

EX-POST EVALUATION REPORT

ITTO Project PD 277/04 Rev.3 (I)

Promoting Selected Non-Timber Forest Products Based on Community Participation Approach to Support Sustainable Forest Management in East Kalimantan



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Acronyms

EA	:	Executing Agency
BRC	:	Biopharmaca Research Center
BAU	:	Bogor Agricultural University
CIC	:	Center for International Cooperation
FORDA:		Forestry Research & Development Agency
GOI	:	The Government of Indonesia
IT	:	Itinerary of Travel
ITTA	:	International Tropical Timber Agreement
ITTC	:	International Tropical Timber Council
ITTO	:	International Tropical Timber Organization
LFM	:	Logical Framework Matrix
LGAs		Local Government Agencies
LUS	:	Lesser Used Species
M&F	:	Monitoring and Evaluation
MOF	:	Ministry of Forestry
MOU	:	Memorandum of Understanding
NGOs	:	Non-Government Organizations
NTFPs	:	Non-Timber Forest Products
PIRT	:	<i>Pangan Industri Rumah Tangga</i> (Certificate to produce & distribute home food products)
PSC	:	Project Steering Committee
PMU	:	Project Management Unit
R&D	:	Research and Development
SFM	:	Sustainable Forest Management
ToR	:	Terms of Reference
ToT	:	Training of Trainers
WP	:	Work Plan
YPO	:	Yearly Plan of Operation

Part I EXECUTIVE SUMMARY

The Project PD 277/04 Rev.3 (I), entitled, "Promoting Selected Non-Timber Forest Products Based on Community Participation Approach to Support Sustainable Forest Management in East Kalimantan" was approved in the 37th Session of the International Tropical Timber Council (ITTC) Meeting at Yokohama, Japan on December 13-18, 2004 for implementation by the Government of Indonesia through the Biopharmaca Research Center of Bogor Agricultural University, as the project's executing agency (EA) in close collaboration with the Forestry Research and Development Agency (FORDA). The main objective of the project was to promote the sustainable use and management of NTFPs in the forest sector in East Kalimantan through the development of its small-scale production and its marketing system involving local stakeholders. The project strategy was anchored on the active involvement of rural community in sustainable forest management (SFM), particularly the use of NTFPs as medicinal plants to augment their socio-economic benefits and revenue of local government that would consequently lessen the pressure on forests once the forest communities' income levels are improved. It was carried out for 36 months or 3 years duration which started operations on April 1, 2005 to March 31, 2008, with a 4-month no-cost extension period until July 31, 2008. The total project budget approved by the ITTC was US\$ 528,410.00, with in-kind contribution from the Government of Indonesia of US\$ 126,473.00.

The development objective of the project was to increase contribution of NTFPs to the forest sector of East Kalimantan by 5% in ten (10) years after project completion.

The specific objective of the project was to promote selected NTFPs to SFM by improving small-scale industry of selected NTFPs and its marketing system.

Considering the potential value of the lessons learned and experiences gained from the project, the ITTO through the Committees on Economic and Market Intelligence and the Forest Industry at their 43rd ITTC Session in November 2009 in Yokohama, Japan, has decided that a thematic ex-post evaluation of the project be undertaken to determine how well the project served its purpose and to draw up lessons and recommendations to improve the implementation of future projects.

The ex-post evaluation involved consulting a range of project documents and relevant background materials and data, conducting an evaluation mission in Indonesia on May 28-June 10, 2010 (2 weeks), cross-checking information and clarifying contextual issues or concerns, including thorough follow-up via email communications after the mission and preparing the report following the ITTO Manual for Project Monitoring, Review and Evaluation (3rd edition, 2009).

The NTFPs project contributed to the attainment of ITTA 1994 & 2006 and ITTO Yokohama Action Plan (2002-2006) & 2008-2011 Action Plans through the promotion and implementation of R & D activities with a view of increasing the capacity to conserve and enhance other forest values in timber producing tropical forests; promotion of non-timber forest products in close cooperation with local forest owners and communities living in the forest areas; publish and disseminate techniques and technologies on product development and on utilization efficiency of non-timber forest products, and promote increased awareness and utilization of existing information on wood properties and end-user requirements. The actual contribution to ITTO's SFM work is on farmers' acquired skills and knowledge in establishing 20 hectares on-farm medicinal plants, harvesting them, processing into medicinal herbs (*jamu*) and building networks for marketing aspects. The state-owned company sector, PT Inhutani I, also allowed enrichment planting of six (6) medicinal forest tree species within the 50 hectares of state forest land for propagation and expansion purposes and a one (1) hectare park established and maintained for collection of medicinal tree species for educational purposes.

The field trainings conducted by BIOMA, a local/site-based NGO, for local communities and their implementation of livelihood activities showed positive impacts towards sustainability, as indicated below:

i) Growing number of participating farmers

The number of farmers taking part in NTFP business development had increased substantially in all four villages. The field visits to two villages, e.g. Semoi 1 and Sungai Merdeka, indicated that the number of members has increased from 33 in 2005 to 119 in 2010. Moreover, farmers of neighboring villages have also expressed their interest in undertaking NTFP development activities. Indeed, the growing interest by farmers in NTFP development is an encouraging impact of the Project.

ii) Adoption of new technology

Farmers of native origin are normally more difficult to adopt a new technology. This was not the case with the farmers of target villages. Farmers of both native and migrant origins were eager to adopt the technologies transferred by the Project. This was due mainly to the ability of BIOMA to demonstrate the technologies and convince farmers of the potential benefits accruable to farmers by adopting the technologies.

iii) Support by LGAs (Local Government Agencies)

The project had strived to promote NTFP development in two target Districts through various means including visits, discussion fora for dissemination of information, etc. In the course of project implementation, Agriculture and Health Service of the Districts had become aware of the potential contribution of NTFP development to the local economies. The Agriculture Services had assisted farmers in cultivation of medicinal plants while the Health Service had aided in processing and quality control leading to issuance of PIRTs. The support of LGAs is indispensable if NTFP development is ever to meaningfully contribute to the local economies.

The ex-post evaluation confirmed that the project strategy was sound, given the information available and circumstances at the time the project was developed. Although the project did not go through the problem analysis in consonance with ITTO Manual as the sub-causes of the main problem were not identified or discussed, but overall the planned outputs had been delivered by the project. This was demonstrated by positive impacts as discussed earlier through the provision of trainings for rural folks in 4 villages by BIOMA. The rural population was further exposed to the means, methods, management, establishment of medicinal plants' home gardens, including value-added by-products or *jamu*, within the framework of the project. They had ample opportunities to increase their income by adopting the guidelines and directives in various publications of the project. These opportunities were not available to them during the pre-project situation.

The project was concluded more than 2 years ago, and it has been observed that rural folks continued to maintain/manage their backyard farmlands and expressed their utmost desire to continue this great undertaking. Some farmer-beneficiaries are able to send their children to college level from their income derived from producing and selling their medicinal plants. It is worth mentioning that Semoi 1 village membership has grown up from 13 members in 2005 to 79 association members now, following their revolving fund scheme. The Semoi 1 village head/leader had been invited as resource person in a field day activity in a University Campus to lecture on medicinal plants. The Semoi 1 village is now being considered as a model for R & D in medicinal plants. An adjacent village, about 10 kms away from Semoi 1 wish to join and participate in this novel undertaking of promoting selected medicinal plants to support sustainable forest management.

It is therefore imperative for the district government and private sector, e.g. PT Inhutani I, to extend support to the project, especially concerning *jamu* or pharmaceutical enterprises and for stakeholders' participation. At least 50 hectares of forest have been enriched with NTFPs of high-valued medicinal plants (*akar kuning* and *pasak bumi*) and ready to be harvested in the next 2-3 years. The dissemination of methods and approaches in performing a small-scale industry models, in the form of capacity-building (i.e. training and workshop, certified *jamu* producers) have been offered to interested parties who are willing to develop similar activities in other parts of East Kalimantan. These financial and policy support of government and private sector will be very encouraging to the project's sustainability.

Lessons Learned

- a. Despite the weakness in the project design, particularly in identification of relevant activities, the project had been able to deliver planned outputs and achieve the specific objective. The achievement was attributable mainly to the consistent focus of the PMU on building up capacity of farmers in cultivation of raw materials, in processing of the raw materials and marketing of products. The operational efforts had been consistently devoted to handling three sub-system of NTFP development. While the indicators designed in the project document appeared not fully measurable, assessment of the achievement of outputs and specific objective has been relatively accurate by thoroughly examining available technical reports and carrying out field observation at the project sites.
- b. Promotion of medicinal NTFP development under the project was quite successful as all planned outputs had been delivered and the specific objective achieved. The key success factor was the active participation of local stakeholders. These farmers-beneficiaries of the four target villages were fully involved in implementing the activities. Their enthusiasm was created through partnership endeavor wherein farmers were always consulted with, in making any operational decisions including selection of NTFP species, sites for planting, venues for workshops, etc. The collaborative approach adopted had proved effective in involving farmers in implementation of project activities.
- c. In the course of project implementation, participating farmers had been able to augment their income through selling of quick yielding plants, such as medicinal plants like ginger and other rhizomes. The financial gain had further intensified their interest in the project. It was learned that involving the poor farmers in implementation of the project was eased by the financial gain yielded in the short term.
- d. Involvement of District extension officers and issuance of PIRT license to household NTFP industries (PIRT) by the District Health Service had also served as an incentive for farmers to take part in the medicinal NTFP development. The psychological effect of this involvement of District authorities was equally important as the financial gain in enforcing enthusiasm of farmers.
- e. Many activities of the project were implemented with the assistance of BIOMA, a local/site-based NGO that had accumulated experience in implementing rural socio-economic development projects. Involvement of BIOMA had made it possible to execute activities in an effective manner due mainly to reduced transportation cost, consistent intensive dialogue with farmers and application of appropriate operational strategies. Level of effectiveness would have been lower had the project employed non-local NGOs.
- f. Farmers were able to sell high quality ginger simplisia and *pasak bumi* extract at attractive prices to a manufacturer of *jamu* products outside Kalimantan that met the specifications set by the manufacturer. In promoting medicinal NTFP development, establishment of market network is indispensable. Through market network, information on potential buyers and product specifications required by market can be easily tapped.
- g. Participating farmers have been able to augment their income through small-scale NTFP industry and use the income to finance children to attend local university. This experience has further strengthened the interest of farmers in NTFP business development. Moreover, the opportunity granted by local University Campus for the leader of Semoi I Village to lecture on medicinal plants has also created proud and self confident amongst farmers of being participants of NTFP development endeavor.

Conclusions

The following conclusions in the whole evaluation process of the project are shown below, to wit:

- a. A number of outstanding findings or outputs on NTFPs development focused on plantation management and production of *jamu* or pharmaceutical enterprise for rural communities had been done and documented through project reports, manuals and guidelines. The project produced a dearth of information and data on medicinal forest species and agricultural crops, which were very comprehensive and impressive. However, none of them have been published in any of the international/regional journals, periodicals and newsletters (e.g. INBAR) for wider distribution and utility.
- b. The R & D on cultivation system, processing and marketing of cultivated NTFPs should be continued by the Bogor Agricultural University, Mulawarman University, the District government, PT Inhutani I, in close collaboration with the local forest communities, which can be carried out simultaneously, either individually or in collaborative partnerships.
- c. The project was collaboratively governed and the budget well managed through the PSC at its inception phase (in 2005) until the project completion. Close collaboration between and among key stakeholders enabled them to build linkages and share information and updates in the interest of proper project management and sustainability aspects.
- d. The project design was derived through a problem tree analysis in accordance with the ITTO Manual, but no objective tree was developed by the project, as the problem tree should have been inverted to become an objective tree that would clearly show the work breakdown structure of project intervention and indicate the essential project elements. A project design that was based on a problem tree and its corresponding objective tree should have a strong vertical logic. This was not the case of the design of this project.
- e. Likewise, with reference to ITTO's Manual the sub-causes of the main problem were not identified, i.e. it is not so clear how the activities were defined, or where their origin was. Normally, the project activities correspond to the sub-causes of the problem and are meant as the means to address the sub-causes, which are also the problem in nature that need resolving.
- f. There is a need to thoroughly discuss and consult the project beneficiaries about the project elements and activities prior to finalizing and submission of project proposal to avoid changing the project strategy in mid-stream of project implementation. Apparently, Output 3 had been modified during the implementation stage as the development of management plan and business strategy was considered too complicated for farmers to understand and practice. The original Output 3 had thus been redefined as "small business developed". However, redefining of Output 3 should have been followed by an adjustment to the original LFM. As this adjustment was not made, it was difficult to assess achievement of Output.
- g. Finally, the project and its impacts have been found successful in improving the living conditions of target farmers' groups, as the transfer of technology went on efficiently due to the fact that the workshops and trainings were organized locally and facilitated mostly by a competent, local/site-based NGO.

Recommendations

The following recommendations for future actions will further support the sustainability of project benefits and help further development of the NTFPs sector in Indonesia, such as:

- a. The NTFPs, including medicinal forest species should be promoted further by the government through the DG-LRSF in collaborative partnership with private enterprises and pharmaceutical industries, and with rural communities' active participation. The leading role of concerned district governments is very much expected on this important issue.

- b. Key stakeholders group should continue working together towards the preparation of a framework concerning the long-term national NTFPs development strategy which will guide and support all future action plans of the sector.
- c. There is still significant need in the country for information and trainings on all aspects of NTFPs, including medicinal forest trees requiring continued assistance of donor community like ITTO, including dissemination of information that require improvement, i.e. with enhanced and expanded extension services that are consistent with any agreed NTFPs development strategy.
- d. A number of NTFPs demonstration plots located in different forest zones, with local communities active participation should be encouraged and established to further develop and test systems for potential upscaling and replication.
- e. Strengthen key stakeholders' capacity through trainings and improved NTFPs identification and silvicultural techniques by enhancing the planning, programming and implementation activities. In particular, rural people's capacities be developed and improved not only in technical aspects, but also through skills development, e.g. simple book-keeping, recording, filing and accounting procedures, which are prerequisites for organizing farmers' groups/association.
- f. To encourage the production and dissemination of project outputs/findings in local and international/regional journals/papers for promotional purposes and further increase public awareness on the importance of NTFPs.

Part II MAIN TEXT

1. INTRODUCTION

1.1. Rationale of the Ex-post Evaluation

The ITTO through the Committees on Economic Information and Market Intelligence and Forest Industry, at their 43rd Session on November 2009, decided that an ex-post evaluation for Project PD 277/04 Rev.3 (I) should be carried out to establish how well the Project served its purposes and to draw up recommendations for future actions. The decision of the Committee was based on the Council Decision ITTC (XXVIII)/20 of 30 May 2000 which specifies the criteria for selection of projects to be ex-post evaluated.

The primary purpose of the ex-post evaluation is to provide an in-depth diagnosis of the Project as to point out the successful and unsuccessful outcomes, the reasons for successes and failures, and the contribution of the Project toward the achievement of ITTO's Objective 2000, and to draw lessons that can be used to improve similar projects in the future.

1.2. Project Identification and Context

Project serial number	:	PD 277/04 Rev. 3 (I)
Project title	:	Promoting Selected Non-Timber Forest Products Based on Community Participation Approach to Support Sustainable Forest Management in East Kalimantan
Host Government	:	The Government of Indonesia (GOI)
Budget	:	Total US\$ 528,410 ITTO US\$ 401,937 GOI US\$ 126,473
Duration	:	36 months, extended for 4 months

The specific objective of the project was to promote some selected NTFPs to sustainable forest management by improving small-scale industry of selected NTFPs and its marketing system.

The development objective of the project was to increase contribution of NTFP to the forest sector in East Kalimantan economic development. Given its objectives, the project was consistent with the following ITTA 1994 objectives, such as:

- (f) to promote and support R & D with a view to improving forest management and efficiency of wood utilization as well as increasing the capacity to conserve and enhance other forest values in timber producing tropical forests;
- (i) to promote increased and further processing of tropical timber from sustainable sources in producing member countries with a view to promoting their industrialization and thereby increasing their employment opportunities and export earning; and
- (l) to encourage members to develop national policies aimed at sustainable utilization and conservation of timber producing forests and their genetic resources and at maintaining the ecological balance in the regions concerned, in the context of tropical timber, etc.

The project was also in agreement with ITTO Yokohama Action Plan, as follows:

- Goal 2 : improve industry's efficiency of processing and utilization of tropical timber from sustainable sources.
- Action 5 : to extent possible, given the organization's primary focus on timber, develop, publish and disseminate techniques and technologies on product development and on utilization efficiency of non-timber forest products.
- Action 6 : promote increased awareness and utilization of existing information on wood properties and end-user requirements.

2. EVALUATION SCOPE, FOCUS AND APPROACH

2.1. Evaluation Scope and Focus

The main purpose of the ex-post evaluation is to learn lessons and draw conclusions for similar future projects. The ex-post evaluation should establish the extent to which the results, in terms of outputs, achieved objectives, impact and sustainability of the project intervention, have been achieved and draw conclusions and recommendations for similar intervention in the future.

The Consultant assessed all aspects of Project PD 277/04 Rev.3 (I) from its inception to the situation after its completion covering administrative and financial matters, organization, communication, consultation and cooperation; technical matters, effectiveness and impact, and relevance to ITTO.

The following are the specific Terms of Reference (ToR) for the evaluation, to wit:

- i. To assess the project's design and contribution to the achievement of their respective objectives;
- ii. To assess the achievement of the project's outputs and specific objectives;
- iii. To evaluate the impact and relevance of the Projects, detailing their impact on development and specific objectives, as stated in the project documents;
- iv. To determine the effectiveness of technology transfer to target groups, if applicable;
- v. To assess the overall post-project situation for the projects, including conditions of their intended direct and indirect beneficiaries;
- vi. To define and assess unexpected effects and impacts, either harmful or beneficial, and present the reasons for their occurrences;
- vii. To analyze and assess implementation efficiency, including the technical, financial and managerial aspects;
- viii. To assess the overall sustainability of the projects after completion, and include appropriate recommendations to safeguard the continuing of their positive impacts, and enhance utilization of the technologies (if applicable) and other results developed by the projects;
- ix. Taking into account the results of the evaluation, make an overall assessment of the projects' relative success or failure, to summarize the key lessons learnt; and identify any issues or problems which should be taken into account in designing and implementing similar projects in the future;
- x. To assess the overall cost of the projects with original budget provisions, and their respective linkage with the overall results;

- xi. To prepare the evaluation report in accordance with the references for the Project Evaluation Report, as contained in the ITTO Manual for Project Monitoring, Review and Evaluation (3rd edition, 2009);
- xii. To assess the projects' contribution to the relevant ITTA objectives (1994 and 2006) and relevant ITTO Action Plan (Yokohama Action Plan and 2008-2011 Action plan); and
- xiii. To prepare one or more articles for each project, for possible publication in the ITTO Tropical Forest Update, in consultation with the editor, containing an overview of the projects and summarizing the lessons learned from the evaluation work. Appropriate photographs should be provided, if possible.

In addition to the above, the Consultant also placed particular emphasis on:

- Impacts on cultivation of medicinal plants on-station and on-farm to the participating farmers in all four villages (Sungai Merdeka, Semoi I, Semoi IV, and Mentawir) in growing and selling some medicinal plants for jamu (Indonesian curing herbs);
- Functioning and sustainability of numerous seedlings on established 50 hectares of forest land (on-station cultivation) and functioning of established small park (1 Ha) containing a collection of medicinal forest tree species for educational purpose; and
- Sustainability of women participation in processing of medicinal plants.

2.2. Evaluation Approach

The ex-post evaluation involved:

- The review of project documents, Yearly Plans of Operation (YPOs), minutes of the Project Steering Committee (PSC) meetings, bi-annual progress reports, technical reports, financial reports, completion report and other relevant documents;
- Meetings and discussions with the Project Leader and Project Key Personnel at the office of Biopharmaca Research Center at Bogor Agricultural University in Bogor, as the Executing Agency, as well as with selected Officials of the Ministry of Forestry (MOF) particularly with those of Forestry Research and Development Agency (FORDA), as the Collaborating Agency, and the Center for International Cooperation of the Ministry of Forestry (CIC); and
- Field visit to the project sites and local farmers' group in Semoi 1 and Sungai Merdeka Villages under Pasir Panajam & Kutai Kartanegara Districts in East Kalimantan, to meet with the primary beneficiaries including farmers/beneficiaries and PT Inhutani I staff in Unit Bukit Bangkirai.

The key stages of the ex-post evaluation were:

- i) Clarification and analysis of the Project design
 - It was carried out through discussions with the Executing Agency, especially with Project Key Personnel. It was fortunate for the Consultant to find that both the Project Leader and Project Key Personnel were available and fully assisted in the evaluation; and
 - The Project design was assessed using the ITTO Manual for project formulation, 2nd edition, 1999, as the framework with special attention to the logical framework.
- ii) Assessment of Project performance
 - by analyzing achieved objectives and outputs in light of the Logical Framework Matrix (LFM);
 - by studying the Project operational plans and associated budgets against actual implementation and spending; and
 - by assessing impacts and sustainability of the Project through visits to two (2) of the beneficiaries' groups.

3. PROJECT FACTS

3.1. Origin

The project was a follow up to a completed pre-project PPD 55/02 Rev. 1 (I), entitled "Assessing the Contribution of Selected Non-timber Forest Products Based on Community Participation Approach to Support Sustainable Forest Management". The pre-project had gathered the necessary baseline data on selected non-timber forest products (NTFPs) species in two Districts of East Kalimantan, including potential of medicinal plants on targeted locations, socio-economic and culture conditions as well as market potential for NTFPs. The pre-project argued that NTFP development could reduce the pressures on natural forests, especially those exerted by the surrounding communities, when the development strategy used is appropriate and effective. Increased contribution of NTFPs to local economy should decrease the need for timber harvesting by local people and dependency of local government on timber revenue.

Elements of NTFP development strategy identified by the pre-project were:

- To involve local stakeholders, namely local communities, concerned local government authorities, private sector company, competent NGO and the University;
- To select NTFP species that were in great demand by local communities in view of increasing their income;
- To showcase development at selected sites where the communities were known supportive to such development; and
- To undertake integrated development program covering cultivation, processing and marketing aspects of NTFPs.

The Project PD 277/04 Rev.3 (I) was built on above strategy which was well articulated in the project proposal in accordance with the ITTO Manual for project formulation, 2nd edition, 1999.

3.2. Development Objective

As defined in the project document, the development objective of the project was to increase contribution of NTFP to the forest sector in East Kalimantan. It was envisaged that, in ten (10) years time, contribution of NTFPs to the forestry sector's revenue in two Districts would increase by 5 percent through development of small-scale NTFP production and marketing system involving local stakeholders.

3.3. Main Problem to be Addressed

The main problem to be addressed by the project was undeveloped and undervalued small-scale NTFP industry and marketing system of selected NTFPs. The main causes of the problem identified were: i) undeveloped cultivation system of medicinal plants; ii) inappropriate processing system of medicinal plants; iii) undeveloped management plan for small-scale industry and business strategy of medicinal plants; and iv) absence of marketing network of small-scale medicinal plants industry.

3.4. Specific Objective and Outputs

The specific objective defined was to promote selected NTFPs to sustainable forest management by improving small-scale industry of the NTFPs and its marketing system.

Four (4) outputs were defined, as follows:

1. Cultivation system for selected medicinal plants established;
2. Appropriate processing system for selected medicinal plants developed;
3. Management plan and business strategy for small-scale industry of selected medicinal plants developed; and

4. Marketing network for small-scale industries of medicinal plants established.

3.5. Project Rationale

The Project rationale was a simple one, i.e. NTFP development would augment income of local people and revenue of local government, and that increased income would reduce dependence on timber as source of revenue and lessen the pressure on forests thus contributing to sustainable forest management.

3.6. Project Duration

The project commenced operations on 1 April 2005 until March 31, 2008, with an extension of 4 months, or a total of 40 months duration. The 4-month extension in time without additional funding was granted by ITTO in order to complete all planned activities.

3.7. Project Budget

The amount of budget sanctioned to the project was US\$ 528,410.00 comprising contributions of ITTO's US\$ 401,937.00 and of GOI's US\$ 126,473.00, respectively. The amount of ITTO's contribution was disbursed in six (6) installments in the amount of US\$ 293,760.00, excluding the amount of US\$ 108,177.00 which was retained to cover ITTO's monitoring, review & evaluation activities, programme and reimbursement costs, especially incurred in PPD 55/02 Rev.2 (I).

3.8. Executing Agency

The Executing Agency was the Biopharmaca Research Center of Bogor Agricultural University, while the Collaborating Agency was the Forestry Research and Development Agency (FORDA) of the Ministry of Forestry of Indonesia (MOFI). A memorandum of understanding (MOU) between the two institutions concerning the task and responsibility of each entity was signed prior to implementing the project.

4. FINDINGS AND LESSONS LEARNED

4.1. Findings

4.1.1. Project design and contribution to achievement

The project proposal was developed and submitted to ITTO in 2003 in accordance with the ITTO Manual for Project Formulation, 2nd edition, 1999. In fact, the project proposal was consistent with the Manual in terms of format and content. Being a follow-up activity to a completed pre-project, the design of the project was built on findings of the pre-project. The most critical problem documented by the pre-project that hampered the development of NTFP in Pasir Penajam and Kutai Kartanegara Districts of East Kalimantan was undeveloped and undervalued of small-scale NTFP industry and marketing system of selected NTFPs.

The main causes of the problems identified were the following: i) undeveloped cultivation system of medicinal plants; ii) inappropriate processing of medicinal plants; iii) undeveloped management plan and business strategy for small-scale industry of medicinal plants; and iv) the absence of marketing network for small-scale industry of medicinal plants. The effect of the problem as singled out was the low contribution of selected NTFP to the forest sector in East Kalimantan's economic development.

However, the problem analysis, as shown on the problem tree diagram, was not performed in full adherence with existing ITTO Manual (2nd edition, 1999) as the sub-causes of the main problem were not discussed or identified. It was also noted the more common reference to "selected NTFPs" in the texts supposedly to comply with the ITTO mandate and sometimes the interchangeable reference to "medicinal plants" as well. Moreover, medicinal

plants as mentioned in this project comprised two (2) different plant origins, i.e. from forest tree species and those from agricultural crops.

In accordance with the ITTO Manual, the problem tree should have been inverted to become an objective tree that would clearly show the work breakdown structure of project intervention and indicate the essential project elements. A project design that was based on a problem tree and its corresponding objective tree should have a strong vertical logic. This was not the case of the design of this NTFPs project.

In the absence of an objective tree, the project elements were obviously defined by referring to the problem tree. The development objective, specific objective and outputs were the positive statements of the effect, key problem and main causes of the problem, respectively as presented below:

Development Objective:

To increase contribution of NTFP to forest sector economy of East Kalimantan by 5%, ten years after project completion.

Specific Objectives:

To promote selected NTFPs to sustainable forest management by improving small-scale industry of selected NTFP and its marketing system.

Project Outputs are the following:

1. Cultivation system for selected medicinal plants established;
2. Appropriate processing system for selected medicinal plants developed;
3. Management plan and business strategy for small-scale industry of selected medicinal plants developed; and
4. Marketing network for small-scale industries of medicinal plants established.

The query is on the activities, i.e. it is not so clear how the activities were defined, or where their origin was. Normally, activities correspond to sub-causes of the problem and are meant as the means to address the sub-causes which are also problem in nature that need resolving. In total, 15 activities were identified; 4 under Output 1; 3 under Output 2; 4 under Output 3 and 4 under Output 4.

The process followed in identifying and defining the project elements was not in full adherence with the ITTO Manual and resulted in a vague vertical logic of project elements. In accordance with the Manual, if all planned activities were fully executed, the four (4) outputs should have been attained; if all the outputs were delivered, the specific objective should be achieved; if the specific objective was achieved, it should have contributed to forestry sector's economy of East Kalimantan.

Since sub-causes of the key problem addressed were not adequately discussed and identified, it was difficult to ascertain whether the 15 activities specified were sufficient and truly needed to deliver the outputs. It was also noted that the logical framework was not fully developed. Most of the indicators lacked time bound and the indicator of Output 4 was unclear and not measurable.

4.1.2. Achievement of the project's outputs and specific objective

The project's achievements were assessed in light of the logical framework matrix (LFM) developed during the project formulation, as shown in project document. The outputs claimed as delivered through full execution of the respective activities are as follows:

Output 1 : Cultivation system of selected medicinal plants established

- The participating farmers in all four (4) villages had successfully grown over 20 hectares of medicinal plants on their own lands/farms, harvested and sold them for *jamu* (Indonesian curing herbs);

- The farmers were skillful in producing compost from available materials thus reducing use of synthetic fertilizer;
- The farmers were interested in planting six (6) medicinal forest tree species on 50 hectares of state forest land; and
- A small park of 1 hectare, containing collection of medicinal tree species was established for educational purposes.

Judged using the indicators defined in the LFM, Output 1 can be claimed as fully delivered.

Output 2 : Appropriate processing system for selected medicinal plants established

- The participating farmers in all 4 villages, especially women, had acquired knowledge and skills in producing hygiene herbs and various derivative products such as instant drinks; and
- Dried wood of *pasak bumi* collected from the forest had been processed using simple method and shipped to a herbal manufacturer outside East Kalimantan for export.

Judged using the indicators defined in the LFM, Output 2 can be claimed as delivered.

Output 3 : Management plan and business strategy for small-scale industry for selected medicinal plants developed

- At small-scale level, the participants had been producing *jamu* from their harvest for their own consumption as well as for sale at the local market;
- As many as seven (7) legal permits, so-called PIRT or license to produce and distribute home industry food products, had been issued by the District Health Service and granted to local farmers after thorough examination survey; and
- A booklet of recipes for making instant drink from various herbs had been developed and disseminated for use by households.

Apparently, Output 3 had been somewhat modified during the implementation stage. Development of management plan and business strategy was considered too complicated for farmers to understand and practice. Beside, farmers had already been eager to self-finance their production activities. Therefore, assisting farmers with revolving funds was thought more useful for farmers for small business development than providing skills for developing management plan and business strategy. The original Output 3 had thus been redefined as "small business developed". However, redefining of Output 3 should have been followed by an adjustment to the original LFM. As this adjustment was not made, it was difficult to assess achievement of Output 3. It was noted, however, that farmers had acquired skills for producing *jamu*; that home industry legal permits had been secured; and that a booklet of recipes had been published and disseminated; which all pointed out to the fact that small business on medical plants was developed although the exact number of units was not known.

Output 4 : Marketing network for small-scale industry of selected medicinal plants established

- Farmers' organization was strengthened, business management was improving and market information was regularly updated; and
- Links between the farmers and district government authorities were strengthened as evidenced by the involvement of agricultural extension workers and issuance of PIRT licenses.

The indicator of Output 4 was not well developed, it was not measurable. Therefore, it is problematic to assess exact level of achievement.

Overall, all planned outputs had been delivered. Consequently, the specific objective had been achieved. It was argued somewhere that identification processes of project activities thus their origin was unclear. Judged using the LFM, however, it was suggested that all planned outputs had been delivered. This fact led the Consultant to conclude that the activities executed were needed and sufficient to deliver all planned outputs regardless of

their identification process. The fact remains, however, that the project proposal was not developed in full adherence to existing ITTO Manual for project formulation.

4.1.3. Impact and relevance of the project

The project had successfully promoted the development of selected NTFP species through participation of the communities of four target villages. Under the project, farmers of four villages had learned how to cultivate selected NTFP species, how to produce hygienic food products from medicinal plants and how to develop small scale business and marketing network. Among the important results generated by the project were:

- farmers were able to establish over 20 hectares of medicinal plants on their own lands;
- farmers had acquired the skills necessary for producing compost;
- growing interest amongst farmers in planting medicinal tree species;
- farmers had improved capability in harvesting and processing medicinal plants and marketing processed products;
- award of 7 PIRTs indicating competence of respective households in producing and marketing of specific medicinal food products;
- ability of farmers to produce simplisia of herbs; and
- farmers had also built competence in acquiring market information and establishing network for marketing.

Through development of small business on NTFP, participating farmer households, on average, had been able to increase their income by 2.2 to 5.2% compared to pre-project situation. This increased income was indeed the outcome of the NTFP business development and of using the technologies and skills acquired under the project. Increased income is one of the invaluable impacts of the project as it will serve as a strong incentive for farmers to continue using the technologies and skills they learned from the project. Therefore, it is reasonable to conclude that the Project is relevant for developing NTFP small-scale industry of medicinal plants, for augmenting income of participating farmers and for reducing reliance on timber harvesting as source of income.

4.1.4. Effectiveness of technology transfer

Transfer of technology to local stakeholders, to farmers in particular, was carried out through the various means as follows:

- Field demonstration of cultivating techniques for selected medicinal plants. Demonstration was facilitated by BIOMA, a local professional NGO that has acquired accumulated experience in working with farmers in Kalimantan and in cultivating medicinal plants. By directly doing in the field, farmers were taught on appropriate production process covering selection of species, species-site matching, sorting of planting material, soil preparation, nurturing of the plants, harvesting and processing of yielded materials.
- As regards planting of medicinal tree species, farmers were taught appropriate techniques on nursery management, transportation of seedlings, site preparation, planting of seedlings, and tending of young plantation.
- Conduct of village level workshops and training on herbal processing and NTFP business development that were attended by farmers, mostly women, and representatives of local government as well as private sector. During the training workshop, participants had the opportunity to learn the processing techniques by doing and to acquire practical knowledge on the marketing side of NTFP development.
- Publication and dissemination of technical manuals for cultivation and processing.

Transfer of technology went on efficiently due to the fact that the workshops and trainings were organized locally and facilitated mostly by a competent, local/site-based NGO, i.e. BIOMA. The means used for technology transfer were effective in achieving the desired goal which was to build the capacity of farmers in performing the activities on NTFP

development. Indeed, farmers had acquired the necessary skills as evident by their ability to establish plantation, to process raw material and market processed products even before completion of the project.

4.1.5. Overall post-project situation

The situation intended to prevail after project completion as summarized in the project document is materialized, as follows:

- Farmers in four target villages would have acquired the necessary skills for planting and harvesting of selected medicinal plants. The skills had been acquired through the involvement of farmers in the establishment of on-station and on-farm demonstration plots.
- Small-scale industry of selected medicinal plants would have become an important source of income of the local communities. This intention had been realized even before completion of the project. Small-scale business of selected medicinal plants has contributed 2.2 to 5.2% of average income of participating households. From 2010 onwards, farmers' income from NTFP would be increasing as the medicinal tree species planted in 2005-2006 would have matured for harvest and generate additional income.
- It was envisaged in the project that, in ten years after project completion, contribution of NTFP industry to forestry sector in two target Districts would reach 5%. It is timely to verify the propensity of achieving this level of contribution using Districts' statistics.
- Damage to the forests surrounding the villages would have been reduced due mainly to increased income of local communities generated by small-scale business of medicinal plants. This intended situation was difficult to assess in the absence of reliable data on forest cover.

4.1.6. Unexpected effects and impacts

The project brought together key stakeholders concerned with medicinal plants as part of NTFPs, including the production, processing and marketing aspects. Before the project there was little communication efforts between various government agencies, private sector, non-government organizations (NGOs) and rural folks about medicinal plants and related issues. At present, despite the influence of external factors, e.g. political will of government to support small-scale industry of selected NTFPs and willingness of partners in development, three (3) project outcomes for target beneficiary groups were identified, to wit:

- Stakeholders are collaborating and building linkages – Close collaboration was a necessary part of the project implementation plan through the conduct of its workshop/seminar in early 2005, and as a result they began to build linkages, share ideas and generate inspiration for follow-up work. Resources were also saved as opportunities to avoid duplication of efforts and work together were increasingly discovered. These initiatives would not have taken place if it were not for the ITTO project bringing stakeholders together.
- Good information base on medicinal plants has been developed – The project outputs generated a dearth of data and information, e.g. 4 technical reports/manuals, 6 project reports, seminar/workshop proceedings and guidelines about medicinal plants in East Kalimantan which did not either exist before or was scattered in different institutions.
- Training of farmers-beneficiaries – The project was successful in training farmers/beneficiaries and applying the same in producing/cultivating seedlings of forest tree species as their own commodity in their own land/farm, which could alleviate the diminishing population of plants with medicinal values.

The contribution to the project objectives of the desired outputs and assumptions has been achieved, as mentioned in the previous Sections. The availability and early adoption of generated medicinal plants' guidelines and publications of improved silvicultural techniques had contributed significantly to achievement of the specific objective.

While the project generally made good progress towards the specific objectives, the government priority related to medicinal plants & NTFPs' development and limited institutional capacity of rural people were the most significant barriers preventing greater progress towards the development objective. As such, follow-up actions to the project have encountered some constraints, e.g. insufficient funding or institutional support because of other policy priorities. Nevertheless, the project impacts demonstrated a modest contribution to the development objective. Not so much with direct increase to the national economy, but through indirectly the diversification of value-added plant products and skilled opportunities for rural people.

In accordance with ITTO's project formulation manual (2nd edition, 1999), the assumptions mentioned concerning external factors exerting influence on the project have to be proven real or true before the project objectives can be deemed achieved. There were 2 key assumptions identified in the LFM that had noteworthy impacts on the project, such as:

- willingness of private sector and rural communities (especially migrant people) to adopt new technologies and products to diversify local and export markets – It is appropriate to assume at the time of the project design that private sector (e.g. PT Inhutani I) may not adopt the improved techniques on medicinal plants and indigenous rural people who adhere to the traditional way of doing their cultivation and marketing, among others. This initial reluctance to engage and collaborate has initially threatened the success of the project. But, in the end the collaborative implementation of the project helped to alter their sentiments. Now, the positive attitude of rural folk/people is the driving force behind a range of excellent follow-up initiatives.
- Government continued support on NTFPs development – The political will of government is often translated into relevant policy measures aimed at ensuring integrated development of NTFPs, including medicinal plants. In accordance with decentralization policy of GOI (Law 22, 1999) to push for regional development, the NTFP development should be one of local sources of regional income for local people and its government.

However, the success indicators for development objectives reflected only a small portion of the expected range of project impacts. In particular, the indicators for development represented longer terms or time to attain for the project, in 10 years period, as these targets can only be verified at the national levels. As such, the listed outputs could only have expected to make a humble contribution to these objectives even though they are fully consistent with the project strategy.

Among the favorable unexpected effects and impacts observed that need to be emphasized are the following:

i) Growing number of participating farmers

The number of farmers taking part in NTFP business development had increased substantially in all four villages. The field visits to two villages, e.g. Semoi 1 and Sungai Merdeka, indicated that the number of members has increased from 33 in 2005 to 119 in 2010. Moreover, farmers of neighboring villages have also expressed their interest in undertaking NTFP development activities. Indeed, the growing interest by farmers in NTFP development is an encouraging impact of the Project.

ii) Adoption of new technology

Farmers of native origin are normally more difficult to adopt a new technology. This was not the case with the farmers of target villages. Farmers of both native and migrant origins were eager to adopt the technologies transferred by the Project. This was due mainly to the ability of BIOMA to demonstrate the technologies and convince farmers of the potential benefits accruable to farmers by adopting the technologies.

iii) Support by LGAs

The project had strived to promote NTFP development in two target Districts through various means including visits, discussion fora for dissemination of information, etc. In the course of project implementation, Agriculture and Health Service of the Districts had become aware of the potential contribution of NTFP development to the local economies. The Agriculture Services had assisted farmers in cultivation of medicinal plants while the Health Service had aided in processing and quality control leading to issuance of PIRTs. The support of LGAs is indispensable if NTFP development is ever to meaningfully contribute to the local economies.

4.1.7. Sustainability

The project was concluded more than 2 years ago, and it has been observed that rural folks continued to maintain/manage their backyard farmlands and expressed their utmost desire to continue this great undertaking. Some farmer-beneficiaries are able to send their children to college level from their income derived from producing and selling their medicinal plants. It is worth mentioning that Semoi 1 village membership has grown up from 13 members in 2005 to 79 association members now, following their revolving fund scheme. The Semoi 1 village head/leader had been invited as resource person in a field day activity in a University Campus to lecture on medicinal plants. The Semoi 1 village is now being considered as a model for R & D in medicinal plants. An adjacent village, about 10 kms away from Semoi 1 wish to join and participate in this novel undertaking of promoting selected medicinal plants to support sustainable forest management.

It is therefore imperative for the district government and private sector, e.g. PT Inhutani I, to extend support to the project, especially concerning *jamu* or pharmaceutical enterprises and for stakeholders' participation. At least 50 hectares of forest have been enriched with NTFPs of high-valued medicinal plants (*akar kuning* and *pasak bumi*) and ready to be harvested in the next 2-3 years. The dissemination of methods and approaches in performing a small-scale industry models, in the form of capacity-building (i.e. training and workshop, certified *jamu* producers) have been offered to interested parties who are willing to develop similar activities in other parts of East Kalimantan. These financial and policy support of government and private sector will be very encouraging to the project's sustainability.

The field trainings of rural communities and their implementation of the livelihood activities showed positive efforts towards sustainability. It is worth mentioning that the synergy in working together among partners according to their roles, e.g. Biopharmaca, FORDA, PT Inhutani I, BIOMA, PSC Members, the participating farmers, Agriculture Service and Health Service at Penajam Paser Utara and the national consultants have made all activities accomplished satisfactory and for a common purpose.

The project staff turn-over is not a significant risk within the project, as there was no staff movement or transfer from one position to another post. However, when it is unavoidable, efforts should be made to ensure that key knowledge is documented, key documents located and secured, and important contacts are passed on to organic staff. It should be reasonable to conclude that the outputs, outcomes and impacts of the Project are sustainable as evidenced by the following facts:

- The participating farmers in all target villages have acquired the necessary skills for cultivation of selected NTFP species, for their processing and for marketing of raw as well as processed products. The skills have been utilized by the farmers as to date;
- The number of farmers taking part in small-scale NTFP business development is growing over time. Moreover, farmers of neighboring villages have expressed their strong interest in NTFP business development;
- The compost making techniques demonstrated by the Project have been used by the farmers continuously in growing medicinal plants;

- The booklets published by the Project have been in use by farmers for the production of herbs and herbal drinks;
- The LGAs of target Districts, namely Agriculture and Health Services have come to realize the potential benefits of NTFP development and provided support to farmers; and
- NTFP development that has become the subject of study for students of University of Mulawarman is indicative to increasing public awareness of potential benefits of NTFP development.

4.1.8. Efficiency of implementation

The project commenced in April 2005. The project operations were guided by the YPOs approved by the PSC and ITTO as well. Three (3) YPOs and one work plan for the extension period had been developed, revised by the PSC and approved by ITTO. Field operations were carried out with the involvement of farmers of four (4) target villages, with primary beneficiaries, such as, BIOMA, a highly competent local NGO in rural development; PT Inhutani I provided land for establishment of demonstration plots and helped in logistical arrangements and; the national consultants from Bogor Agricultural University, University of Mulawarman and FORDA.

The project management unit (PMU) was headed by Prof. Suminar Setiati Achmadi, a scientist of caliber that has the competence in the field of NTFP development. She was assisted by professional staffs that had devoted years conducting R & D on biopharmaceutical subjects. The PMU paid frequent visit to the project site for purpose of monitoring and evaluation (M & E) of progress in implementation. In this manner, any arising operational problems and constraints could be resolved and removed without procrastination. The PMU held regular technical meetings to discuss on any issues relating to operational management of the project.

The PSC that met at least once in a year, provided invaluable guidance and advices to PMU, reviewed operational plans and commented on progress as well as technical reports.

The establishment of the demonstration plots, conduct of trainings and workshops, development of partnership with local stakeholders, with farmers in particular, had been carried out or facilitated by BIOMA in an efficient manner in close consultation with the project's field staffs and PMU. The deployment of BIOMA had, indeed, improved efficiency in implementation due to reduced operating costs.

The implementation of the project, planned for 36 months, was granted extension by ITTO for four (4) months without additional funding in order to fully complete execution of those activities on tending of plantations and obtaining of product certification. The dynamic and honest communication between PMU and its partners and amongst PMU staffs coupled with the good office of ITTO and able PSC have substantially contributed to the efficient implementation of the project.

4.1.9. Overall assessment of the project's relative success

The Consultant was inclined to conclude that overall, the project had been successfully implemented and completed, and generated desired impacts. The inputs applied were sufficient and procured at reasonable costs in accordance with existing ITTO rules and procedures; planned activities had been fully executed with a 4-month extension in time without additional funding; all four outputs had been delivered and the specific objective achieved. As regards achievement of the development objective, it is too early to assess its level of achievement as the project has only been completed two years ago.

Impacts of the project in various forms are generally sustainable as evidenced by the observations made at the project sites as well as the interviews held with the primary beneficiaries and stakeholders as have been discussed in the previous appropriate Sections.

The weaknesses observed by the Consultant were confined only to the project design brought about by the inadequate problem analysis, poor maintenance of the small medicinal plants park due mainly to the weakening financial support by PT. Inhutani I, and weak policy implication on NTFP development at the District government level.

4.1.10. Overall cost of the project

The sanctioned budget of the project was US\$ 528,410.00 in total, of which the contribution of ITTO was US\$ 401,937.00, of which US\$ 108,177.00 was retained by ITTO to cover costs of monitoring, ex-post evaluation, ITTO program support and refund of pre-project expenses. Therefore, the contribution of ITTO to project costs was in the amount of US\$ 293,760.00.

Planned allocation of the ITTO contribution was as follows:

- Project personnel US\$ 75,650 (25.8%)
- Sub-contracts US\$ 7,938 (2.7%)
- Duty travel US\$ 67,200 (22.9%)
- Capital items US\$ 50,572 (17.2%)
- Miscellaneous US\$ 4,500 (1.5%)

The ITTO budget was disbursed in 6 installments in a timely basis and had been used by the Executing Agency in an efficient manner as evident by the following facts:

- Inputs of individual activities applied in terms of quantity and unit price was reasonable. Examples:

- Monthly honorarium of senior national consultant	US\$ 1,500
- Conduct of one local workshop	US\$ 6,530
- Establishment of plantation of medicinal plants per Ha average	US\$ 559

Consulted resource persons confirmed that applied input prices were reasonable.

- The ITTO's contribution was expended for payment of the input costs specified in the project proposal with minor adjustments. Honorarium of the Project Coordinator and her key staffs, part of duty travel expenses and Executing Agency's management costs were covered using the GOI's contribution.
- The Executing Agency was able to fully execute all planned activities within the extended time (40 months) without additional funding; to publish and disseminate a large number of quality technical documents.

The use of funds had been regularly audited by an independent auditor appointed by the Executing Agency with expressed prior approval of ITTO. The final audit report indicated that the final financial statements fairly reflected the results of project activities. The actual project spending by component was pretty much the same as planned. Overspending occurred only under miscellaneous component in the amount of US\$ 1,838 which had been fully covered by the Executing Agency. While the total ITTO Budget sanctioned for the project was US\$ 401,937.00, the amount available for operations was only US\$ 293,760.00. Considering the relatively small amount of funds against the great achievement of the project as discussed in the previous Sections, it seems undoubtedly that the project funds had been managed and used in a prudent manner.

4.1.11. Project's contribution to ITTO

To ITTA 1994 and ITTA 2006

- The project generated a dearth of data and information on medicinal plants which are useful for decision making on NTFP development and biodiversity conservation (Objectives f and l of ITTA 1994).
- The project trained farmers to cultivate, process and market selected NTFP species leading to increased income and reduced poverty (Objective i of ITTA 1994; Objectives q and r of ITTA 2006).

To ITTO Yokohama and 2008-2011 Action Plans

- The project transferred technologies on the efficient utilization of selected NTFP species and increased awareness of the potential contribution of NTFP development to local economies (Goal 2 Actions 5 and 6 of Yokohama Action Plan; Expected Outcome 2 Actions c1 and c2 of 2008-2011 Action Plan).
- The project promoted development of small-scale business on selected NTFP species (Expected outcome 1 Action f of 2008-2011 Action Plan).

4.1.12. Specific matters

As required by the terms of reference, the Consultant has also assessed the following elements of the project:

Impacts of on-station and on-farm cultivation of medicinal plants

Farmers of the four villages participated in the establishment of medicinal plants plantations have acquired the necessary knowledge and skills for growing ginger and other rhizomes the main ingredient of *jamu*. The farmers have also been trained the appropriate techniques for *jamu* making as well as strategy for marketing. In the event that price of sugar rises, farmers refrain from producing *jamu* and prefer selling raw ginger instead.

On-station cultivation of medicinal tree species

- Farmers were fully involved in the planting of selected medicinal tree species on 50 Hectares of land administrated by PT. Inhutani I. The species planted were gaharu, kina, akar kuning, pasak bumi, tabat barito and kayu sepang. BIOMA professionals and project experts have trained the farmers on planting techniques covering seedling production, site preparation, planting and tending. Through learning by doing, the farmers are now conversant with planting techniques for above mentioned species.
- A small medicinal plants orchard was established under the project for educational purposes and genetic conservation. This orchard, however, does not function as planned due to poor maintenance brought about by the weakening financial support by PT. Inhutani I in recent years.

Sustainability of women participation

It was found during the visit to two target villages that, like in the early days of project implementation, women have been more active than men in carrying out activities pertaining to NTFP development. As NTFP business is not the primary source of income for farmer households, it should be handled by wives; husbands normally do the works that generate larger monetary income such as mining, timber harvesting, etc.

4.2. Lessons Learned

- a. Despite the weakness in the project design, particularly in identification of relevant activities, the project had been able to deliver planned outputs and achieve the specific objective. The achievement was attributable mainly to the consistent focus of the PMU on building up capacity of farmers in cultivation of raw materials, in processing of the raw materials and marketing of products. The operational efforts had been consistently devoted to handling three sub-system of NTFP development. While the indicators designed in the project document appeared not fully measurable, assessment of the achievement of outputs and

specific objective has been relatively accurate by thoroughly examining available technical reports and carrying out field observation at the project sites.

- b. Promotion of medicinal NTFP development under the project was quite successful as all planned outputs had been delivered and the specific objective achieved. The key success factor was the active participation of local stakeholders. These farmers-beneficiaries of the four target villages were fully involved in implementing the activities. Their enthusiasm was created through partnership endeavor wherein farmers were always consulted with, in making any operational decisions including selection of NTFP species, sites for planting, venues for workshops, etc. The collaborative approach adopted had proved effective in involving farmers in implementation of project activities.
- c. In the course of project implementation, participating farmers had been able to augment their income through selling of quick yielding plants, such as medicinal plants like ginger and other rhizomes. The financial gain had further intensified their interest in the project. It was learned that involving the poor farmers in implementation of the project was eased by the financial gain yielded in the short term.
- d. Involvement of District extension officers and issuance of PIRT license to household NTFP industries (PIRT) by the District Health Service had also served as an incentive for farmers to take part in the medicinal NTFP development. The psychological effect of this involvement of District authorities was equally important as the financial gain in enforcing enthusiasm of farmers.
- e. Many activities of the project were implemented with the assistance of BIOMA, a local/site-based NGO that had accumulated experience in implementing rural socio-economic development projects. Involvement of BIOMA had made it possible to execute activities in an effective manner due mainly to reduced transportation cost, consistent intensive dialogue with farmers and application of appropriate operational strategies. Level of effectiveness would have been lower had the project employed non-local NGOs.
- f. Farmers were able to sell high quality ginger *simplisia* and *pasak bumi* extract at attractive prices to a manufacturer of *jamu* products outside Kalimantan that met the specifications set by the manufacturer. In promoting medicinal NTFP development, establishment of market network is indispensable. Through market network, information on potential buyers and product specifications required by market can be easily tapped.
- g. Participating farmers have been able to augment their income through small-scale NTFP industry and use the income to finance children to attend local university. This experience has further strengthened the interest of farmers in NTFP business development. Moreover, the opportunity granted by local University Campus for the leader of Semoi I Village to lecture on medicinal plants has also created proud and self confident amongst farmers of being participants of NTFP development endeavor.

5. CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

The following conclusions in the whole evaluation process of the project are shown below, to wit:

- a. The project design was derived through a problem tree analysis in accordance with the ITTO Manual, but no objective tree was developed by the project, as the problem tree should have been inverted to become an objective tree that would clearly show the work breakdown structure of project intervention and indicate the essential project elements. A project design that was based on a problem tree and its corresponding objective tree should have a strong vertical logic. This was not the case of the design of this project.

- b. Likewise, with reference to ITTO's Manual the sub-causes of the main problem were not identified, i.e. it is not so clear how the activities were defined, or where their origin was. Normally, the project activities correspond to the sub-causes of the problem and are meant as the means to address the sub-causes, which are also the problem in nature that need resolving.
- c. There is a need to thoroughly discuss and consult the project beneficiaries about the project elements and activities prior to finalizing and submission of project proposal to avoid changing the project strategy in mid-stream of project implementation. Apparently, Output 3 had been modified during the implementation stage as the development of management plan and business strategy was considered too complicated for farmers to understand and practice. The original Output 3 had thus been redefined as "small business developed". However, redefining of Output 3 should have been followed by an adjustment to the original LFM. As this adjustment was not made, it was difficult to assess achievement of Output 3.
- d. A number of outstanding findings or outputs on NTFPs development focused on plantation management and production of *jamu* or pharmaceutical enterprise for rural communities had been done and documented through project reports, manuals and guidelines. The project produced a dearth of information and data on medicinal forest species and agricultural crops, which were very comprehensive and impressive. However, none of them have been published in any of the international/regional journals, periodicals and newsletters (e.g. INBAR) for wider distribution and utility.
- e. The R & D on cultivation system, processing and marketing of cultivated NTFPs should be continued by the Bogor Agricultural University, Mulawarman University, the District government, PT Inhutani I, in close collaboration with the local forest communities, which can be carried out simultaneously, either individually or in collaborative partnerships.
- f. The project was collaboratively governed and the budget well managed through the PSC at its inception phase (in 2005) until the project completion. Close collaboration between and among key stakeholders enabled them to build linkages and share information and updates in the interest of proper project management and sustainability aspects.
- g. Finally, the project and its impacts have been found successful in improving the living conditions of target farmers' groups, as the transfer of technology went on efficiently due to the fact that the workshops and trainings were organized locally and facilitated mostly by a competent, local/site-based NGO.

5.2 Recommendations

The following recommendations for future actions will further support the sustainability of project benefits and help further development of the NTFPs sector in Indonesia, such as:

- a. The NTFPs, including medicinal forest species should be promoted further by the government through the DG-LRSF in collaborative partnership with private enterprises and pharmaceutical industries, and with rural communities' active participation. The leading role of concerned district governments is very much expected on this important issue.
- b. Key stakeholders group should continue working together towards the preparation of a framework concerning the long-term national NTFPs development strategy which will guide and support all future action plans of the sector.
- c. There is still significant need in the country for information and trainings on all aspects of NTFPs, including medicinal forest trees requiring continued assistance of donor community like ITTO, including dissemination of information that require improvement, i.e. with enhanced and expanded extension services that are consistent with any agreed NTFPs development strategy.

- d. A number of NTFPs demonstration plots located in different forest zones, with local communities active participation should be encouraged and established to further develop and test systems for potential upscaling and replication.
- e. Strengthen key stakeholders' capacity through trainings and improved NTFPs identification and silvicultural techniques by enhancing the planning, programming and implementation activities. In particular, rural people's capacities be developed and improved not only in technical aspects, but also through skills development, e.g. simple book-keeping, recording, filing and accounting procedures, which are prerequisites for organizing farmers' groups/association.
- f. To encourage the production and dissemination of project outputs/findings in local and international/regional journals/papers for promotional purposes and further increase public awareness on the importance of NTFPs.

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Photo Documentation



Upper Left : Yellow & red ginger and other agricultural crops for *jamu*
 Lower Left : Semoi 1 vilagers at their processing center during field visit
 Lower Right : Sungai Merdeka villagers, with billboard, at processing center
 Upper Right : Processed/packaged herbal products, with legal permit (PIRT)

Annex A

Adopted Itinerary for Dr. Antonio Manila ITTO Consultant for the Ex-post Evaluation of Projects PD 286/04, PD 277/04 and PD 108/01

28 May (Fri)

Arriving at Sukarno Hatta International Airport by PR 0535 ETA 11.55 pm
(met by Project PD 286/04)

29 -30 May (Sat - Sun)

Studying the project documents handed over by the EAs at the hotel

31 May (Mon)

Morning:

Attending entry conference at the Center for International Cooperation (CIC), MOF
(the conference is to be arranged by CIC)

Afternoon:

Visiting Projects PD 286/04 and PD 108/01 in Jakarta

1 Jun (Tue)

- Visiting PD 277/04 in Bogor
- Departing for Jakarta by road and for Surabaya by JTS86 at 16.23 pm accompanied by PD 286/04 (ETA Surabaya 17.40 pm)

2 Jun (Wed)

Visiting ISWA Project sites at Jombang (UD. Karya Jati) and Surabaya (PT. Surya Saritama)
(Overnight Surabaya)

3 Jun (Thu)

- Departing Surabaya for Balikpapan by Lion Air JT360 at 06.15 am (ETA Balikpapan 08.40 am)
(to be met by Project PD 277/04 at Balikpapan Airport)
- Traveling from the airport to the Project site
- Visiting the Project site in the afternoon
(Overnight at the Project site/Bangkiral)

4 Jun (Fri)

Morning:

- Visiting the Project site (continued as needed)
- Departing Balikpapan for Jakarta by Mandala RI 395 at 12.30 – 13.30
- Departing Jakarta for Palangkaraya by GA 552 at 14.45
- Arriving at Palangkaraya Airport at 16.25 pm, to be met by PD 108/01
(Overnight Palangkaraya)

5 Jun (Sat)

- Visiting the Project site(s)
(Overnight at the Project site)

6 Jun (Sun)

- Visiting the Project site (continued as needed)
- Traveling from the Project site to Palangkaraya Airport
- Departing Palangkaraya for Jakarta by GA 553 at 17.00 pm
- Arriving at Jakarta Airport at 18.35 pm
- Traveling from the Airport to the hotel accompanied by Project PD 108/01

7 Jun (Mon)

Drafting Report on field visit findings at the hotel

8 Jun (Tue)

Visiting the EAs' Offices in Jakarta and Bogor for final consultation

9 Jun (Wed)

Attending exit conference at CIC Office in Jakarta
(the conference is to be arranged by CIC)

10 Jun (Thu)

- Leaving for Sukarno Hatta Airport, to be accompanied by PD286/04
- Departing Jakarta for Manila by PR 0504 ETD 01.35 pm

Developed in : Jakarta

Date : 31 May 2010

Center for International Cooperation (CIC),

Ministry of Forestry



Annex B

PERSONS/OFFICIALS MET DURING EX-POST EVALUATION OF PD 277/04 Rev.3 (I) IN INDONESIA

A. Center for International Cooperation (CIC), Ministry of Forestry-Indonesia

1. Mr. Heru Wibowo - Senior Staff, CIC
2. Mrs. Kasmalia Sari - Senior Staff, CIC

B. Biopharmaca Research Center, Bogor Agricultural University

1. Prof. Dr. Suminar S. Achmadi - Proj. Leader
2. Prof. Dr. Latifah K. Darusman - Head of BRC-BAU
3. Dr. Yulin Lestari - Proj.Treasurer
4. Dr. Ir. Dodik Ridho Nurrochmat - PIC for Socio-economics
5. Mr. Edy Djauhari - PIC for Processing
6. Mr. Rafi & Mr. Rudy Heryanto - Proj. members

C. PT Inhutani I

1. Mr. Suryadi - Manager
2. Mr. Rafiuddin - Deputy Manager, Bangkirai Unit
3. Mr. Thamrin - Manager, Recreational Unit, Bangkirai

D. BIOMA (local/site based-NGO)

1. Anton Hidayat
2. Junaid Purwanto

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