Third Country Training: 7 persons</td> <td>3. Local cost, salaries to counterpart personnel, training cost</td> </tr> <tr> <td>4) Provision of equipment: PCs, Motorbikes, Pickup trucks, Copy machine, digital cameras</td> <td></td> </tr> </table> 				Japanese Side	Nicaraguan Side	1) Dispatch of Experts: 5 persons	1. Staff allocated: 10 persons	2) Acceptance of trainees in Japan: 1 person	2. Land and facilities: project office, electricity, water supply	3) Third Country Training: 7 persons	3. Local cost, salaries to counterpart personnel, training cost	4) Provision of equipment: PCs, Motorbikes, Pickup trucks, Copy machine, digital cameras	
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Ex-Ante Evaluation	2005	Project Period	January, 2006 – January, 2011	Project Cost	(Ex-ante) 190 million JPY (Actual) 194 million JPY									
Implementing Agency	National Forest Institute (INAFOR)													
Cooperation Agency in Japan	Japan Forest Technology Association													

II. Result of the Evaluation**<Special Perspectives to be Considered in the Ex-post Evaluation>**

[Verification of the Overall Goal]

- The target year of the Overall Goal: The Ex-ante evaluation summary drafted in June, 2005 (not officially published by the time of ex-post evaluation) mentioned the target year for the Overall Goal was 2024 according to the PDM without version number attached to the Minutes of Meeting for the Preparatory Study in March 2005. However, in the PDM 1 officially agreed between JICA and the Nicaraguan side (attached to R/D on November 2005) and the PDM 2 revised in 2006 never mentioned the specific target year for the Overall Goal. Therefore, by this ex-post evaluation, the achievement of the Overall Goal is verified only at the time of ex-post evaluation.

- The verifiable indicators in PDM2: The narrative summary of the Overall Goal and its indicator are not consistent. While the narrative summary is “improvement of water and soil conservation”, the indicator is “promotion of the forest management activities in the three target municipalities”. Since the improvement of soil and water conservation can be attained by the promotion and dissemination of the forest management activities in the municipalities, it seems rational to verify achievement of the Overall Goal by the indicator defined in PDM Ver.2 of the activities based on the forest management plans. The improvement of soil and water conservation is verified as other impact by this ex-post evaluation.

1 Relevance

<Consistency with Development Policy of Nicaraguan Government at the time of ex-ante evaluation and the project completion>

The project was consistent with the Nicaragua’s development policy of “environmental sustainability and forest development to promote sustainable development based on the protection and restoration of the environment as well as disaster prevention to reduce vulnerability and mitigation of impacts of disaster” as set forth in the policy documents including the Forest Development Policy (Politica de Desarrollo Forestal) (2000) and the Updated National Human Development Plan (2009-2011).

<Consistency with Development Needs of Nicaragua at the time of ex-ante evaluation and the project completion>

The project met the development needs of Nicaragua as well as the communities in the watershed area to cope with the serious deforestation and to restore soil and water conservation function in the watershed areas.

<Consistency with Japan’s ODA Policy for Nicaragua at the time of ex-ante evaluation>

The project was consistent with the Japan’s Country Assistance Plan for Nicaragua (2000) to support disaster control including watershed management.

<Evaluation Results> In the light above, the relevance of this project is high.

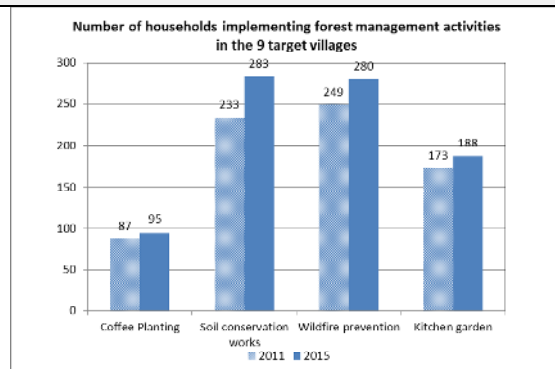
2 Effectiveness/Impact

<Status of Achievement of the Project Purpose at the time of project completion>

The Project Purpose was achieved by the project completion. Through the project activities, the Forest Management Plans for Disaster Prevention were formulated in the 9 target villages under the participation of the villages and 79% of the households involved in the project started to implement their individual action plans¹ for forest management activities, such as coffee planting, soil conservation works, wildfire prevention and kitchen garden, introduced by the project.

<Continuation Status of the Project Effects at the time of ex-post evaluation>

All the 9 target villages have kept and updated the Forest Management Plan for Disaster Prevention. While the number of households having or updating the individual action plan decreased from 257 in 2011 to 241 in 2015, the total number of households continuously implementing the forest management activities increased from 215 in 2011 to 241 after the project completion. Namely, all the households with their individual action plan implemented their forest management activities in 2014. Also, in the 9 target villages, the number of households practicing each activity increased during the same period (See the graph). The municipal environmental offices of the 3 target municipalities and INAFOR have continuously supported the villages through monitoring, facilitation and guidance. In addition, the environmental education introduced by the project (150 village workshops and 135 times at schools) has been implemented in the 3 target municipalities by INAFOR, or the municipal environmental offices, village leaders, professors, NGO, and so forth. Also, the low cost model activities introduced by the project have facilitated the communities to keep and extend the participatory forest management activities.



<Status of Achievement of the Overall Goal at the time of ex-post evaluation>

The Overall Goal has been achieved. Additional 12 villages other than the 9 target villages in the 3 target municipalities introduced the forest management activities at community level as well as individual level with the direct support of the municipal environmental offices in the 3 target municipalities and INAFOR. 6 villages out of the additional 12 villages formulated a plan for disaster prevention including forest management with support of the municipal environmental offices and INAFOR and the leadership of the National System for the Prevention, Mitigation and Attention of Disaster (SINAPRED). In addition, 123 households in the additional 12 villages elaborated their action plans and have been implementing the forest management activities since the community promoters² and community leaders of the 9 target villages have encouraged neighboring communities to implement the forest management activities through community visits and exchanges of experiences.

<Other Positive and Negative Impacts>

According to the interviews with community leaders in the 9 target villages, the technical delegates of INAFOR for León Prefecture as well as the Municipal Environmental Office of the three target municipalities, the forest management activities in the 3 target municipalities brought about various positive changes in the areas, such as improvement of soil and water conservation, reduction of uncontrolled logging, reduction of wildfire, reduction of swidden cultivation, and so forth. Also, agricultural productivity, including coffee production, increased in the villages implementing the forest management activities. Due to those positive impacts, the participatory forest management activities introduced by the project, such as participatory planning and implementation of action plan for forest management at village level as well as at individual level, have been disseminated to other areas of Nicaragua as an effective model under the Nicaraguan government strategy of “Community Forest (Forestería Comunitaria)”. For example, the participatory forest management activities based on the approach introduced by the project have been promoted in La Paz Centro, Quezalguaque, and Nagarote under this government strategy. Furthermore, the community activities introduced by the project contributed to promotion of the community based production or economic activities, such as a tourism project by a cooperative and organic coffee production and certification by a coffee cooperative in El Sauce. No negative impact on natural environment was observed and no land acquisition and resettlement was occurred by the project.

¹ Individual action plans is prepared and updated annually by the villagers in accordance with annual action plan at village level.

² The community promoters are human resources in the communities who have been trained by the project. They are engaged in activities including coordination with INAFOR and the municipal environmental offices and extension of forest management to other communities on a voluntary basis.

<Evaluation Results>

The project achieved the implementation of the participatory forest management activities to improve soil and water conservation in sustainable manner in the target municipalities and contributed to promotion of them in Nicaragua. Therefore, effectiveness/Impact of the project is high.

Achievement of project purpose and overall goal

Aim	Indicators	Results
(Project Purpose) Sustainable forest management activities by participants will be promoted in the target communities in the three target municipalities.	50% of the households involved implement forest management activities by sustainable measures and with their initiatives.	<u>Status of achievement: achieved</u> (Terminal Evaluation) <ul style="list-style-type: none"> 79% of the households (257 out of 326 households) involved in the project at the time of project start implemented their action plans for the forest management activities in 2009. (Ex-post Evaluation) <ul style="list-style-type: none"> The total number of households continuously implementing the their action plan for the forest management activities in the target 9 villages increased from 215 in 2011 to 241 in 2015.
(Overall goal) Soil and water conservation will be improved through forest management activities of the villagers in the three target municipalities (San José de Achuapa, El Sauce and Santa Rosa del Peñon).	The forest management activities are implemented in the communities located in the middle and upper areas of the basins of the municipality involved.	<u>Status of achievement: achieved</u> (Ex-post Evaluation) 12 villages in the 3 target municipalities (El Sauce: 5 villages, Santa Rosa del Peñon: 3 villages, San Jose de Achuapa: 4 villages) besides the 9 target villages have implemented the following forest management activities: <ul style="list-style-type: none"> Coffee planting: 87 households in 12 villages Soil conservation works: 122 households in 12 villages Wildfire prevention: 131 households in 12 villages Kitchen garden: 124 households in 12 villages

Source : Terminal Evaluation Report, Interviews with the technical delegates of INAFOR, Municipal Environmental Offices of El Sauce, Santa Rosa del Peñon, community leaders of San José de Achuapa and the community promoters of the target villages at the time of ex-post evaluation

3 Efficiency

Although the project period was as planned (ratio against the plan: 100%), the project cost slightly exceeded the plan (ratio against the plan: 102%) due to the additional cost to cover the additional activities in the neighboring communities, including technical support by the local NGO collaborating with the project and provision of necessary materials and tools. Therefore, efficiency of this project is fair.

4 Sustainability

<Policy Aspects>

The participatory forest management activities for disaster prevention introduced by the project have been endorsed by the Plan for the Disaster Prevention and Mitigation under the National Risk Management Program (2010-2015). Also, the Forest National Program of INAFOR (2010-2014), which promoted community participation for dissemination of sustainable forest management activities, is in the process to upgrade. In addition, the Master Plan on Forest Management for Disaster Prevention, elaborated by the technical cooperation of JICA, has been effective to promote the participatory forest management activities.

<Institutional Aspects>

The organizational structure of INAFOR was changed and the special team for implementing the Master Plan on Forest Management for Disaster Prevention (UTT-PPM: Unidad Técnica Territorial-Proyecto Plan Maestro) has already stopped working. However, INAFOR set up the technical team functioning as UTT-PPM and the local office of INAFOR has continuously supported the participatory forest management activities. Also, INAFOR has collaborated with the Municipal Environmental Offices as well as Ministry of Environment and Natural Resources (MARENA: Ministerio de Ambiente y Recursos Naturales) and SINAPRED for implementing forest management activities in the 3 target municipalities. As of April, 2015, 2 technical officers in INAFOR are deployed for the 3 target municipalities and 3 are deployed for Quezalguaque, Nagarote, La Paz Centro and other areas. However, at the same time those technical officers are responsible for other municipalities, and also they have not only forest management activities rather many other duties at the areas in charge, so INAFOR considers that at least one technical officer in charge (for the participatory forest management) needs to be deployed for each municipality in order to conduct necessary monitoring for the participatory forest management. While there was no change in the Municipal Environmental Office in Santa Rosa del Peñon and San José de Achuapa, El Sauce established the Environmental Management Directorate with 3 divisions. Same as INAFOR, however, the number of staff at municipality level is not sufficient to provide necessary support for communities in terms of the participatory forest management activities. At community level, the forest management activities have been sustained by the group activities with active leaders in the 3 target municipalities. All the 12 working groups organized by the project have been in active for the forest management activities, such as coffee planting, soil conservation works, wildfire prevention, kitchen garden. Also, the village leaders and the leaders of the working groups have continuously promoted the activities not only in the 9 target villages but also other villages.

<Technical Aspects>

The staffs of INAFOR and the municipal environmental officers in the 3 target municipalities trained by the project have sustained their skills and knowledge to support communities for the participatory forest management activities through the continuous support activities, such as support for delivering the forest management trainings in communities and extension of the forest management activities in other areas of the country despite of no periodical training system. The guidelines and manuals on the participatory forest management developed by the project have been utilized at the institutional level such as INAFOR for other programs including CAVAMA (value chain for the wood at south Caribbean Coast). At the community level, those materials were utilized for the forest management activities in the 3 target municipalities until 2014. After that, two of them (El Sauce and San José de Achuapa) currently use other manuals and/or guides under the supports by other donors or the government program for the forest management activities introduced by the project while Santa Roa del Peñón still use them for activities in the target villages and the neighboring communities. Also, the villagers who participated in the project activities have sustained their skills and knowledge to continue the forest management

activities. They have training opportunities at the field technical schools conducted by the government and others training provided by NGOs.

<Financial Aspects>

Although INAFOR has reduced the budget for forest management activities, 100,000 Córdoba, which comes from the general budget of the country as subsidy, have been annually allocated for implementation of the forest management for disaster prevention in the 3 target municipalities for the period from 2011 to 2015(plan). However, the size of the budget from the central government can just cover cost for some materials and tools for the forest management activities, and also its budget is not sufficient for dissemination of the activities to other communities. At the municipality level, in 2014, Santa Rosa del Peñon and San José de Achuapa secured 1 million Córdoba and El Sauce allocated 200,000 Córdoba. In addition, El Sauce and Santa Rosa del Peñon had budget from the Project of Integrated management of River Basins, Water and Sanitation (PIMCHAS, 2010-2013: Proyecto Integral de Manejo de Cuencas Hidrograficas, Agua y Saneamiento) implemented by MARENA³. Due to the limited budget, El Sauce has prioritized their activities on fire prevention and forest and water source protection. The budgets of the other 2 municipalities can cover the costs for tools and materials for the activities of reforestation and agroforestry.

<Evaluation Results>

Some problems have been observed in institutional and financial aspects. Therefore, sustainability of the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose and the Overall Goal. The participatory forest management activities have been promoted in the target 9 villages and the 3 target municipalities and the activities contributed to improvement of soil and water conservation and disaster prevention. On the other hand, the number of officers of INAFOR as well as the municipal environmental offices of the target municipalities has not been sufficient to conduct necessary monitoring and support activities for the communities in order to promote the participatory forest management. Also the limited budgets made INAFOR and the municipal environmental offices prioritize their activities. As for efficiency, the project cost exceeded the plan due to the additional activities implementing in the neighboring communities.

In the light of above, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

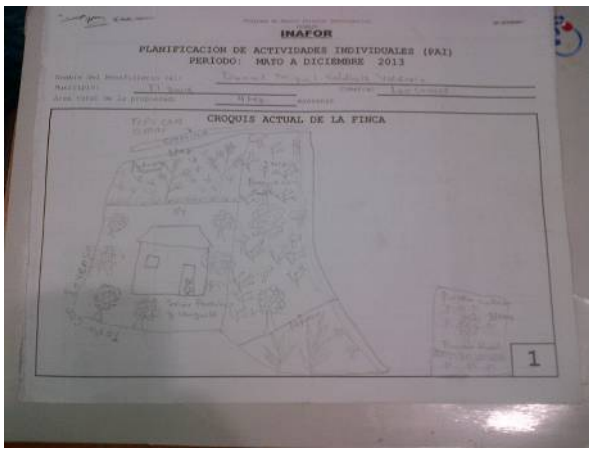
Recommendations for INAFOR:

- INAFOR, as a responsible institution for national forest management, needs to promote sustainable forest management in Nicaragua through extension activities for the participatory forest management under cooperation with local government as well as communities, civil society and NGOs, including technical supports through trainings, development of regulatory framework, provisions of seeds and seedlings of plants, and provision of agricultural tools.
- Since trainings have been continuously delivered by INAFOR and the municipal environmental office at ad hoc basis after the project completion, the municipalities involved in the project and the community members participated in the trainings and improved their skills. It is essential to put in place an environment that will enable those people to continuously accumulate skills and knowledge through regular trainings in collaboration with universities and other stakeholders. Those efforts are expected to ensure sustainability of the effects of this project.

Lessons learned for JICA

- The project was implemented based on “the Disaster Prevention Forest Master Plan” developed by the development study of “the Master Plan Study on Forest Management for Disaster Prevention in the Northern Pacific Region in the Republic of Nicaragua” (2000-2004). During the implementation of the development study, UTT-PPM was established in INAFOR as a special unit for implementation of the project. The special unit enabled the members to focus on the project activities and contributed to development of the core personnel who were able to be continuously engaged in the key forest management activities after the project completion despite that UTT-PPM does not exist anymore. The strategic technical transfer through seamless technical cooperation facilitates development of core competence in a counterpart organization in order to ensure sustainability of the activities introduced by the technical cooperation project. Therefore, in the case that technical assistance for preparation of master plan or dispatch of individual long-term experts in related area is provided before starting the planned technical cooperation project, it is preferable to set up organizational arrangement of the counterpart institution for the planned technical cooperation project and to design strategic component or activity for capacity development of the counterpart organization.
- Since the project was designed to implement model activities with less cost and high replicability at household level, the participatory forest management activities based on the community needs have been continued after the project completion. Also, the other activities, including management trainings for the staffs of INAFOR and the municipal environmental offices and the support activities for the communities by those staff such as elaboration and implementation of the action plans have been sustained in the part of the target municipalities. Therefore, in order to ensure further sustainability of the effects of this project, it should have been effective to design project components to effectively and strategically incorporate the project activities in municipal development plans in addition to enhancement of the municipal support systems for the communities.

³ PIMCHAS is financially supported by the Canadian International Development Agency (CIDA).



(Individual Action Plan of the villager in El Sauce)



(Stone-lined soil prevention works in El Sauce)