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Ex-post Evaluation Report
on
The Reforestation and Extension Project
in the Northeast of Thailand (Phase II)

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February 2008

JAPAN INTERNATIONAL COOPERATION AGENCY

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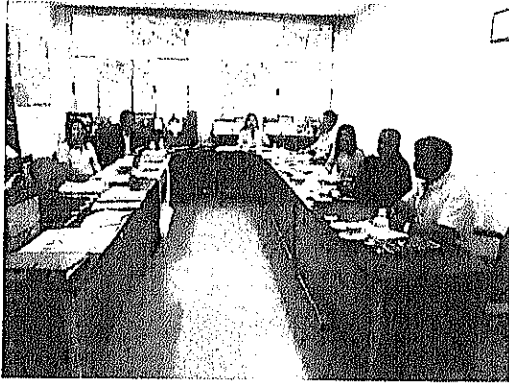
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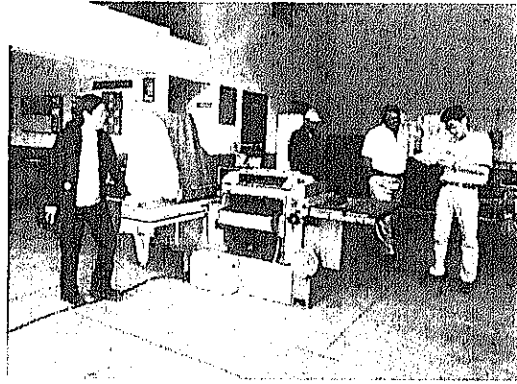
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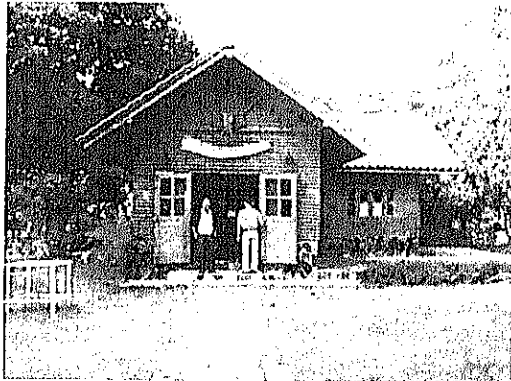
**Photo from Field Survey Trip of
Ex-post Evaluation Study on
The Reforestation and Extension Project in the Northeast of Thailand (Phase II)**



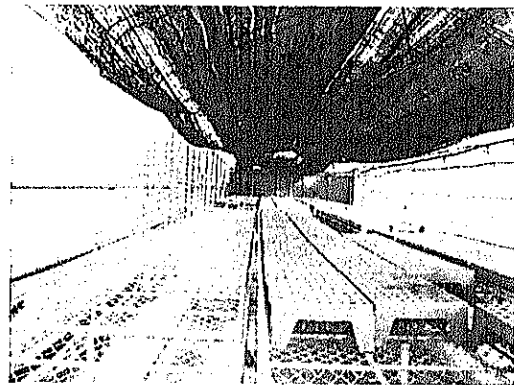
Study team interviews ex-counterparts at ex-REX Center 4 (Nakhonratchasima)



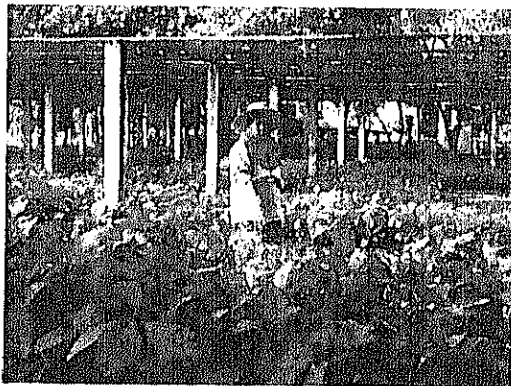
Researcher checks equipment supplied from Japanese side at ex-REX Center 4



Researcher visits the model wood house at ex-REX Center 2 (Udonthani)



Greenhouse at ex-REX Center 2



Teak seedlings are being watered in the nursery unit at ex-REX Center 2



Model farmer at Yasothon province introduces his eucalyptus plantation



Eucalyptus scion garden at ex-REX Center 3 (Yasothon)



Tissue culture laboratory at ex-REX Center 1 (Mahasarakham)



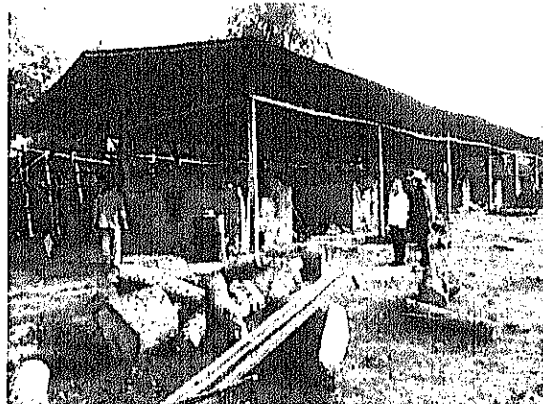
Researcher interviews with teak model farmers at Yasothon province



Researcher and ex-counterparts visit teak plantation at Yasothon province



Model farmer at Nakhonratchasima province presents a wooden door made of eucalyptus at her shop



7 Charcoal kilns belong to one model farmer at Nakhonratchasima province

Abbreviations

FMI	Forest Management Information
FMT	Forest Management Technique
FRMO	Forest Resource Management Office
JICA	Japan International Cooperation Agency
REX II	Reforestation and Extension Project in the Northeast of Thailand (Phase II)
REX Center	Reforestation and Extension Center
REX IC	Reforestation and Extension Information Center
RFD	Royal Forest Department
RPC	Reforestation Promotion Center
T & E	Training and Extension

Summary of Ex-post Evaluation Study

Evaluation conducted by: JICA Thailand Office

1. OUTLINE OF THE PROJECT							
Country: Kingdom of Thailand	Project title: The Reforestation and Extension Project in the Northeast of Thailand (Phase II) (REX II)						
Issue/Sector: Forestry/ Forest Preservation	Cooperation scheme: Technical Cooperation						
Division in charge: Global Environment Dept., Group 1, Forest Conservation Team 1	Total cost : Appr. 500 million yen						
Period of Cooperation 13 December 1999 - 12 December 2004	Partner Country's Implementing Organization: Royal Forest Department (RFD), Ministry of Natural Resource and Environment						
Supporting Organization in Japan: Forestry Agency, Ministry of Agriculture, Forestry, and Fisheries	Related Cooperation: The Reforestation and Extension Project in the Northeast of Thailand (Phase I) (1 Apr. 1994 – 31 Mar. 1997) (Follow-up cooperation: 1 Apr. 1997 – 30 Sep. 1998)						
<p>1-1. Background of the Project</p> <p>The Reforestation and Extension Project in the Northeast of Thailand (Phase I) was implemented for 5 years from April 1992 to March 1997 with the purpose to promote reforestation activities of local people through social forestry approach. The Follow-up cooperation was carried out for 1.5 years after the completion of the Phase I Project. With the achievement of the Phase I Project and Follow-up cooperation, RFD recognized the necessity to take a new approach to ensure the 'sustainable forest management', which leads to restoring environmental conditions and to upgrading the living standards of the local people. There, however, remained some problems, such as the lack of farmers' knowledge in tending, harvesting, and replanting trees. Therefore, RFD requested the Phase II Project in order to achieve the goal of sustainable forest management.</p> <p>1-2. Project Overview</p> <p>(1) Overall Goal Sustainable forest management techniques in small-scale plantation are adopted in the project area</p> <p>(2) Project Purpose Systems for the extension/improvement of the sustainable forest management techniques in small-scale plantation are established in the project area</p> <p>(3) Outputs</p> <ol style="list-style-type: none"> 1. Forest management information is accumulated at RFD 2. Sustainable forest management techniques in small-scale plantation are improved 3. Information and techniques on the forest management are introduced to the residents through the RFD and its network activities 4. Monitoring results are well utilized for the improvement of project activities <p>(4) Inputs Japanese side (Total Cost Appr. 500 million yen) :</p> <table style="width: 100%; border: none;"> <tr> <td style="width: 50%;">Long-term Expert: 8 persons</td> <td style="width: 50%;">Equipment: 97 million Yen</td> </tr> <tr> <td>Short-term Expert: 18 persons</td> <td>Local cost: 68 million Yen</td> </tr> <tr> <td>Trainees received: 15 persons</td> <td></td> </tr> </table>		Long-term Expert: 8 persons	Equipment: 97 million Yen	Short-term Expert: 18 persons	Local cost: 68 million Yen	Trainees received: 15 persons	
Long-term Expert: 8 persons	Equipment: 97 million Yen						
Short-term Expert: 18 persons	Local cost: 68 million Yen						
Trainees received: 15 persons							

Thai side:			
Counterpart: 48 persons		Local Cost: 25,295,890 THB (68 million Yen)	
Land and Facilities: Land, building, and facilities of REX Centres and experimental plot			
2. EVALUATION TEAM			
Evaluation Team	Evaluation Analysis: Takehiro Iwaki (Mr.) (IC Net Asia Co., Ltd.) Assistant Researcher: Dusita Krawanchid (Ms.) (IC Net Asia Co., Ltd.)		
Period of Evaluation	24 October 2007 – 29 February 2008	Type of Evaluation	Ex-post Evaluation
3. PROJECT PERFORMANCE			
3-1. Performance of Project Purpose			
<p>Ex-REX Centers^{*1} have been maintaining reforestation and extension activities in the target area with knowledge, skill, and tools gained through the project within the budget constraints. Although the promotion packages have not been developed by each center, concerned materials for the expansion of reforestation and sustainable forest management activities have been utilized at each center. As the REX Information Center (REX IC) has not been functioning after the completion of the project due to the organizational restructuring, the databases developed during the project have been maintained and utilized only partially.</p> <p>*1: REX Centers have been restructured as Reforestation Promotion Centers (RPC) along with major nursery centers.</p>			
3-2 . Achievement related to Overall Goal			
<p>It is difficult to say clearly whether the overall goal has been achieved without the presetting of measurable indicators in the project design. However, judging from the collected information regarding the indicators of the overall goal, such as the number of community forest and expansion of reforestation group members, it is fair to say that the practice of sustainable forest management techniques has been spread in the target area.</p>			
3-3 . Follow-up of the Recommendations by Terminal Evaluation Study			
<p>Following recommendations were made during the Terminal Evaluation Study.</p> <ol style="list-style-type: none"> 1. Consolidation of existing prototypes developed to produce a promotion package for future activities by the end of the project 2. Clarification of strategies for promoting the project effects to other areas in the Northeast of Thailand by the end of the project. 3. Implementation of activities based on the clarified strategies, including coordination with other institutions. 4. Implementation of training program not only at regional and national level but also for participants from the Greater Mekhong Sub-region (GMS) by utilising data and information accumulated at each center. 5. Continuation of research activities and creation of new research of various species. 6. Utilization of REX IC as a useful tool for formulating reforestation policies and programs. 7. Retaining of the name and functions of REX Center. <p>Recommendations 1, 2, 3 and 6 have not been practiced due to various reasons, such as impacts of organizational restructuring and budget constraints. Regarding the Recommendation 4, RFD conducted an international training course for concerned personnel from GMS countries in 2007. Ex-REX centers have been maintaining their function as centers for reforestation, sustainable forest management, and research activities within the budget constraint (recommendation 3, 5, 7).</p>			

4. RESULTS OF EVALUATION

4-1. Summary of Evaluation Results

(1) Impact

Although it is difficult to say clearly whether the overall goal has been achieved without the presetting of measurable indicators, it is fair to say that the project is in the right track to achieve the overall goal. The summary of the finding is presented below. No negative impact of the project was identified.

<Achievement of the Overall Goal>

- It is fair to say from the collected information and case studies that the number of farmers involved in the reforestation and sustainable forest management has been increasing in the target area.
- It is considered that the awareness of farmers on reforestation and sustainable forest management has been increasing by various factors. The result of the follow-up study conducted by ex-REX Center 1 shows the high level of application of knowledge and skills by farmers after the training.
- The number of the community forest in the northeast of Thailand increased from 1,643 at the time of the Terminal Evaluation Study in August 2004 to 2,737 as of October 2007.

<Other impacts >

- RFD uses the experience of the project in a direction for the promotion of reforestation and sustainable forest management. In 2005, major nursery centers in the country were restructured to RPC to clarify their responsibility not only for the production of seedlings but also for extension activities.
- Forest area in the northeast of Thailand increased by 6% during 2000 – 2004 while forest areas in other regions were decreased or maintained at same level during the same period. The contribution of the project is considered as one of factors for the increase.
- Technical handbooks and other materials developed by the project have been shared with concerned offices by ex-REX Centers.
- It is considered that farmers having relatively large land, who can afford to plant more plant varieties as well as agricultural products and wait for return, are likely to have more benefit from reforestation and forest management activities compared with small farmers. Farmers with relatively smaller land, who have severer constraints in terms of income and farm area compared with large farmers, seem more vulnerable to change their plantation in short-term to follow price increases in specific farm commodities.
- It can be said that the project contributed to the strengthening of communities through the reforestation and sustainable forest management activities in harmony with the government policy to strengthen the community.
- RFD conducted an international training course for concerned personnel from GMS countries in 2007. Course evaluation by the participants indicates the effectiveness of the training.

(2) Sustainability

Although the sustainability of the project effect has been constrained by the organizational restructuring, it can be said that each ex-REX Center has been sustaining reforestation and extension activities by utilizing knowledge, skill, and experience gained during the project. The summary of the finding is presented below.

<Policy Aspects>

- In the 10th National Economic and Social Development Plan (2007-11), the Thai government emphasizes on the importance of sustainable natural resource management in harmony with the 'Sufficiency Economy Philosophy' advocated by the King Bhumibol. The development mission in the plan includes balanced socio-economic development with natural resource and environment as well as the promotion of environment friendly production

and consumption system. It is expected that this direction of the government policy favors the promotion of reforestation and extension of sustainable forest management activities and, thus, enhance the sustainability of the project effect.

<Organizational, Financial, and Human Resource Aspects>

- At the time of the Terminal Evaluation, 2 of 4 ex-REX Centers were under the National Park, Wildlife, and Plant Conservation Department of the Ministry of Natural Resource and Environment as a result of the organizational restructuring. These ex-REX Centers returned under the command of RFD in 2005 to be in the same organizational position with other 2 centers.
- RFD restructured major nursery centers in the country to 12 RPC. As a result of this restructure, 4 ex-REX Centers were integrated in RPC along with other major nursery centers. Although the mission and role of ex-REX Centers basically remained same and project activities have been conducted after the integration to RPC, insufficient budget has been causing difficulties to ex-REX Centers to maintain the scale of activities.
- Ex-REX Centers will become under the command of regional Forest Resource Management Offices (FRMO), which were newly established under RFD in March 2007 to strengthen forest resource management in the region, when the transfer of the command line is enacted. Mission and role of ex-REX Centers may not be changed after the possible change of the command line.
- The numbers of personnel at ex-REX Centers remain same level with the numbers during project period. 12 of 22 ex-counterparts at the end of the project remain in 4 ex-REX Centers.

<Technical Aspects>

- Ex-counterparts and farmers in the target area consider the technical knowledge on reforestation and forest management provided by ex-REX Centers is relevant. Project equipments are generically maintained appropriately except greenhouses established at each center. All greenhouses were not in use with particular reasons, such as high repairing cost and unavailability of spare parts during the field visit.

4-2. Factors that have promoted project

(1) Impact

- An important positive factor for the impact and sustainability of the project is the visualization of successful cases after three years of the project termination. It is assumed that awareness of farmers on reforestation and sustainable forest management has been increased as they see the tangible results.
- 'Sufficiency Economy Philosophy' advocated by the King Bhumibol and increased concern on the global warming have strengthened the government policy on appropriate natural resource management. This has been a tail wind for the promotion of reforestation and sustainable forest management.
- Paper manufacturing companies have increased their business at the target area. The companies sell quality seedlings of fast growing varieties, particularly the eucalyptus tree, and buy the products from growers. The companies have contributed to the extension of plantation and, eventually, provided chances to farmers to increase their income. Recently, the price of the eucalyptus tree has sharply increased. This price increase has been attracting farmers to grow the eucalyptus tree.
- Improvement in communication environment, i.e., rapid expansion of mobile phone network and improved access to the internet, has provided a positive impact on the dissemination of information from ex-REX Centers.

(2) Sustainability

- Factors that have promoted project impact are also considered as factors that has enhanced the sustainability of the project effect.

4-3. Factors that have inhibited project

(1) Impact

- It can be said that allocation of budget to ex-REX Centers has not been consistent with the government policy which favors reforestation and sustainable forest management. Decrease in the budget after the termination of the project has forced ex-REX Centers to scale down activities below their capacities.

(2) Sustainability

- Above mentioned budget constraints are also considered as a factor that has inhibited the sustainability of the project effect.
- During the organizational restructuring in 2003-4, the operation of ex-REX Centers was hindered by the decrease and delay in the distribution of budget, frequent transfer of personnel, and change in the line of command. REX Information Center lost its organizational position after the project and it has affected the sustainability of project effect on forest management information.

4-4. Conclusions

The project has been contributing to the increase in the application of sustainable forest management techniques and awareness of farmers on reforestation in the target area. The experience of successful farmers has encouraged other farmers to follow their practice of reforestation and sustainable forest management. Once farmers recognize the importance and value of tree plantation, they spread reforestation and sustainable forest management work of their own accounts. Therefore, it is fair to say that the project laid the groundwork for reforestation and extension of sustainable forest management activities at the target area. Each ex-REX Center has been trying to sustain reforestation and extension activities within the budget constraints by utilizing knowledge, skill, and experience gained during the project.

4-5. Recommendations

There are following recommendations to RFD.

- Among 4 forest management information databases developed during the project, only 1 database has been maintained. It is recommended to re-activate other databases under the responsibility of Reforestation Promotion Office of RFD. As network environment at ex-REX Centers has been improved, appropriate updating and utilization of the databases are expected once the databases are re-activated.
- It is suggested to share the experience of ex-REX Centers with 8 non-REX RPC through the set-up of database systems, sharing of material, observation trip, and other activities, to expand the impact of the project.
- There are positive external environments for reforestation and extension of sustainable forest management activities, such as increasing concern on the global warming, national interest on natural resource management through 'Sufficiency Economy Philosophy', and increasing budget for local administration offices. Therefore, it is considered appropriate for ex-REX Centers to strengthen coordination with concerned organizations to conduct activities. Development of website will be an effective tool to attract the cooperation.
- Farmers who started reforestation and sustainable forest management activities during the project have been emerged as successful models which other farmers can see the tangible result. The effort of ex-REX Centers to strengthen the network with these farmers should be continued.
- In order to expand and sustain the outcome of the Project, it is recommended to enhance the capacity in the field of wood utilization, which includes the utilization of equipment provided by the project, cutting trees and

maintenance for plantation of native species.

- With its institutional capacity, technical expertise, and experience in practice, it is fair to say that RFD is capable of conducting international training programs for concerned personnel from the countries in the region on reforestation and sustainable forest management effectively in collaboration with ex-REX Centers. It is expected that the implementation of the international training programs will also enhance the motivation of RFD/ex-REX Center staff to develop RFD/ex-REX Centers.

4-6. Lessons Learned

- The project effect has been spread spontaneously among the farmers after the recognition of the benefit from project activities. From this experience, the importance in the project design to consider the understanding of project activities by the beneficiary and tangible benefits for the beneficiary is highlighted.
- Some project activities have been shrunken after the termination of the project. Although organizational restructuring during and after the project and decrease in the budget are considered as major reasons, lack of post-project strategy is considered as another factor for the scale-down of the activities. Although the Terminal Evaluation proposed to clarify the strategies for promoting the project effects, it could have been discussed at the earlier stage of the project. From this experience, development of post-project strategy, such as prioritization on activities, cost-effective implementation method, and budget acquisition to continue activities, is recognized as an important factor to maintain the project effect.
- Measurable indicators for the project overall goal should be clarified in the project design. Without the clear indicators, evaluation result may have to rely on the subjective judgment of the evaluator. Set-up of clear indicators is also important to encourage project counterparts to achieve the overall goal of the project.
- From the experience of the insufficient utilization and maintenance of the greenhouses at each ex-REX Center, importance of careful study for the maintenance and operation cost of project equipments/facilities is also drawn as a lesson learned.

4-7. Follow-up Situation

No follow-up programs have been carried out by the Japanese side since the project termination in 2004.

事後評価調査結果要約表

評価実施部署：タイ事務所

1. 案件の概要	
国名： タイ王国	案件名： 東北タイ造林普及計画フェーズ2 (REXII)
分野： 森林／森林保全	協力形態： 技術協力プロジェクト
所轄部署： 地球環境部第1グループ 森林保全第1チーム	協力金額： 約5億円
協力期間	1999年12月13日 ～2004年12月12日
	先方関係機関：天然資源・環境省 王室林野局 (RFD)
	日本側協力機関：農林水産省 林野庁
他の関連協力：東北タイ造林普及計画フェーズ1 (1994年4月1日～1997年3月31日) (フォローアップ協力：1997年4月1日～1998年9月30日)	
1-1 協力の背景と概要	
<p>東北タイ造林普及計画フェーズI (1994年4月1日～1997年3月31日) では、森林の急激な減少に対し、地域住民による造林活動を推進することを目的として、大規模苗畑管理技術の開発と住民造林活動の普及を主眼とした活動を行ってきた。終了時調査の結果、高品質な苗木の生産技術と林業技術の普及体制の強化がプロジェクトの一層の自立発展に必要であると判断され、1997年4月1日より1.5年間のフォローアップ協力が実施され、当初のプロジェクト目標は概ね達成された。これらの協力を通じて、RFDは環境保全と住民の生計向上につながる持続的森林経営推進のための新たなアプローチの必要性と、対象地域での農民の意識や森林経営技術レベルの低さを認識した。そのため、村落林業の発展と農民参加による持続可能な森林経営を確立させることを目的として、プロジェクトフェーズIIをわが国に要請した。</p>	
1-2 協力内容	
(1) 上位目標	
プロジェクト対象地域内の小規模造林地において、持続可能な森林経営技術が実践される	
(2) プロジェクト目標	
プロジェクト対象地域内の小規模造林地において、持続可能な森林経営技術の改良・普及可能な体制が整う	
(3) アウトプット (成果)	
1. 森林経営のための情報が、王室林野局 (RFD) に蓄積される	
2. 小規模造林地における森林経営技術が改善される	
3. 森林経営のための情報・技術が、RFD およびそのネットワーク活動により住民に伝達される	
4. モニタリングの結果が、プロジェクト活動の改善に活用される	
(4) 投入	
日本側 (総額 約5億円) :	
長期専門家派遣 8名	機材供与 0.97億円
短期専門家派 18名	ローカルコスト負担 0.68億円
研修員受入 15名	
相手国側 :	
カウンターパート配置 48名	
土地・施設提供 REXセンターの土地と施設、試験林等の設置	
ローカルコスト負担 25,295,890 THB (0.68億円)	
2. 評価調査団の概要	
調査者	評価・分析 岩城 岳央 (アイ・シー・ネット・アジア株式会社) アシスタント調査員 ドゥシーク・グラワンチッド (アイ・シー・ネット・アジア株式会社)
調査期間	2007年10月24日 ～ 2008年2月29日 評価種類：事後評価

3. 実績の確認

3-1 プロジェクト目標の状況

プロジェクト対象地の各造林推進センター（旧 REX センター^{*1}）は予算面での制約を受けながら、プロジェクトを通じて得た知識、技術、手法を活用して、造林・持続的森林経営の普及活動を継続している。プロジェクト成果を普及するためのプロモーションパッケージは作成されていないが、普及活動のための関連資料・教材は各センターで活用されている。組織再編の影響により REX 情報センターが機能していないため、プロジェクト期間中に開発された森林経営に関するデータベースは一部のみが維持管理・活用されている。

*1 REX センターは主要苗畑センターを再編した造林推進センター（全国に 12 ヶ所）に組み込まれている。

3-2 上位目標の達成状況

数値指標が設定されていないため上位目標の達成を明言することは難しい。しかし、共有林の数や植林グループのメンバー数の増加から、上位目標である持続可能な森林経営技術の実践がプロジェクト対象地で着実に普及していると考えられる。

3-3 終了時評価での提言の活用状況

終了時評価では以下の提言が挙げられた。

1. 各センターはプロジェクト終了までにこれまでの活動を整理し、今後の活動のための「プロトタイプ」を明らかにすること。
2. プロジェクト終了までにプロジェクト対象地外の東北タイ地域にプロジェクト成果を拡大していくための戦略および手段を明確にすること。
3. プロジェクト終了後、各センターは上記戦略に基づいて活動を行うこと。活動を円滑に行うために、各センターは関連機関との連携を図ること。
4. 蓄積された森林経営技術に関する情報を、タイ国内だけでなく大メコン地域を対象にした活動のツールとして活用すること。
5. 研究活動を継続し、かつ新たな分野の研究を実施するよう RFD に対して推奨すること。
6. RFD が東北タイの森林政策および計画策定のために、REX 情報センターに蓄積された情報と各センターをつなぐネットワークを積極的に活用すること。
7. 上記活動を継続して実施するために、「REX センター」の名称および機能を保つこと。

提言 1、2、3、6 は省庁再編の影響や予算面での制約により十分に実践されているとはいえない。提言 4 については、RFD は 2007 年に造林・持続的森林経営に関する第三国研修を実施している。各旧 REX センターは予算面での制約を受けながら、関係機関と連携し、地域の植林・持続的森林経営、研究活動の中心として機能している（提言 3、5、7）。

4. 評価結果の概要

4-1 評価結果の要約

(1) インパクト

数値指標が設定されていないため上位目標の達成を明言することは難しいが、以下の調査結果から、プロジェクト効果が対象地域で着実に波及しているといえる。プロジェクトによる負のインパクトは認識されなかった。

<上位目標の達成>

- ・フィールド調査中に収集した情報や事例から、対象地域で造林・持続的森林経営に関わっている農民数はプロジェクト終了後も増加していると考えられる。
- ・農民の造林・持続的森林経営に関する意識はさまざまな要因により向上していると考えられる。旧 REX センターI が実施したフォローアップ調査では、多くの農民が研修後に習得した知識や技術を実践していることが明らかになっている。
- ・タイ東北部でのコミュニティ共有林の数は、終了時評価時点（2004年8月）の1643から2737（2007年10月時点）に増加している。

<上位目標以外のインパクト>

- ・RFDはプロジェクトから得た造林・持続的森林経営の知見を政策に反映させている。2005年には造林・持続的森林経営に関する情報・技術普及面での役割を明確にするために、国内の主要な苗畑センターが12の造林推進センターに再編された。
- ・タイ東北部の森林面積は2000年から2004年の間に6%増加した。他の地域での森林面積は同じ期間に減少または微増に留まっており、東北部での森林面積の増加が顕著である。森林面積の増加にはさまざまな要因が考えられるが、プロジェクトによる造林・持続的森林経営に関する啓蒙と情報・技術の普及も貢献要因の一つと考えられる。
- ・プロジェクト期間中に作成された技術ハンドブックや他の資料・教材が旧 REX センターによって関係機関と共有されている。
- ・対象地の農民のうち、比較的大規模な農家は、農作物を栽培しながら長期的に森林経営を行えることから、小規模農家に比べて植林事業からより多くの便益を得ていると考えられる。小規模造林者は、収入や耕作地の面でより強い制約を受けている。
- ・プロジェクトは政府のコミュニティ強化政策と協調しながら、植林と持続的森林経営活動の普及を通じて、対象地のコミュニティの強化に寄与しているといえる。
- ・RFDはプロジェクトから得た知識・技術を活用して、2007年に造林・持続的森林経営に関する第三国研修を実施し、参加者から高い評価を得ている。

(2) 自立発展性

各旧 REX センターは、以下のように、組織再編などの影響を受けながら、プロジェクトから得た知見を活用して植林・持続的森林経営活動の普及を継続している。

<政策面>

- ・第10次国家経済社会開発計画（2007-11）の中で、タイ政府はプミポン国王が提唱する‘充足経済哲学’と関連付けて持続的天然資源管理の大切さを強調している。同計画の開発ミッションには天然資源・環境と調和の取れた社会経済開発や環境を配慮した生産・消費形態の推進が含まれている。こうした政府方針は造林・持続的森林経営を促進し、プロジェクト効果の自立発展性強化につながると期待できる。

<組織・財政・人材面>

- ・プロジェクト終了時評価時点では、省庁再編により4つの旧 REX センターのうち2つのセンターが RFD から天然資源・環境省内の国立公園野生生物保全局に移管されていた。2005年にこれら2つのセンターが RFD に再度移管され、現在はすべての旧 REX センターが RFD 造林推進部の管轄下になっている。
- ・4つの旧 REX センターは主要苗畑センターを再編した造林推進センターに組み込まれた。造林推進センターへの編入後も旧 REX センターの役割は変わらず、プロジェクト活動は継続されている。しかし、各センターへの予算が十分とはいえず、活動の規模が縮小している。
- ・RFD は各造林推進センターを地域レベルでの森林資源管理を強化するために組織化された地域森林資源管理事務所に移管することになっている。移管後も旧 REX センターのミッションと役割は大きく変わらないと予想される。
- ・旧 REX センターの職員数はプロジェクト終了時とほぼ同水準になっている。プロジェクト終了時に4つの旧 REX センターに配属されていた22人のカウンターパートのうち、12人が現在も4つの旧 REX センターに配属されている。

<技術面>

- ・フィールド調査の結果から、旧 REX センターは造林・森林経営に関する有効な知識や技術を提供しているといえる。プロジェクト施設・機材は、各センターに建設されたグリーンハウスを除いて概して適切に維持管理されている。各センターに建設されたグリーンハウスは、高額な修理代や交換部品が入手できないなどの理由により、フィールド調査時には使用されていなかった。

4-2 プロジェクトの促進要因

(1) インパクト発現を促進した要因

- ・プロジェクトのインパクト発現と自立発展性強化の重要な促進要因として、農民による造林・持続的森林経営の成功例の発現が挙げられる。造林・持続的森林経営を先駆的に始めた農民が収入面を含めた便益を示すことにより、周辺の農民の造林・持続的森林経営に対する意識が向上していると考えられる。
- ・国王が提唱する‘充足経済哲学’と地球温暖化に対する関心の高まりなどによりタイ政府は天然資源管理に重点を置いており、このことが造林・持続的森林経営普及の促進要因になっていると考えられる。
- ・プロジェクト対象地では製紙会社が事業を拡大し、ユーカリ苗の販売と成木の買い取りを行っている。事業拡大により造林地の拡大に貢献するとともに、農民に収入向上の機会を提供している。また、最近ではユーカリ用木の買い取り価格が急騰しており、農民のユーカリ林造成を促進している。
- ・急速な携帯電話ネットワークの拡大やインターネット環境の改善などの通信環境の改善により、旧 REX センターからの情報発信やネットワーキングが強化され、インパクトの発現に寄与している。

(2) 自立発展性強化を促進した要因

- ・インパクト発現の促進要因が自立発展性強化の促進要因にもなっているといえる。

4-3 プロジェクトの阻害要因

(1) インパクト発現を阻害した要因

- ・タイ政府は政策上は造林・持続的森林経営を推進しているが、旧 REX センターへの予算配分からは、政策が予算配分に反映されているとはいえない。プロジェクト終了後の予算減が旧 REX センターの活

動実施に支障をきたしている。

(2) 自立発展性強化を阻害した要因

- ・ 上述の予算面での制約がプロジェクトの自立発展性強化の阻害要因にもなっていると考えられる。
- ・ 2003 年から行われた省庁再編は、予算額の減少や配分の遅れ、頻繁な人事異動、指揮系統の変更などにより、旧 REX センターの運営に悪影響を及ぼした。プロジェクト終了後、REX 情報センターは組織上なくなり、森林経営情報システムの自立発展性の強化を阻害している。

4-4 結論

プロジェクトはタイ東北部での造林・森林経営技術の普及と農民の意識の向上に寄与している。造林・持続的森林経営を率先して行った農民が成功モデルとして発現し、彼らを通じて造林・持続的森林経営の実践が広がっている。今後は、成功した農民を通じて周辺の農民が造林・持続的森林経営の重要性と価値を認識し、活動が自発的に広がることが期待できる。従って、プロジェクトはプロジェクト活動を通じて活動対象地における造林・持続的森林経営普及の下地を作ったといえる。各旧 REX センターは予算面で厳しい制約を受けながらも、プロジェクトを通じて得た知識、技術、手法を活用し、造林・持続的森林経営知識・技術の普及活動を継続している。

4-5 提言（当該プロジェクトに関する具体的な措置、提案、助言）

- ・ プロジェクト期間中に開発された 4 つの森林経営情報データベースのうち、技術的な問題により 3 つのデータベースが活用されていない。これらのデータベースが補修され、RFD 造林推進部により維持管理されることが望まれる。各旧 REX センターでのインターネット環境は改善しており、データベースが活性化されれば、情報が適切にアップデートされ、活用されることが期待できる。
- ・ プロジェクトのインパクト拡大のために、旧 REX センターの知識、技術を、データベースシステムや資料などの共有、活動の視察などを通じて他の 8 つの造林推進センターと共有することが提案される。
- ・ 地球温暖化への関心の高まりや「充足経済哲学」を通じた天然資源管理政策の強化、地方自治体予算増加など、地域での造林・持続的森林経営普及を推進する環境が整っており、旧 REX センターが関係機関との協力を強化しながら活動を行っていくことが重要だと考えられる。各センターでのウェブサイトの構築を通じた情報の発信は、関係機関との協力を模索していく上で効果的なツールだと考えられる。
- ・ 造林・持続的森林経営の成功モデルとして発現している農民は、今後造林・持続的森林経営を普及していく上で重要な役割を担うと考えられる。旧 REX センターは引き続きこうした先駆的な農民とのネットワークの強化に努めるべきである。
- ・ プロジェクト機材の有効活用による木材利用、挿し木技術の向上、在来樹種の造林支援など、プロジェクト効果の維持と拡大のための支援を検討する余地があると思われる。
- ・ RFD は旧 REX センターと協力しながら、タイ国内のみでなく、周辺国の関係者を対象にした造林・持続的森林経営分野での研修プログラムを効果的に行う十分な組織的・技術的な能力と実践経験を持っているといえる。研修プログラムの実施が、RFD と旧 REX センタースタッフのモチベーション向上にもつながると期待できる。

4-6 教訓(当該プロジェクトから導き出された類似プロジェクトの発掘・形成、実施、運営管理に参考となる事柄)

- ・ 当該プロジェクトでは、成功例の発現によりプロジェクト効果が対象者間で自発的に広がっているといえる。この経験から、プロジェクトを形成する際には、受益者によるプロジェクト活動の理解と受益者

がプロジェクト活動から得られる明確な便益の発現に十分に配慮することが重要であるといえる。

- ・当該プロジェクトでは、プロジェクト終了後に縮小した活動がある。プロジェクト終了前後に行われた省庁再編と予算削減が主な要因だと考えられるが、プロジェクト終了後の明確な活動戦略の欠如も活動縮小の一因であると考えられる。終了時評価時にプロジェクト効果を拡大していくための戦略および手段を明確にすることが提言として挙げられたが、より早い段階での検討が可能であったと考えられる。この経験から、プロジェクト実施段階から、活動の絞込み、費用対効果の観点から効率的な活動実施方法の検討、予算措置、など、プロジェクト終了後に向けた活動戦略を策定することがプロジェクト効果の維持に重要であるといえる。
- ・プロジェクト上位目標の達成を計るための明確な指標が設定されるべきである。明確な指標がない場合、プロジェクト上位目標達成の評価が評価者の主観的判断に委ねられる可能性がある。明確な指標の設定により、プロジェクト・カウンターパートが上位目標達成により高い意識を持って取り組むことが期待できる。
- ・当該プロジェクトで各旧 REX センターに建設したグリーンハウスの維持管理の難しさから、プロジェクトによる施設建設と機材購入に際しては、維持管理費用・方法について事前に十分に検討する必要があることが教訓として抽出される。

4-7 フォローアップ状況

プロジェクト終了後に日本側により行われたフォローアップ・プログラムはない。

1. OUTLINE OF THE EX-POST EVALUATION STUDY

1.1 Background and the Purpose of the Study

Japan International Cooperation Agency (JICA) implemented 'The Reforestation and Extension Project in the Northeast of Thailand (Phase II) (REX II Project)' with the government of Thailand under the technical cooperation program for the period of five years from December 1999 to December 2004. The purpose of the project was to establish systems for the extension and improvement of the sustainable forest management techniques in small-scale plantation in the Northeast of Thailand.

The REX II Project was identified as one of three target technical cooperation projects for 'Ex-post Evaluation Study on Three Project in the Kingdom of Thailand 2007', which was designed and funded by JICA Thailand Office, to evaluate the impact and sustainability of project effects three years after the completion of the projects. The ex-post evaluation study has following objectives.

- 1) To evaluate and confirm the impact and sustainability of the projects after a certain period had passed since the completion of the projects
- 2) To derive lessons and recommendations for the improvement of JICA country programs and for the planning and implementation of more effective and efficient projects
- 3) To ensure accountability to tax payers through producing reports in both electronic and printed forms

1.2 Evaluation Team and the Study Period

1.2.1 Evaluation team

The evaluation team for the ex-post evaluation study on REX II Project was comprised of following two members.

	Position	Name	Organization
1	Evaluation Analysis	Takehiro Iwaki (Mr.)	IC Net Asia Co., Ltd.
2	Assistant Researcher	Dusita Kwaranchid (Ms.)	IC Net Asia Co., Ltd.

1.2.2 Study period

The study was conducted from 24 October 2007 to 29 February 2008 as below.

Date	Activity	Output
24 Oct, 2007	• Kick-off Meeting with JICA Thailand Office	
till 12 Nov, 2007	• Collection of information/ data • Document review • Development of Evaluation Grid and Questionnaires	• Evaluation Grid • Questionnaires
till 17 Dec, 2007	• Collection of information/data • Field visit • Development of Draft Evaluation Report	• Draft Evaluation Report
till 17 Jan, 2008	• Conducting supplemental study • Development of Draft Final Report and Draft Summary Sheets	• Draft Final Report • Draft Summary Sheets
till 29 Feb, 2008	• Conducting supplemental study • Development of Final Report and Summary Sheets	• Final Report • Summary Sheets

1.3 Outline of the Project

The outline of the Project is summarized in the table below.

Project Title	The Reforestation and Extension Project in the Northeast of Thailand (Phase II) (REX II Project)
Type of Cooperation	Technical Cooperation
Project Overall Goal	Sustainable forest management techniques in small-scale plantation are adopted in the project area
Project Purpose	Systems for the extension/improvement of the sustainable forest management techniques in small-scale plantation are established in the project area
Project Outputs	<ol style="list-style-type: none"> 1. Forest management information is accumulated at RFD 2. Sustainable forest management techniques in small-scale plantation are improved 3. Information and techniques on the forest management are introduced to the residents through the RFD and its network activities 4. Monitoring results are well utilized for the improvement of project

	activities
Cooperation Period	13 December 1999 - 12 December 2004
Implementing Agency in Thailand	Royal Forest Department (RFD), Ministry of Natural Resource and Environment
Supporting organization in Japan	Forestry Agency , Ministry of Agriculture, Forestry, and Fisheries

2. STUDY METHOD

2.1 Stakeholders and Necessary Information/Data

The evaluation study was designed to collect necessary information/ data to assess the project mainly in terms of impact and sustainability of project effects as well as contributing/ disturbing factors based on the evaluation questions listed in the evaluation grid for the study (see the attachment 1, 'Evaluation Grid'). Following stakeholders were identified as targets for the collection of information/ data.

- 1) Concerned personnel of RFD
- 2) Ex-counterparts of REXII Project
- 3) Officers of Ex-REX Centers
- 4) Beneficiaries (farmers)

2.2 Study Method

Following methods were used to collect necessary information/data. The targets of interview and questionnaire survey were selected upon consultation with the concerned personnel of RFD.

- 1) Document review
 - Terminal Evaluation Report and Final Report of REX II Project
 - Annual Report and other documents of RFD
 - Statistics, training reports, and other documents provided by ex-REX Centers
 - Other related documents
- 2) Questionnaire survey
 - Ex-counterparts of REX II Project (16 persons)
- 3) Interview
 - Concerned RFD personnel (2 persons)
 - Officers at ex-REX Centers (13 persons)

(please see the list of interviewees in the Attachment 2 'List of Interviewees')

4) Focus Group Discussion

- Farmers (3 times at Udonthani, Yasothorn, and Nakhonrachasima)

3. STUDY RESULTS

3.1 Organization Restructuring of ex-REX Centers

At first, results of organizational restructuring during 2003-2005 and current organizational structure of RFD/ex-REX centers are summarized in this section as basic information of this ex-post evaluation study.

At the time of the Terminal Evaluation of the project, two of four ex-REX Centers, namely ex-REX Center 3 (Yasothorn) and Center 4 (Nakhonrachasima) were under the National Park, Wildlife, and Plant Conservation Department of the Ministry of Natural Resource and Environment. These two ex-REX Centers returned under the command of Reforestation Promotion Office of RFD in 2005 to be in the same organizational position with ex-REX Center 1 (Mahasarakham) and Center 2 (Udonthani).

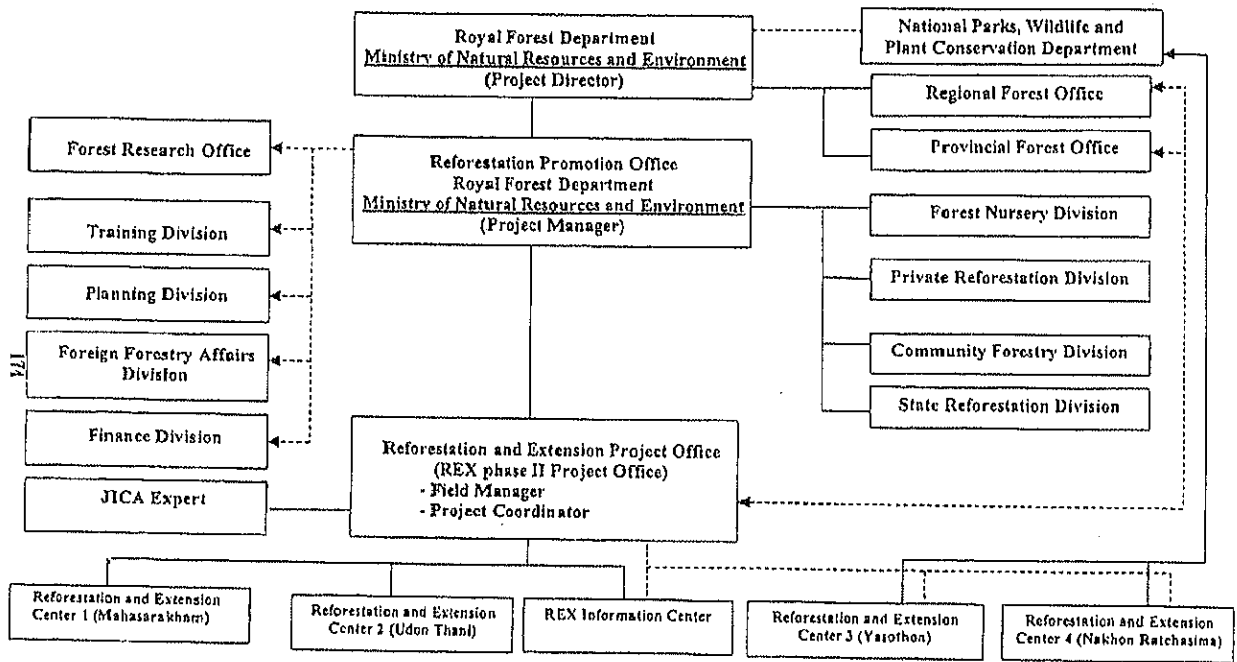
In 2005, RFD restructured major nursery centers in the country to 12 Reforestation Promotion Centers (RPC)¹. As a result of this restructure, 4 ex-REX Centers were integrated in RPC along with other major nursery centers. The situation of ex-REX Centers during the project and present situation are summarized in the table in the next page.

19 regional Forest Resource Management Offices (FRMO) were established under RFD in March 2007 to strengthen forest resource management in the region. 12 RPC, which are under the command of Reforestation Promotion Office at present, may become under the command of FRMO in the near future when the transfer of the command line is enacted with the approval of the Office of the Civil Service Commission and Civil Society Bureau. The organization structure of RFD at the time of the Terminal Evaluation and current organizational structure are presented in the page 6.

¹ Reforestation Promotion Center (RPC) can be translated as Reforestation Extension Center from the Thai name of the center. In this report, the name is translated to RPC to avoid the confusion with REX Centers during the project.

	REX Centers (2004)	Ex-REX Centers (2007) (Reforestation Promotion Centers: RPC)																										
Coverage	REX C1: <u>Maharakham</u> (location of the center), Khonkaen, Roiet, Kalasin	RPC5: Same with REX C1																										
	REX C2: <u>Udonthani</u> , Nongkhai, Sakonnakhon, Loei, Nakhonphanom, Mukdahan, Nongbualamphu	RPC8: <u>Udonthani</u> , Nongkhai, Sakonnakhon, Loei, Nakhonphanom,																										
	REX C3: <u>Yasotorn</u> , Amnatcharoen, Sisaket, Ubonrachathani, Surin,	RPC6: <u>Yasotorn</u> , Amnatcharoen, Mukdahan, Nongbualamphu																										
		RPC 7: <u>Sisaket</u> , Ubonrachathani, Surin																										
	REX C4: <u>Nakhonrachasima</u> , Chaiyaphun, Buriram	RPC4: Same with REX C4																										
Structure	Following organizational structure of REX Centers is basically maintained at RPC																											
	1. Administration Section 2. Forest Management Information Section (FMI Section) i) DB Management, ii) Media Material Production & PR, iii) Planning, Monitoring, Evaluation 3. Forest Management Technique Section (FMT Section) i) Nursery, ii) Demonstration Plantation, iii) Wood Utilization 4. Training and Extension Section (T&E Section) i) Extension, ii) Training																											
Number of personnel	(2004/5) REX C1: Officer 5, Regular contract staff 4 REX C2: Officer 7, Regular contract staff 5 REX C3: Officer 7, Regular contract staff 2 REX C4: Officer 7, Regular contract staff 8	(2007/8) RPC 5: Officer 5, Regular contract staff 5 RPC 8: Officer 10, Regular contract staff 4 RPC 6: Officer 5, Regular contract staff 1 RPC 4: Officer 6, Regular contract staff 9																										
Budget	<table border="1"> <thead> <tr> <th></th> <th>Average of 2000/1 – 2004/5</th> <th>2005/6</th> <th>2006/7^{*1}</th> <th>2007/8^{*1}</th> </tr> </thead> <tbody> <tr> <td>REX C1/ PRC 5</td> <td>B682,510</td> <td>B1,017,390</td> <td>B 100,000</td> <td>B360,000</td> </tr> <tr> <td>REX C2/ PRC 8</td> <td>B1,748,603</td> <td>B1,823,530</td> <td>B 100,000</td> <td>B215,000</td> </tr> <tr> <td>REX C3/ PRC 6</td> <td>B1,213,752</td> <td>B975,827</td> <td>B 100,000</td> <td>B1,010,000^{*2}</td> </tr> <tr> <td>REX C4/ PRC 4</td> <td>B1,769,414</td> <td>B1,757,299</td> <td>B 100,000</td> <td>B345,000</td> </tr> </tbody> </table>				Average of 2000/1 – 2004/5	2005/6	2006/7 ^{*1}	2007/8 ^{*1}	REX C1/ PRC 5	B682,510	B1,017,390	B 100,000	B360,000	REX C2/ PRC 8	B1,748,603	B1,823,530	B 100,000	B215,000	REX C3/ PRC 6	B1,213,752	B975,827	B 100,000	B1,010,000 ^{*2}	REX C4/ PRC 4	B1,769,414	B1,757,299	B 100,000	B345,000
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	*1 Budgets for 2006/7 and 2007/8 do not include budget for nursery centers under RPC																											
	*2 Including extra budget for the renovation of building and maintenance of machines/ equipments																											

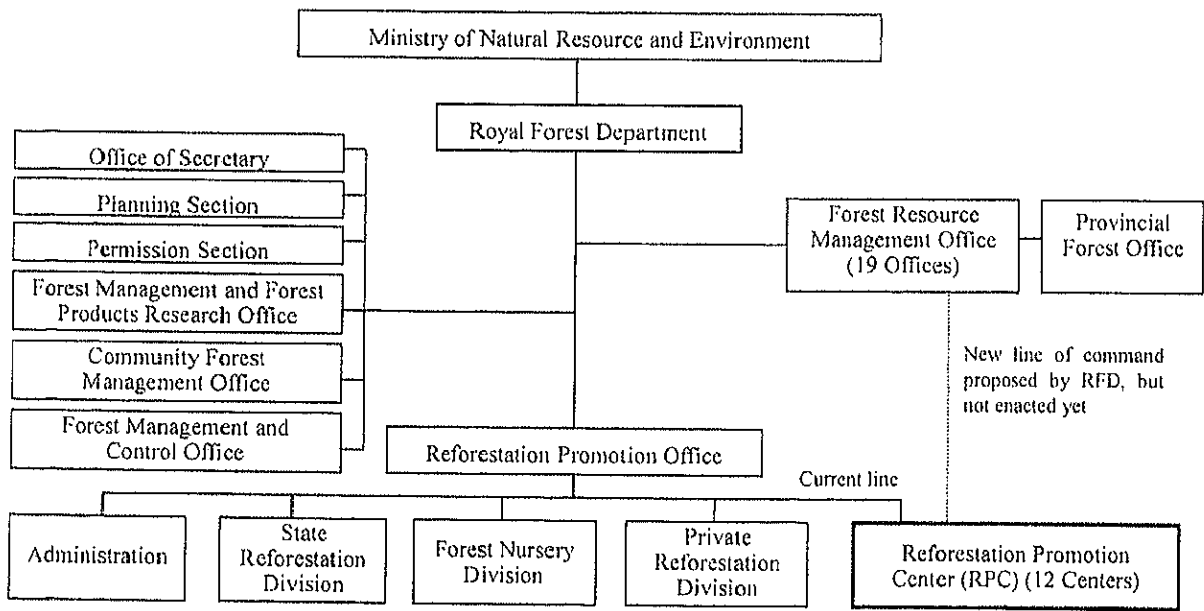
ORGANIZATION CHART OF REX II AT THE END (IN 2004)



Legend: Line of Command ———
Line of Communication and Integration - - - - -

Source: Terminal Evaluation Report

ORGANIZATION CHART OF RFD AND EX-REX CENTERS IN DECEMBER 2007



• Database and network of REX IC are partly maintained

• REX C1 (Mahasarakham) →RPC5

• REX C2 (Udonthani) →RPC8

• REX C3 (Yasothon) →RPC6

• REX C4 (Nakhourachasima) →RPC4

Legend: Line of Command ———

Source: Developed by the evaluation team based on the Information collected from RFD

3.2 Impact of the Project

3.2.1 Achievement of Overall Goal

Although it is difficult to say clearly whether the overall goal has been achieved without the presetting of measurable indicators in the project design, it is fair to say the practice of sustainable forest management techniques has been spread in the target area. It is also expected that the adoption of sustainable forest management technique will continue to expand in the future. Achievement of Overall Goal is analyzed with 3 indicators in the project design; 1) Number of farmers who started new activities and kinds of activities, 2) number of community forest, and 3) change of farmer's consciousness.

1) Number of farmers who started new activities and kinds of activities

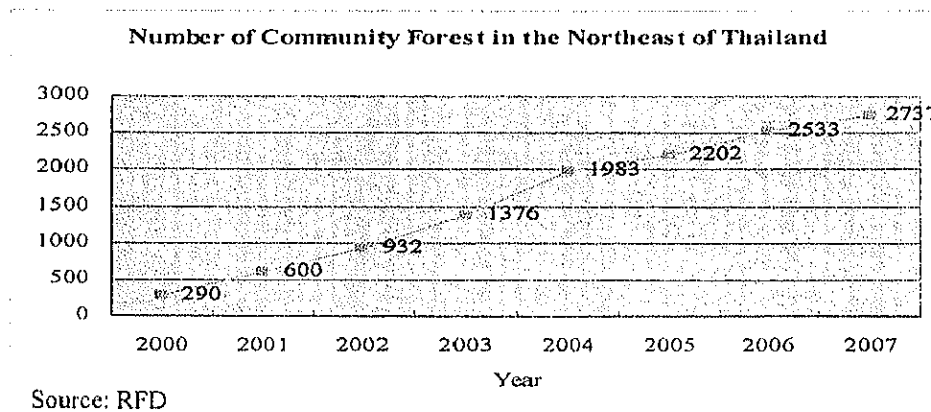
Although the evaluation team could not collect valid data for the number of farmers who started new activities at the target area and kinds of activities, it is considered that more farmers have been involved in the reforestation and sustainable forest management activities based on the information provided by ex-counterparts and farmers during the evaluation study. This inference is supported by the following cases identified during the study.

	Province	Activities
1	Udonthani	A women's group has introduced reforestation and maintenance of plantation as a type of deposit for saving group. There are 80 members in the group.
2	Udonthani	A farmer started to make wooden huts after the training conducted by the project 5 years ago. Now, this person has a group of 20 farmers involved in the work.
3	Yasothon	Number of group members for reforestation at the model area increased from 42 at the time of establishment in 2002 to 61. The members are engaged in charcoal production.
4	Sisaket	According to the information from ex-REX Center 3 staff, a candidate community of the model area during the project conducted thinning at the teak tree plantation based on the information and training provided during the project.
5	Nakhon rachasima	Wood Plantation, Products, and Energy Society, which was established during the project, is still active with 55 members. According to the information provided by ex-REX Center 4, the number of model areas in the target areas of ex-REX Center 4 increased from 1 to 6 in cooperation with the society.

6	Nakhon rachasima	The members of the Kritsanar (Eagle wood) Plantation and Processing Group in the province increased from 75 at the time of establishment in 2002 to more than 200. The membership has expanded to other provinces.
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2) Number of community forest

The number of the community forest in the northeast of Thailand increased from 1,643 at the time of the Terminal Evaluation in August 2004 to 2,737 as of October 2007. As can be seen from the table below, the number of community forest in the northeast of Thailand has been steadily increasing since 2000.



With the government policy to transfer the natural resource management from the state to the community, continuous increase in the number of community forest is expected. Ex-REX centers have been providing seedlings, which meet the species for community, forest and training for reforestation.

3) Change of farmer's consciousness

From the interview with ex-counterparts and group discussion with farmers, it is considered that the awareness of farmers on reforestation and sustainable forest management has been increasing by various factors.

The following result of the questionnaire survey to ex-counterparts shows their understanding for the consciousness of farmers on reforestation and sustainable forest management (see the result of the questionnaire survey in the Attachment 3 'Result of Questionnaire Survey').

<Response of ex-counterparts for consciousness of farmers on reforestation and sustainable forest management>

Consciousness of farmers compared with the time of the Terminal Evaluation	Highly increased	Fairly increased	Slightly increased	Not changed	Decreased	Total
	1	13	1	1	0	16
Acceptance of mission and activities of REX Centers by farmers	By more than 80% of farmers	60-79%	40-59%	20-39%	Below 20%	Total
	4	11	1	0	0	16

The following result of the follow-up study conducted by ex-REX Center 1 shows the high level of application of knowledge and skills by farmers. Basic skills for reforestation and forest management, such as branch cutting, have been carried out by the majority of training participants. It is also noted that farmers contacted during the evaluation study highly appreciate the information/skills provided by ex-REX Centers through the training, follow-up visit, and supports to strengthen farmers' network.

<Application of activities by the participants of training conducted by ex-REX Center 1 in 2004>

Activity	Yes	No	No answer	% of Yes
1. Nursery Seedling	105	70	191	29%
2. Public land, community forest and empty land utilization	155	131	80	42%
3. Planting and nurturing tree	176	140	50	48%
4. Reforestation in agri-forest system	166	175	25	45%
5. Establishment of community forest	158	196	12	43%
6. Branch cutting	286	75	5	78%
7. Wood crafting	160	171	35	44%
8. Group formation	201	95	70	55%
9. Thinning	127	189	50	35%
10. Charcoal burning stove career development	28	76	262	8%
11. Public relations for reforestation promotion	180	176	10	49%
12. Training	203	163	-	55%
13. Career development for forest plantation	296	70	-	81%
14. Action plan planning	2	364	-	0%
15. Animal raising in forest plantation	286	80	-	78%

Source: Summary of Monitoring and Evaluation on the Training conducted in 2004, RPC 5

3.2.2 Impact not anticipated at project completion

1) Impact to government policy

RFD uses the experience of the project in a direction for the promotion of reforestation and sustainable forest management. In 2005, major nursery centers in the country were restructured to RPC to clarify their responsibility not only for the production of seedlings but also for extension activities.

2) Impact to environmental aspect

As presented in the table below, forest area in the northeast of Thailand increased by 6% during 2000 – 2004 while forest areas in other regions were decreased or maintained at same level during the same period.

<Forest land in 2000 and 2004 in Thailand>

Region	2000	2004	Increase/decrease
North	96,270.3 km ²	92,068.4 km ²	- 4%
Northeast	26,526.9 km ²	28,095.7 km ²	+ 6%
Central	21,336.3 km ²	21,146.7 km ²	- 1%
East	8,204.3 km ²	8,012.8 km ²	- 2%
South	15,320.4 km ²	15,509.3 km ²	+ 1%
<i>Total</i>	<i>167,658.2 km²</i>	<i>164,832.9 km²</i>	<i>- 2%</i>

(Source: Preliminary Forest Land Use Assessment in 2000 and 2004, RFD)

(available at <http://www.forest.go.th/stat/stat49/TAB1.htm>)

Although many factors are considered for the increase in the forest land in the northeast of Thailand, the contribution of the project is considered as one of factors for the increase. According to the Director of the Reforest Promotion Office, RFD, reforestation at the private land by farmers, who look for the economic return from forest management activities, may be one of major factors of this increase in the northeast of Thailand.

3) Impact to non-target areas

Technical handbooks and other materials developed by the project have been shared with

concerned offices by ex-REX Centers. More interaction and sharing between 4 ex-REX Centers and other 8 RPC in non-target areas are expected to spread the project effect to non-target areas.

4) Impact to specific group

It is considered that farmers having relatively large land, who can afford to plant more plant varieties as well as agricultural products and wait for return, are likely to have more benefit from reforestation and forest management activities compared with small farmers. Farmers with relatively smaller land, who have severer constraints in terms of income and farm area compared with large farmers, seem more vulnerable to change their plantation in short-term to follow price increases in specific farm commodities.

5) Strengthening of community

It can be said that the project contributed to the strengthening of communities through the reforestation and sustainable forest management activities in harmony with the government policy to strengthen the community. As presented in the section 3.2.1. of this report, more farmers have been involved in the group work for reforestation and sustainable forest management.

6) International training program for neighboring countries

It is considered that RFD/ex-REX Centers has appropriate institutional capacity to conduct international training programs for neighboring countries, particularly for subjects like seedling development, extension system, and planting technique, with following advantages.

- Number and quality of facilities and experimental plots
- Personnel having expertise in the field of reforestation and sustainable forest management
- Accumulation of practical experience in research and implementation, including techniques transferred from Japanese experts

Although other organizations, such as universities and research institutes, may have advantages in academic knowledge compared with RFD/ex-REX Centers, it is fair to say that RFD/ex-REX Centers is in a leading position to conduct the training program in Thailand, particularly for counterpart government officials from neighboring countries.

The following course evaluation by the participants of the International Training Course conducted in November 2007 by RFD with the 22 participants from Cambodia, Lao PDR, Myanmar, Vietnam, and China indicate the effectiveness of the training.

<Evaluation of the International Training Program by course participants>

1. Fulfillment of expectation	Low	Medium	High
	0	7	15
2. Training method	Poor	Good	Excellent
	0	15	7
3. Application of Techniques and Knowledge	Not at all	Partly	A lot
	0	12	10

According to the Director of Reforestation Promotion Office, RFD, the office has a vision to develop RFD to a knowledgeable organization to provide training on reforestation and sustainable forest management in the tropical zone in cooperation with Japan and ASEAN countries. No limitations/constraints were identified during the interview with officers of RFD/ex-REX Centers to conduct regional training.

3.3 Sustainability

3.3.1 Government policy

In the 10th National Economic and Social Development Plan (2007-2011), the government of Thailand emphasizes on the importance of sustainable natural resource management in harmony with the 'Sufficiency Economy Philosophy' advocated by the King Bhumibol. The development mission in the plan includes balanced socio-economic development with natural resource and environment as well as the promotion of environment friendly production and consumption system. The plan also put an emphasis on capacity building of the community on various issues, including natural resource management.

It is expected that this direction of the government policy favors the promotion of reforestation and extension of sustainable forest management activities and, thus, enhance the sustainability of the project effect.

3.3.2 Organizational aspects

Organizational structure of ex-REX Centers has been maintained under RFD. Currently, performance of ex-REX Centers is directly monitored by the Reforestation Promotion Office, RFD, by monthly report from ex-REX Centers and regular visit by the staff of Reforestation Promotion Office. If ex-REX Centers become under the command of FRMO, as explained in section 3.1, page 4 of this report, FRMO will be responsible for the operation of ex-REX Centers. Mission and role of ex-REX Centers may not be changed after the possible change of the command line. The evaluation team did not find systematic approaches, such as development of work guidelines, to transfer the project activities to newly assigned personnel. The project activities conducted under ex-REX IC have been partly maintained at Forest Nursery Division of Reforestation Promotion Office, RFD.

3.3.3 Current situation of counterpart personnel

The numbers of personnel at ex-REX Centers remain same level with the numbers during project period. 12 of 22 ex-counterparts at the end of the project remain in 4 ex-REX Centers. The current position of ex-counterpart personnel during the project period is shown in the Attachment 4 'Present Position of Ex-Counterparts'.

3.3.4 Technical aspects

It was found that ex-counterparts and farmers consider the technical knowledge on reforestation and forest management, such as seedling, planting, pruning, and wood utilization, provided by ex-REX Centers is relevant. Based on the training assessment reports of ex-REX Centers, satisfaction of the training participants on the forest management technique remains high. However, there is a concern among center staff that insufficient allocation of budget may hinder the further development of technical knowledge.

During the field visit to 4 ex-REX Centers, the evaluation team examined the condition of project equipments which cost more than 100,000 baht per unit. Equipments are generically maintained appropriately except greenhouses established at each center. All greenhouses were not in use with particular reasons, such as high repairing cost and unavailability of spare parts (see the detail in Attachment 5 'List of Equipment').

3.3.5 Financial aspects

Although direct comparison may not be appropriate due to the change in the financial management system after the organizational restructuring, insufficient budget for ex-REX Centers has been causing difficulties to each ex-REX Center to maintain the implementation of project activities, particularly for research and extension work. Each ex-REX Center has been trying to maintain reforestation and forest management activities efficiently within the budget constraints by utilizing knowledge, skill, and experience gained from the project.

3.3.6 Sustainability of project effects

Although the scale and frequency have been decreased, each ex-REX Center has been implementing activities in the following fields with the utilization of knowledge, skill, and experience gained during the project within the limitation of reduced budget.

1) Forest Management Information

Forest management information has not been provided to farmers and concerned organizations systematically mainly due to the poor maintenance and utilization of databases developed during the project and lack of budget to conduct surveys for data collection. Current situation of information management is summarized in the table below based on the issues identified by the Terminal Evaluation Team.

< Progress/ current situation of project activities on forest management information based on the issues to enhance the project effect (identified by the Terminal Evaluation Team) >

	Issues	Current situation
1	Operation of database system	<p>During the project, following 4 databases were developed.</p> <p>1) Wood Market and Wood Products System, 2) Small-scale Plantation record System 3) Training and Extension System 4) Seedling Distribution System</p> <p>Out of 4 databases, only Seedling Distribution System has been updated with the information from each ex-REX Center. Other 3 databases are not updated due to system problems. Ex-REX Centers identify the benefit of</p>

		these databases, particularly Wood Price and Wood Market and Wood Products System.
2	Improvement of network environment	Ex-REX Center 2 and Center 4 are connected to ADSL. Ex-REX C3 is using satellite system (IPSTAR). Ex-REX C1 can use only dial-up connection, but the center staff can use the broad band network of FRMO in the same compound.
3	Enhancement of the function of REX IC and quality of data	REX IC does not organizationally exist. Among 4 databases developed during the project, Seedling Distribution System is somehow maintained and updated by the Division Chief of Seedling Development Sub-Division, Forest Nursery Division, Reforestation Promotion Office, RFD, who was the chief of the REX IC at the time of project termination.
4	Allocation of appropriate budget and personnel to improve hardware/ software	Numbers of personnel at 4 REX Centers are remained at same level. There are chronic financial needs to maintain and improve software and hardware for information management.
5	Improvement of the skill of concerned personnel	According to the interview and questionnaire study, ex-REX Center staff think they have sufficient knowledge and skill to maintain the databases.
6	Information sharing with government organizations	Ex-REX Center 3 has been providing information to concerned organizations through the web-site. Ex-REX Center 2 and Center 4 are developing their own websites to share the information with concerned organizations (80-90% completed).
7	Information sharing with social organization	

From the result of the questionnaires to ex-counterparts as presented below, it can be summarized that ex-REX Center staff has managed to maintain and utilize the information system, but their satisfaction level is not very high.

<Evaluation on information system by ex-counterpart>

	Very good	Good	Fair	Poor	Very poor	Total
1) Accumulation of data/ information	1	7	6	2	0	16
2) Maintenance/ updating of contents	0	7	7	2	0	16
3) Information sharing among REX Centers	1	3	9	2	1	16
4) Utilization by REX Staff and beneficiaries	0	4	12	0	0	16

2) Forest Management Technique

Ex-REX Centers have been following the direction of the project for the improvement and

extension of sustainable forest management techniques. However, due to budget constraints and change of personnel, some of project activities have been left behind. The progress and current situation of activities initiated during the project is summarized below.

<Progress/ current situation of project activities on forest management techniques>

Category of activity	Progress and current situation
Nursery Technique	<ul style="list-style-type: none"> • There is not much follow-up and utilization of plus trees selected during the project • Clone bank is maintained only at ex-REX Center 3 • Scion gardens are maintained at all ex-REX Centers • All centers maintain the production of cutting trees. However, greenhouses are tentatively not in use at all centers.
Reforestation Technique	<ul style="list-style-type: none"> • Research activities have been shrunken mainly due to budget limitations. • Ex-REX Center 3 developed following technical papers after the termination of the Project; 1) Rooted Cutting of E. Camaldulensis, 2) Clonal test of E. Camaldulensis Dehnh., 3) Fertilizer on short production of teak, and 4) Fertilizer and light intensity on growth of rattan in plantation area
Forest Product Utilization	<ul style="list-style-type: none"> • Exhibition corners at each center are maintained • Project equipments for wood processing are maintained and utilized
Demonstration Forest	<ul style="list-style-type: none"> • Demonstration forests are maintained by each ex-REX Center
Handbook for Forest Management	<ul style="list-style-type: none"> • Technical handbooks have been shared with concerned organization/ personnel.

In the questionnaire survey, 11 of 16 ex-counterparts answered that there are constraints to maintain the effect of the technical transfer. Major constraints described in the questionnaires are; 1) insufficient budget allocation to maintain the technical knowledge development, training, and seedling distribution, 2) short project period compared with the duration necessary for forest management, 3) change in counterpart personnel.

3) Training and Extension

During the project, various extension methods were developed and implemented. The methods have been utilized by ex-REX Centers. However, the scale and frequency of activities have been reduced after the completion of the project. Budget decrease after the organizational restructuring has also hindered the continuation of extension activities. Current situation of extension activities initiated during the project is summarized below.

<Progress/ current situation of project activities on training and extension>

Activity	Progress and current situation
Training	<ul style="list-style-type: none"> • After the termination of the project, the training has been conducted once a year basis at each center. • Judging from the course assessment by training participants, satisfaction level of the participants is maintained high in terms of training contents, relevance and applicability of the knowledge and technique.
Newsletter	<ul style="list-style-type: none"> • Although, ex-REX centers do not develop their own newsletters due to budget constraints, the centers are trying to introduce their activities and technical knowledge as articles on papers of related organizations. For instance, ex-REX Center 4 publishes the articles regularly on the newsletter of 'Wood Plantation, Products, and Energy Society'
Mobile unit	<ul style="list-style-type: none"> • Ex-REX centers conduct mobile extension activities by utilizing the vehicle provided by the project in collaboration with concerned organizations, such as Provincial Administration Office.
Learning Center	<ul style="list-style-type: none"> • Learning centers are maintained. However, not many activities are being conducted.
Extension network	<ul style="list-style-type: none"> • There are no formal activities for the network. However, the network has been maintained informally with the regular and frequent communication with center staff and leaders of farmers.

3.4 Analysis of Factors of Impact and Sustainability

3.4.1 Contribution of the REX II Project

The project laid the groundwork for reforestation and extension of sustainable forest management activities at the target area. The farmers trained during the project have developed their plantation and business models which benefit farmers in the target area. The experience of these farmers has encouraged other farmers to follow their practice of reforestation and sustainable forest management activities. Once farmers recognized the importance and value of tree plantation, they spread reforestation and sustainable forest management work of their own accounts. Therefore, it is fair to say that the project was a trigger to enhance the awareness of farmers in the target area and, eventually, to promote reforestation in the northeast of Thailand.

3.4.2 Emergence of successful cases

An important positive factor for the impact and sustainability of the project is the visualization of successful cases after three years of the project termination. As mentioned above, it is assumed that awareness of farmers on reforestation and sustainable forest management has been increased as they see the tangible results, particularly for the plantation of the eucalyptus tree. Seeing the successful cases would be more effective than the word of officers.

3.4.3 Advocacy of the 'Sufficiency Economy Philosophy' and increasing interest on the global warming

'Sufficiency Economy Philosophy' advocated by the King Bhumibol and increased concern on the global warming have strengthened the government policy on appropriate natural resource management, including reforestation and forest management. This has been a tail wind for the adoption of sustainable forest management techniques in the target area.

3.4.4 Improvement of communication environment

Improvement in communication environment has provided a positive impact on the dissemination of information from ex-REX Centers. Ex-REX Centers have strengthened the network and direct communication with leaders of farmers' groups with the rapid expansion of mobile phone network. Besides ex-REX Center 3, which has developed its own website during the project, ex-REX Center 2 and Center 4 are developing their own websites with the improved network environment.

3.4.5 Increased presence of paper manufacturing companies and wood price

Paper manufacturing companies have increased their business at the target area in the past three years. The companies sell quality seedlings of fast growing varieties, particularly the eucalyptus tree, and buy the products from growers. As positive aspects, the companies have contributed to the extension of plantation and, eventually, provided chances to farmers to increase their income. However, there is a concern that the expansion of the business has caused a difficulty to ex-REX Centers to promote indigenous species, such as the teak tree, which takes many years before harvesting, for conservation and diversity of species.

Due to the expansion of the business in the target area, the price of the eucalyptus tree has increased sharply. According to the information from a wood dealer in Nakhonrachasima, the price of the eucalyptus tree increased more than 100% during past 3 years. This price increase has been attracting farmers to switch their plantation to the eucalyptus tree.

3.4.6 Organizational restructuring of ex-REX Centers

During the organizational restructuring in 2003-4, the operation of ex-REX Centers was hindered by the decrease and delay in the distribution of budget and frequent transfer of personnel. The management of the centers was also complicated by the change in the line of command. REX IC lost its organizational position and it has severely affected the sustainability of project effect on forest management information.

According to the questionnaire survey to ex-counterparts, 11 of 16 respondents, or 69% of respondents, answered the organizational restructuring severely affect the operation of ex-REX centers by personnel change, decrease and delay in budget allocation, and complication in the line of command.

3.4.7 Budget constraints

According to the information and data collected at ex-REX Centers, allocation of budget to ex-REX Centers has not been consistent with the government policy which favors reforestation and sustainable forest management activities. The decrease in the budget after the termination of the project, as shown in the table in page 5, forced ex-REX Centers scale down their activities below their capacities.

The following results of the questionnaire survey to ex-counterparts indicate that ex-REX Center staff considers the lack of financial resource for training and extension work as a major constraint to share information with beneficiaries in the target area.

<Response of ex-counterparts on capacity to share the information with beneficiaries>

Capacity of ex-REX Center	Appropriate	Not Appropriate	Total
1. Information Media	15	1	16
2. Technical knowledge	15	1	16
3. Human resource for training and extension work	15	1	16
4. Financial resource for training and extension work	6	10	16

3.4.8 Factors which may negatively affect future project impact and sustainability

During the interview and group discussion with ex-counterparts and farmers, the evaluation team identified possible negative factors which may affect the impact and sustainability of the project in the future. These factors include change of community leaders, increase in land price, decrease in the wood price, increase in the agricultural products, and worsening of economic condition.

3.5 Issues, Problems

3.5.1 Limitation to meet the needs of farmers

It can be said that ex-Rex Centers have not been able to meet the increasing and diversifying needs on farmers. In the questionnaire survey to ex-counterparts, 11 of 16 of respondents answered that ex-REX Centers do not provide services to farmers sufficiently with the reasons, such as; 1) no plan and budget to support/ continue the implementation of activities, 2) insufficient expansion to non-model area, 3) lack of material/ equipment, and 4) lack of study for local species which have long management span, such as the teak tree. It is analyzed that ex-counterparts identify the needs of farmers and have ideas to provide necessary supports, however, at the same time, they also recognize their limitations.

For instance, ex-REX Centers have ideas to introduce mixed plantation with herbal trees for income generation while waiting for harvesting. However, they cannot realize the ideas due to budget constraints.

There is another example from ex-REX Center 4. The member of Reforestation and Processing of Eagle Wood Network is asking ex-REX Center 4 to provide supports, such as provision of seedlings and nursery production technique, study on chemical using technique, and marketing promotion. However, due to the budget constraint, the center is not able to respond the request of the group.

There is a concern that poor responses to the needs of farmers by ex-REX Centers may weaken the cooperation between ex-REX Centers and farmers. It may also result in the lack of motivation of ex-REX Center staff.

3.5.2 Development of model for tree growers for indigenous species

There were observations from ex-counterparts that project period was too short to develop models for extension work and wood market development. Some plantations must be maintained more than 20 years before harvesting while the project period was 5 years.

Successful cases for fast growing species, namely for the eucalyptus tree, are visible and followed by new growers. However, for native species, such as the teak tree, successful models for sustainable forest management have not been developed as growers have to wait long year before harvesting. In the group discussion with teak tree growers at Yasothon Province, participants emphasized that no one has interests in growing the teak tree.

3.6 Follow-up situation

No follow-up programs have been carried out by the Japanese side since the project termination in 2004.

3.7 Conclusions

The project has been contributing to the increase in the application of sustainable forest management techniques and awareness of farmers on reforestation in the target area. The experience of successful farmers has encouraged other farmers to follow their practice of reforestation and sustainable forest management. Once farmers recognize the importance and value of tree plantation, they spread reforestation and sustainable forest management work of their own accounts. Therefore, it is fair to say that the project laid the groundwork for reforestation and extension of sustainable forest management activities at the target area. Ex-REX Centers have been trying to sustain reforestation and extension activities within the budget constraints by utilizing knowledge, skill, and experience gained during the project.

4. RECOMMENDATIONS AND LESSONS LEARNED

4.1 Recommendations to counterpart organizations and JICA

4.1.1 Utilization of database developed during the Project

It is recommended to re-activate 4 database systems, which were developed during the project, under the responsibility of Reforestation Promotion Office, RFD. As network

environment at ex-REX Centers has been improved, appropriate updating and utilization of the databases are expected once the system problems are solved. It is also recommended to install database systems at RPC 7 in the same region (Sisaket) and other 7 RPC at non-target areas to share the information among 12 RPC.

4.1.2 Sharing of knowledge, skill, and experience with other 8 RPC

It is suggested to share the experience and activities of the project with 8 non-REX RPC through the set-up of database systems, sharing of material developed during the project, observation trip to 4 ex-REX Centers, and other activities, to expand the project impact.

4.1.3 Coordination with concerned organizations for reforestation and forest management activities

There are positive external environments for reforestation and extension of sustainable forest management activities, such as increasing concern on the global warming, national interest on natural resource management through 'Sufficiency Economy Philosophy', and increasing budget of local administration offices. Therefore, it is considered appropriate for ex-REX Centers to strengthen coordination with concerned organizations to conduct activities. Development of website, which has been completed at ex-REX Center 3 and under development at ex-REX Center 2 and Center 4, will be effective to attract the cooperation from concerned organizations.

4.1.4 Utilization of ex-trainees as promoters of reforestation and forest management activities

As presented in this report, farmers who started reforestation and sustainable forest management activities during the project have been emerged as successful models which other farmers can see the tangible result. The effort of ex-REX Centers to strengthen the network with these farmers should be continued. It is also recommended to develop more promotion materials to be used in the community and learning centers to disseminate information more effectively with the support from motivated farmers.

4.1.5 Capacity Development

In order to expand and sustain the outcome of the project, it is recommended to consider

necessary measures to further enhance the capacity in the field of wood utilization, which includes the utilization of equipment provided by the project, cutting trees and maintenance for plantation of native species.

4.1.6 International training program for neighboring countries

With its institutional capacity, technical expertise, and experience in practice, it is fair to say that RFD is capable of conducting international training programs for neighboring countries on reforestation and sustainable forest management effectively in collaboration with ex-REX Centers. It is expected that the implementation of the training programs will also enhance the motivation of RFD/ex-REX Center staff to develop RFD/ex-REX Centers.

4.2 Lesson Learned

4.2.1 Importance of the understanding and tangible benefits of the beneficiary

The project effect has been spread spontaneously among the farmers after the recognition of the benefit from project activities. From this experience, the importance in the project design to consider the understanding of project activities by the beneficiary and tangible benefits for the beneficiary is highlighted.

4.2.2 Necessity of post-project strategy and plan

Some project activities have been shrunken after the termination of the project. Although organizational restructuring during and after the project and decrease in the budget are considered as major reasons, lack of post-project strategy is considered as another factor for the scale-down of the activities. Although the Terminal Evaluation proposed to clarify the strategies for promoting the project effects, it could have been discussed at the earlier stage of the project. From this experience, development of post-project strategy, such as prioritization on activities, cost-effective implementation method, and budget acquisition to continue activities, is recognized as an important factor to maintain the project effect.

4.2.3 Indicator for overall goal

Measurable indicators for the project overall goal should be clarified in the project design. Without the clear indicators, evaluation result on the project impacts may have to rely on the

subjective judgment of the evaluator. Set-up of clear indicators is also important to encourage project counterparts to achieve the overall goal of the project.

4.2.4 Installation and maintenance of project equipment

From the experience of the insufficient utilization and maintenance of the greenhouses established at each ex-REX Center, importance of careful study for the maintenance and operation cost of project equipments/facilities is also drawn as a lesson learned.

Attachment 1

Evaluation Grid

**Evaluation Grid for Ex-Post Evaluation Study on
'The Reforestation and Extension Project in the Northeastern Thailand Phase II (REXII)'**

IMPACT

Evaluation Questions		Achievement	Data needed	Data source	Data collection method
Main Questions	Sub-questions	Criteria/ Measures			
<Achievement of overall goal> <u>a) How far has the overall goal been achieved since the terminal evaluation in the project area?</u>	1) How many farmers started new activities and what are the kinds of activities (such as change of plantation size utilization of information, nursery plan, etc)? And, how is the trend since the terminal evaluation study?	Comparison of information/ data with past information (1994-2000 and 2001-2004)	<ul style="list-style-type: none"> • No. of farmers who started new activities • Kinds of activities at the model area (and target area if available) 	• REX Cs	<ul style="list-style-type: none"> • Document review • DB search • Interview
	2) How many community forests exist in the project area? And how is the trend since the terminal evaluation study?	Comparison of data with past information (1642 at Aug 04)	<ul style="list-style-type: none"> • No. of community forest at the target area • Characteristics of community forest 	• REX Cs	<ul style="list-style-type: none"> • Document review • DB search • Interview
	3) How farmers' consciousness has been changed since the terminal evaluation in terms of interest to reforestation and sustainable forest management?	Analysis of views and information provided by counterparts and farmers	<ul style="list-style-type: none"> • Farmer's consciousness on forestation and sustainable forest management 	• REX Cs • Farmers at model area	<ul style="list-style-type: none"> • Document review • Interview • Questionnaire
	4) <u>To what extent rural farmers understand REX's activities and cooperate with REX to continue forest management?</u>	Analysis of views and information provided by counterparts and farmers	<ul style="list-style-type: none"> • Farmer's understanding on REX activities and willingness for cooperation 	• REX Cs • Farmers	<ul style="list-style-type: none"> • Document review • Interview • Questionnaire • FGD

Evaluation Grid for Ex-post Evaluation Study – REX II Project

Evaluation Questions		Achievement	Data needed	Data source	Data collection
Main Questions	Sub-questions	Criteria/ Measures			method
b) <u>What are major contributing/ disturbing factors for achieving overall goal?</u>	5) At the terminal evaluation study, consolidation of prototypes developed during the project was recommended in order to produce a promotion package for future activities was recommended. Have the prototypes been consolidated and utilized to disseminate the project effect?	Examination of the consolidation of prototypes and its utilization	<ul style="list-style-type: none"> • Consolidated prototypes • Utilization of the prototypes 	• REX Cs	<ul style="list-style-type: none"> • Document review • Interview
	6) How have the materials for setting model area (such as manuals) contributed to disseminate the project effect?	Analysis of views and information provided by the counterparts	<ul style="list-style-type: none"> • No. of newly set model areas • Effectiveness and utilization of materials 	• REX Cs	<ul style="list-style-type: none"> • Document review • Interview
	7) Have the economic/ social change in the project area (important assumptions) affected the achievement of overall goal?	Analysis of views and information provided by the counterparts	<ul style="list-style-type: none"> • Impact of economic /social change 	• REX Cs	<ul style="list-style-type: none"> • Document review • Interview
	8) Has the organizational restructure of RFD affected the achievement of overall goal? If yes, how has it affected in terms of organizational structure, manpower, and budget allocation ? If no, how hasn't it affected?	Analysis of views and information provided by the counterparts in comparison with situation at the time of project completion	<ul style="list-style-type: none"> • Organizational restructure of RFD • Impact on adoption of sustainable forest management technique • Allocation of budget and human resources 	<ul style="list-style-type: none"> • RFD • REX Cs 	<ul style="list-style-type: none"> • Document review • Interview • Questionnaire
	9) What are other major contributing/ disturbing factors for achieving the overall goal?	Analysis of views and information provided by the counterparts	<ul style="list-style-type: none"> • Contributing/ disturbing factors 	<ul style="list-style-type: none"> • RFD • REX Cs 	<ul style="list-style-type: none"> • Document review • Interview • Questionnaire

Evaluation Grid for Ex-post Evaluation Study – REX II Project

Evaluation Questions		Achievement	Data needed	Data source	Data collection
Main Questions	Sub-questions	Criteria/ Measures			method
<Impact on government policy> c) How has the project affected the government policy?	10) How has the project affected the government policy on sustainable forest management?	Examination of the government policy and analysis of views and information provided by the counterparts	<ul style="list-style-type: none"> • Policy on sustainable forest management • Linkage of project effect with government policy 	<ul style="list-style-type: none"> • RFD • REX Cs 	<ul style="list-style-type: none"> • Document review • Interview
<Impact on institutional capacity building> d) How has the project contributed to institutional capacity building of RFD?	11) How has the project contributed to the institutional capacity building of RFD on sustainable forest management?	Analysis of views and information provided by the counterparts	<ul style="list-style-type: none"> • RFD's capacity on sustainable forest management in Thailand 	<ul style="list-style-type: none"> • RFD • REX Cs 	<ul style="list-style-type: none"> • Document review • Interview
<Unintended impacts> e) <u>Are there other unintended positive and negative impacts observed?</u>	12) In the terminal evaluation study, positive impacts of the project, such as cooperation with NGOs, were identified. Have the impacts spread as expected at the time of terminal evaluation?	Analysis of views and information provided by the counterparts in comparison with situation at the time of project completion	<ul style="list-style-type: none"> • Expansion of network • Activities by NGOs and other stakeholders in the project area • Type of cooperation with REX 	<ul style="list-style-type: none"> • REX Cs • Farmers 	<ul style="list-style-type: none"> • Document review • Interview • Questionnaire • FGD
	13) Has the project effect expanded to the non-target area?	Analysis of information at non-target area	<ul style="list-style-type: none"> • Activities at non-target area • Sharing of knowledge/technology with other centers 	<ul style="list-style-type: none"> • RFD • REX Cs 	<ul style="list-style-type: none"> • Document review • Interview

Evaluation Grid for Ex-post Evaluation Study – REX II Project

Evaluation Questions		Achievement	Data needed	Data source	Data collection
Main Questions	Sub-questions	Criteria/ Measures			method
	14) Are there other unintended impacts in terms of policy, socio-economic development, environment, technical, and other aspects?	Analysis of views and information provided by the counterparts and farmers	<ul style="list-style-type: none"> Unintended policy, socio-economic, environment, and technical impacts 	<ul style="list-style-type: none"> RFD REX Cs Farmer 	<ul style="list-style-type: none"> Document review Interview FGD
	15) Are there particular impacts to specific groups?	Analysis of views and information provided by the counterparts and farmers	<ul style="list-style-type: none"> Positive and negative impacts on specific group 	<ul style="list-style-type: none"> REX Cs Farmers 	<ul style="list-style-type: none"> Document review Interview Questionnaire FGD
f) <u>What factors contributed to the unintended positive and negative impacts?</u>	16) How has the project contributed to the unintended positive and negative impacts?	Analysis of the information provided by the counterparts and farmers	<ul style="list-style-type: none"> Linkage with project effect 	<ul style="list-style-type: none"> RFD REX Cs Farmers 	<ul style="list-style-type: none"> Document review Interview Questionnaire FGD
	17) What are other major contributing/ disturbing factors to the unintended positive and negative impacts?	Analysis of view and information provided by the counterparts and farmers	<ul style="list-style-type: none"> Contributing/ disturbing factor 	<ul style="list-style-type: none"> RFD REX Cs Farmers 	<ul style="list-style-type: none"> Document review Interview Questionnaire FGD

Evaluation Questions		Achievement	Data needed	Data source	Data collection method
Main Questions	Sub-questions	Criteria/ Measures			
<p><Regional Training Program> <u>g) RFD starts regional training program on forestation for neighboring countries. What are RFD (Nursery/REX center)'s advantages and disadvantages to be a leading organization on this theme in the region? And how does the project contribute to them?</u></p>	18) Do RFD and REX Centers have enough institutional and technical capacities to conduct regional training program on forestation for neighboring countries?	Analysis of view and information provided by the counterparts	<ul style="list-style-type: none"> • Institutional and technical capacity to conduct regional training program, such as manpower, material (English) 	<ul style="list-style-type: none"> • RFD • REX Cs • Training Participants 	<ul style="list-style-type: none"> • Document review • Interview
	19) What are the advantages and disadvantages of RFD and REX Centers to be a leading organization on forestation in the region?	Analysis of view and information provided by the counterparts	<ul style="list-style-type: none"> • Advantage/ disadvantage to be a leading organization 	<ul style="list-style-type: none"> • RFD • REX Cs 	<ul style="list-style-type: none"> • Document review • Interview
	20) How does the project contribute to the advantage of RFD and REX Centers to be a leading organization on forestation in the region?	Analysis of view and information provided by the counterparts	<ul style="list-style-type: none"> • Linkage between advantages and project effect 	<ul style="list-style-type: none"> • RFD • REX Cs 	<ul style="list-style-type: none"> • Document review • Interview
	21) What is the vision/ plan of REX Centers for future implementation of regional training program?	Analysis of view and information provided by the counterparts	<ul style="list-style-type: none"> • Vision/plan on regional training program 	<ul style="list-style-type: none"> • RFD • REX Cs 	<ul style="list-style-type: none"> • Interview
	22) Are there any limitations/ constraints for RFD and REX Centers to conduct regional training?	Analysis of view and information provided by the counterparts	<ul style="list-style-type: none"> • Limitations/ constraints to conduct regional training 	<ul style="list-style-type: none"> • RFD • REX Cs 	<ul style="list-style-type: none"> • Interview

SUSTAINABILITY

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
<Policy> <u>a) What is the current policy of RFD on forestation, especially for private forest? In there any change from the project period?</u>	23) What is the current policy of RFD on forestation, especially for private forest?	Analysis of information provided by RFD	• Current policy of RFD	• RFD	• Document review • Interview
	24) Have there been policy changes on reforestation and sustainable forest management since the termination of the project? If yes, how have the changes affected the sustainability of the project effects?	Analysis of views and information provided by RFD	• Past policy of RFD since the termination of project • Impact of policy on the project sustainability	• RFD	• Document review • Interview
	25) What is the policy of RFD for the future promotion of reforestation and sustainable forest management?	Analysis of views and information provided by RFD	• Future policy of RFD	• RFD	• Document review • Interview
<u>b) Does the roles and organization of REX centers remain unchanged?</u>	26) What is the current position of REX Centers in the organizational structure of RFD?	Examination of organizational structure	• Organizational structure of REX Center in RFD	• RFD	• Document review • Interview
	27) What are the current mission and roles of REX Centers? Have they changed since the termination of the project? If yes, how have the changes affected?	Analysis of views and information provided by the counterparts	• Past and current mission and roles of REX Centers	• RFD • REX Cs	• Document review • Interview
	28) Is there clear policy/ strategy to disseminate the project effect in the Northeastern Thailand as recommended at the Terminal Evaluation? If yes, how is the progress?	Analysis of information provided by the counterparts	• Strategy of REX Centers to disseminate project effect • Activities based on the strategy	• REX Cs	• Document review • Interview

Evaluation Grid for Ex-post Evaluation Study – REX II Project

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
c) <u>What do RFD and REX centers consider the necessary roles and activities of REX centers to promote sustainable forest management by farmers?</u>	29) What does the staff of REX Centers consider their roles to promote sustainable forest management by farmers?	Analysis of views and information provided by REX Cs	• Understanding and view of REX staff	• REX Cs	• Interview
	30) Do the REX Centers have appropriate financial and human resource to fulfill the mission and roles?	Analysis of views and information provided by the counterparts	• Financial and human resources	• RFD • REX Cs	• Document review • Interview • Questionnaire
	31) Are there any constraints for REX Centers to take the expected roles?	Analysis of views and information provided by the counterparts	• Possible constraints for REX Cs to take the expected roles for sustainable forest management	• RFD • REX Cs	• Document review • Interview • Questionnaire
<Institutional Capacity> d) <u>How has the REX Centers been maintaining project activities and services provided by the project?</u>	32) <u>How is the information system on forestation and forest management knowledge in REX Centers evaluated?</u>	Degree of development and maintenance of information system in comparison with the time of terminal evaluation study	• Network among REX Centers • Contents of database • Maintenance of information • Utilization of information at REX centers	• REX Cs • Farmers	• Observation • Document review • Interview • Questionnaire • FGD
	33) Do the REX Centers have appropriate mechanism, capacity, and technical knowledge to share data/information with the target of the project?	Comparison of information with the time of terminal evaluation study	• Number/ kind of media • Utilization of media by farmers at model area • Number/ kinds of	• REX Cs • Farmers	• Document review • Interview • Questionnaire

Evaluation Grid for Ex-post Evaluation Study – REX II Project

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
			<ul style="list-style-type: none"> training Number/ satisfaction of training participants Practice of training content by participants 		<ul style="list-style-type: none"> FGD
<u>e) How does RFD administrate REX Centers? Do REX centers receive guidance from RFD and set achievement goals (such as KPI) in their forestation activities?</u>	34) How is the communication between RFD and REX Centers in terms of dissemination of information and policy, guidance, reporting, monitoring, and feedback?	Analysis of information provided by the counterparts	<ul style="list-style-type: none"> Communication tool (such as meeting, monitoring) and frequency 	<ul style="list-style-type: none"> RFD REX Cs 	<ul style="list-style-type: none"> Document review Interview
	35) How is the process of making achievement goals and activity plan?	Analysis of information provided by the counterparts	<ul style="list-style-type: none"> Process of making of achievement goals/plans 	<ul style="list-style-type: none"> RFD REX Cs 	<ul style="list-style-type: none"> Document review Interview
<p><Technical Aspect></p> <u>f) How has the REX Centers been maintaining effects of technical transfer during the project?</u>	36) How do the REX Centers identify the needs of beneficiaries?	Analysis of and information provided by REX Cs and farmers	<ul style="list-style-type: none"> Method, frequency of needs assessment Understanding by the REX staff 	<ul style="list-style-type: none"> RFD REX Cs Farmers 	<ul style="list-style-type: none"> Document review Interview Questionnaire FGD
	37) How are the services provided by the REX Centers relevant for beneficiaries?	Analysis of and information provided by REX Cs and farmers	<ul style="list-style-type: none"> Satisfaction and practice by beneficiaries 	<ul style="list-style-type: none"> RFD REX Cs Farmers 	<ul style="list-style-type: none"> Interview Questionnaire FGD
	38) <u>What do rural farmers consider the necessary support to them from REX Centers to promote their sustainable forest management activities?</u>	Analysis of views and information provided by farmers	<ul style="list-style-type: none"> Views on necessary support from REX to promote sustainable forest management 	<ul style="list-style-type: none"> REX Cs Farmers 	<ul style="list-style-type: none"> Document review Interviews FGD

Evaluation Grid for Ex-post Evaluation Study – REX II Project

Evaluation Questions		Achievement Criteria/ Measures	Data needed	Data source	Data collection method
Main Questions	Sub-questions				
	39) Has the project equipment been utilized and maintained appropriately?	Degree of utilization and maintenance of project equipment	• Utilization and maintenance of project equipment	• REX Cs	• Observation • Document review • Interview
	40) Are there any constraints for REX Centers to main the effect of the technical transfer?	Analysis of views and information provided by the counterparts	• Possible constraints for REX Cs maintain the effect of technical transfer	• REX Cs	• Document review • Interview • Questionnaire
<p><Factors promote/ inhibit the sustainability></p> <p><u>f) What factors are contributing to or inhibiting the project effects or sustainability?</u></p>	41) Is there change in socio-economic conditions and needs of the farmers on reforestation?	Analysis of views and information provided by the stakeholders in comparison with the project period	• Change in the socio-economic condition and needs on forestation/ sustainable forest management	• REX Cs • Farmers at model area	• Document review • Interview • Questionnaire • FDG
	42) Is there cooperation with other projects/ programs supported by international donor agencies?	Description of information provided by the stakeholders	• Project/program by donor agencies • Contents of cooperation and impacts	• REX Cs	• Document review • Interview
	43) Are there, and will there be, any factors to contribute to or inhibit the project effects or sustainability?	Analysis of views and information provided by the counterparts	• Contributing/ disturbing factor for the sustainability of the project effects	• RFD • REX Cs	• Document review • Interview

Underline: Main evaluation question specified by JICA Thailand Office

Attachment 2

List of Interviewees

List of Interviewees

		Name	Position
Reforestation	1	Mr. Tongchai Pratoomsuvam	Director
Promotion Office, RFD	2	Ms. Renoo Suwanarat	Chief of Private reforestation Division
	3	Mr. Sumet Sirilak	Chief of Seedling Development Sub-Division, Forest Nursery Division
REX Center 1 (Mahasarakam)	4	Ms. Chollada Sripim	Chief of FMI Section
REX Center 2 (Udonthani)	5	Mr. Sujin Ruangthawonrit	Chief of Center
	6	Ms. Nitthaya Klaykao	Chief of Admin. Section
	7	Ms. Sukanya Suchewakul	Chief of FMI
REX Center 3 (Yasothon)	8	Mr. Chatravee Sunjorn	Chief of FMI Section
	9	Mr. Narin Insee	Chief of FMT Section
	10	Mr. Suttisak Sukkua	Chief of Training and Extension Section
EX Center 4 (Nakhon rachasima)	11	Ms. Suwannee Jaroenkolkkit	Chief of Training and Extension Section
	12	Mr. Samai Seetho	Chief of Administration Section
	13	Ms. Daranee Seetho	Chief of FMT Section
	14	Mr. Theerasak Khumtawee	Chief of FMI Section
	15	Mr. Cha-un Chaumphol	Staff of FMT Section

Attachment 3

Result of Questionnaire Survey

Result of Questionnaire for ex-counterpart personnel

ACHIEVEMENT OF OVERALL GOAL

Q 1. Do you think the consciousness of farmers on reforestation and sustainable forest management in the project area has been increased since the terminal evaluation?

Answer	Number	Percentage
1. Highly increased	1	6.25%
2. Fairly increased	13	81.25%
3. Slightly increased	1	6.25%
4. Not changed	1	6.25%
5. Decreased	0	0.00%
Total	16	100%

Please describe the reasons of your answer;

- REX project has established the sustainable forest management in the model area that more farmers visited and followed the model farmers.
- The extension program was not supportive as it should be.
- Global environment issues and Thailand forest area loss have been problem for a while. Reforestation is the resolution that must be mentioned.
- More farmers carry out forest plantation.
- Receiving knowledge from the project and PR of private company in reforestation promotion, farmers get more interested in reforestation; earn more knowledge in sustainable forest management in order to increase their forest products.
- Farmers' motivation and awareness increased since they learned that they could benefit from reforestation economically especially from Eucalyptus tree.
- The center receive limited budget from government.
- Using thinning and pruning technique gained from training, farmers can manage forest plantation better for value added wood products.
- Farmers grow fast growing tree like Eucalyptus in non-used land.

Q 2. Do you think the mission and activities of REX Center are accepted by farmers in the target area?

Answer	Number	Percentage
1. By more than 80% of farmers	4	25.00%
2. By 60-79 % of farmers	11	68.75%
3. By 40-59 % of farmers	1	6.25%
4. By 20-39 % of farmers	0	0.00%
5. Below 20% of farmers	0	0.00%
Total	16	100%

Please describe the reasons of your answer;

- The budget constrain limits the project implementation to only 60-79% of the whole project area.
- In the model area, the farmers accepted and implemented the activities the best they could. The farmers who don't have enough land to do plantation, they plant tree as the fence of their land.
- The activities are implemented mostly in the model area only.
- The center has been technical knowledge provider for farmers for a long time.

- Information provided by the termination evaluation.
- Farmers in target area understood the center area and could carry out the activities that other farmers could see tangible results.
- Farmers joined many activities: extension, training, inspection, monitoring and evaluation and earned many benefits.
- More farmers asking for seedlings
- Farmers cooperated well in center's activities such as training and survey.
- The center provides services in giving seedlings, disseminating technical knowledge in sustainable forest management, but farmers' motivation to continue the implementation can be changed depending on socio-economic situation.
- The farmers know about REX and accept the project activities, but the farmers' implementation depends on many factors such as labor, and financial situation.
- The reforestation can help resolving global warming issues; and the project outputs can be applied for country's natural resources management.

UNINTENDED IMPACT OF THE PROJECT

Q 3. Are there unintended positive and negative impacts of the project, in terms of socio-economic development, environment, and other aspects?

Answer	Number	Percentage
1. Yes	6	37.50%
2. No	9	56.25%
3. No response	1	6.25%
Total	16	100%

If yes, what are the impacts? Please also describe how has the project contributed to the impacts:

Positive

- Some farmers changed from monoculture to integrated farming with reforestation to increase green area and better environment and economic.
- The wood products were value added causing economic impact positively.
- The project inspired farmers to set reforestation farmer groups and cooperatives.
- Incomes from wood products can benefit to the development of community facility.
- Farmers' awareness on forest natural resources and community environment has been raised.

Negative

- Expanding reforestation area, farmers have less land for agriculture causing higher commodity price.

Q 4. Are there unintended groups who have been affected by the project positively or negatively?

Answer	Number	Percentage
1. Yes	9	56.25%
2. No	5	31.25%
3. No response	2	12.50%
Total	16	100%

If yes, what are the impacts? Please also describe how has the project contributed to the impacts:
Positive

- The wood mill owners have more chance to opt variety and quality of wood products. The price of wood products is negotiable.
- The project could be model for other farmers.
- Knowledge dissemination, PR and extension activities made the project known among model farmers and non-model farmers.
- Wood productions are sufficient as raw material for paper pulp factory. (No shortage)
- Model farmers disseminated their gained knowledge from REX project to other farmers.
- Farmers satisfied with commodity price of Eucalyptus which is 750-1,000 baht per ton.
- Farmers in non-model area want to join the project.
- Other agencies' officials such as TAO, which want to plant tree, have learned about sustainable reforestation management as well.

Negative

- More farmers carry out reforestation, then agricultural labors required less than the past, they earned less or unemployed.

INSTITUTIONAL CAPACITY

Q 5. Do you think the organization restructure of RFD affected the operation of the REX?

Answer	Number	Percentage
1. Severely affected	11	68.75%
2. Moderately affected	4	25.00%
3. Not affected much	1	6.25%
Total	16	100%

Please describe the reasons of your answer:

- Due to the organization restructure of RFD, REX personnel were shifted around shrinking the project activities.
- The change of management level and policy hold back the continuity of REX project.
- The allocation of the budget is depended on the new policy.
- It affected policy, budget and personnel.
- Organization restructure affected the project in a short period; meanwhile the government policy affected it in a long term.
- The budget allocated to center is not sufficient for all activities and for the needs of the farmers.
- Personnel who didn't join REX project cannot proceed the project or they probably can implement the project but not as good as during the project.
- Organization restructure affected the project that the budget for the project has gradually been decreased until there is no budget to carry out the project.
- The work of the former center was divided or the organization restructure makes the line of command more complicated.
- The project was not well continued.
- The budget allocated by RFD is not appropriated to the resources that REX centers have.
- Not much effect, since the project can be operated continuously.
- RFD's line of command, supervision and administration are getting complicated which make implementation and cooperation difficult.

Q 6. Does the REX Center have any constraints to provide expected services?

Answer	Number	Percentage
1. Yes	11	68.75%
2. No	5	31.25%
Total	16	100%

If yes, please describe the constraints and effects:

- There is no policy or plan to support the project implementation after the termination.
- The RFD has not paid much attention in the project after termination.
- The budget allocation is not sufficient to cover the target farmers.
- The center plan reduced due to the limited budget after the project termination.
- The center can keep on doing the activities within the limited budget such as producing information media for PR and extension activities.
- There is no budget to support the project, that the activities have been stopped.
- The important activities of extension and services were weakened due to the small amount of budget.
- Inexperienced personnel can only implement inefficient work.
- Frequent shift of personnel and staff obstruct project continuity.

Q 7. How do you evaluate the information system of the REX Center in term of;

1) Accumulation of data/ information:

Answer	Number	Percentage
1. Very good	1	6.25%
2. Good	7	43.75%
3. Fair	6	37.50%
4. Poor	2	12.50%
5. Very poor	0	0.00%
Total	16	100%

2) Maintenance/ updating of contents:

Answer	Number	Percentage
1. Very good	0	0.00%
2. Good	7	43.75%
3. Fair	7	43.75%
4. Poor	2	12.50%
5. Very poor	0	0.00%
Total	16	100%

3) Information sharing among REX centers:

Answer	Number	Percentage
1. Very good	1	6.25%
2. Good	3	18.75%
3. Fair	9	56.25%
4. Poor	2	12.50%
5. Very poor	1	6.25%
Total	16	100%

4) Utilization by REX staff and beneficiaries:

Answer	Number	Percentage
1. Very good	0	0.00%
2. Good	4	25.00%
3. Fair	12	75.00%
4. Poor	0	0.00%
5. Very poor	0	0.00%
Total	16	100%

Please comment on the information system of the REX Center:

- There should be an improvement of Information exchange system among REX centers and the access to information of REX personnel and beneficiaries.
- The Extension and Training Section program should be improved.
- The information has not been updated, but the system is currently being improved.
- Computer devices should be improved for better efficiency and information system.
- There should be clear information system connection among REX centers.
- There is no format for information collection.
- Information is mostly compiled at the headquarters.
- The information can be utilized for response to the farmers' needs in slow manners.
- The information center should continue collecting information, since the database, such as seedling, is very useful. Information should be shared with every center.
- REX center Yasothon continuously collects information and conducts survey as well as disseminates information to public in the target area.
- Information must be updated, exchanged and utilized continuously.
- The network was not efficient enough because the centers just started to collect data 2 years before the termination of the project, establish program and train officials. Then, after project termination, the data collection budget was cut and the REXIC was dismissed causing the inefficient information exchange.

Q 8. Does the REX center have appropriate capacity to share information with the beneficiaries in terms of;

1) Information media, such as newsletter, pamphlet, web-site, radio program, etc

Answer	Number	Percentage
1. Appropriate	15	93.72%
2. Not appropriate	1	6.25%
Total	16	100%

2) Technical knowledge:

Answer	Number	Percentage
1. Appropriate	15	93.72%
2. Not appropriate	1	6.25%
Total	16	100%

3) Human resource for training and other activities:

Answer	Number	Percentage
1. Appropriate	15	93.72%
2. Not appropriate	1	6.25%
Total	16	100%

4) Financial resource for training and other activities:

Answer	Number	Percentage
1. Appropriate	6	37.50%
2. Not appropriate	10	62.50%
Total	16	100%

Please comment on the capacity of REX Center to share information with the beneficiaries:

- If there are planning and budget available, REX center can continue the implementation.
- Private company inquired information about farmers from REX center to buy wood products from farmers.
- REX center compiled information only during the project implementation which was insufficient comparing the reforestation period.
- The center's capacity is developing, it should be better if the center receive support from government of Japan.
- The REX center can exchange only some information. The information system needs much more capacity development such as: personnel who are knowledgeable in extension, training, seedling technical knowledge and sustainable forest management; updated information on Eucalyptus wood market including price and selling point information and; farmers who grow both Eucalyptus and valuable native species to support buyers and furniture makers and private companies.
- The REX PR is not sufficient for the target area. There should be variety of REX PR.
- REX centers' capacity: equipment, personnel and facility is exceptional, but the limited budget does not allow the center to make the most of it.
- The allocation of budget for the current activities is not appropriate.
- To make information distribution sufficient and continuous, it should be prepared in document format.

TECHNICAL ASPECTS

Q 9. Is the technical knowledge/ skill transferred during the REX II project still relevant?

Answer	Number	Percentage
1. Highly relevant	12	75.00%
2. Relevant	3	18.75%
3. Less relevant	1	6.25%
Total	16	100%

Please describe the reasons of your answer:

- The technical knowledge and skills disseminated by experts from Thai and Japan sides are very useful for the center mission and extension and training.
- The technical knowledge and skills comply with RFD's reforestation promotion policy.
- Before implementing any activity, the center always surveys the needs of the farmers.
- REX centers provide technical knowledge to all personnel.
- Technical knowledge in sustainable knowledge management and agro-forestry.
- Technical knowledge on seedling, planting and nurturing, pruning wood utilization and wood market covers all activities about sustainable reforestation management.
- During the project, the REX centers deliberately conducted farmers' need survey, analyzed problem, selected model farmers to participate training and set experimental plot to disseminate and transfer knowledge to other farmers.

Q 10. Are there any constraints for the REX Centers to main the effect of the technical transfer?

Answer	Number	Percentage
1. Yes	11	68.75%
2. No	5	31.25%
Total	16	100%

If yes, please describe the constraints and effects:

- After project termination, the budget allocation has not sufficient hindering technical knowledge development, training, seedling distribution, strengthening reforestation farmer groups and centers' other activities.
- Limited time of project period caused the continuity of the project in the long run.
- Internal change affected budget and personnel.
- Frequent shift of personnel hinders the continuity of the project.
- The centers try to continue the work even though there is no REX project anymore.
- The economic and politic situation make farmers lose confidence in wood products especially uncontrollable market mechanism, therefore they are not sure in applying technique with their forest plantation.
- The farmers' attitude is positive, but their economic situation does not support them to continue the implementation.

Q 11. Do you think the REX Center understand the needs of farmers appropriately?

Answer	Number	Percentage
1. Completely	3	18.75%
2. Appropriately but needs more understanding	13	81.25%
2. Not appropriately	0	0.00%
Total	16	100%

Please describe the reasons of your answer:

- The needs of farmers are changing depending on their circumstance and other factors; REX center should make conclusion regularly not only once.
- The needs of farmers are changing depending on the external motivations.
- The centers understand the farmers needs correctly that the center can work with farmers by giving knowledge, skills and building their awareness, but there is not sufficient budget to support the farmers.
- The center tries to make farmers rely on themselves.
- The center has brainstorming before beginning the activities for farmers.
- In some activities, the centers have to tell farmers what farmers' benefit from the project.
- Farmers want to earn incomes from wood products, but don't have plans to manage the forest plantation that the centers can support them by extension, training and technical knowledge transfer program.

Q 12. Do you think the REX Center provides services sufficiently to meet the needs of farmers?

Answer	Number	Percentage
1. Yes	5	31.25%
2. No	11	68.75%
Total	16	100%

If no, please describe the constraints;

- There were no plans or budget to support and continue the implementation. The REX center can only provide knowledge to the farmers who visited the center.
- The project area should be expanded.
- REX center's capacity in delivering services to farmers is limited. Farmers should get more support from government.
- The services are sufficient for the farmers in model area, but not all farmers under the center's responsibility.
- REX services fails to meet farmers' needs of seedlings and community market of wood products due to the limited budget (during REX project, the center held community project).
- The center personnel must visit the farmers regularly to learn about farmers' needs.
- The center is short of some equipment/material.
- The center would like to continue the implementation in order to provide services in other area.
- The forest plantation management of local species such as teak, which have more than 30-year rotation, should be studied experimented and developed continuously.

Attachment 4

Present Position of Ex-Counterparts

Present Position of Ex-Counterparts

Center Name	Section Name	Position Name	Name of C/P at the end of Project	Current position
Ex-REX C1	Admin.	Center Chief	Mr. Suthep Pavareswityarat	Director of Regional Natural Resource Management Office 8 Mahasarakham
	FMI	Chief	Ms. Chollada Sripin	Same position
	FMT	Chief	Ms. Nitya Klykaew	Chief of Admin. Section at RPC C8 (Udonthani)
	T & E	Chief	Ms. Theeraporn Aow-udom	Monitoring and evaluation Section, RFD
Mr. Thance Phansaeng			Tung Kula Forest Development Project	
Ex-REX C2	Admin.	Center Chief	Mr. Tanongsak Nontapa	Chief of Srisaket Nursery Center 7
	FMI	Chief	Ms. Sukanya Suchewakul	Same position
	FMT	Chief	Mr. Winai Schewekul	Chief of Songkla Nursery Center 12
	T & E	Chief	Mr. Somdet Champce	Regional Natural Resource Management Office 6 Udonthani
Ex-REX C3	Admin. & FMT	Center Chief	Mr. Tamnoon Akarapin	Director of the 9 th Forest Resource Management Office (Sisaket)
			Mr. Chatavee Sunjorn	Same position
	FMT		Mr. Narin Insee	Chief of FMT in the same center
	T & E	Chief	Mr. Pairoj Wannakul	Chief of Admin. Section in the same center
Mr. Suttisak Sukkha			Chief of T & E Section in the same center	
Ex-REX C4	Admin.	Center Chief	Mr. Somporn Chaicharus	Director of Reforestation Promotion Office Chonburi
	FMI	Chief	Mr. Theerasak Khantawee	Same position
	FMT	Chief	Mr. Manus Kleebthong	Resigned
			Mr. Samai Seetho	Chief of Admin. Section in the same center
			Ms. Daranee Seetho	Chief of FMT Section in the same center
			Mr. Cha-um Cha-umphol	Same position
	T & E	Chief	Ms. Suwance Chareonkolkit	Same position
Ex-REX IC	Admin.	Chief	Mr. Sumet Sirilak	Chief, Seedling development Sub-Division, Forest Nursery Division, Reforestation Promotion Office, RFD

FMI: Forest Management Information, FMT: Forest Management Techniques, T&E: Training and Extension

Attachment 5

List of Equipment

List of equipment (which cost more than 100,000 Bhat per unit)

Item	Maker	Model	Price	Condition					Remarks
				REX IC	REX C 1	REX C 2	REX C 3	REX C 4	
Hight Meter	HAGLOF	VERTEX 3 & TRANSPONDER T236	147.735					◎	Maintained at Nursery Division of Reforestation and Extension Office, RFD
Shigometer	TEC	P/N: 79455	150.666					○	Not being used often as research activities has been reduced.
Universal Wood Processing Machine with Adjustable Cross Cutter and End Tenoner	TOKIWA KOGYO	VS-30A, CT8FA	1.100.855					◎	There is a concern for the procurement of spareparts
Wood Working Machinery with Automatic Copying Unit, S-type tool post. 4 kinds of Forming and Working Set. etc	SHIMPO	Art and Equipment series WRA-075	1.172.488					◎	
Forestry Working Carrier	CHIKUSUI CANICOM	BFY908 RW1J	394.155					◎	
Universal Woodwork Machine	OGAWA SEIKI	SA-300	993.870				◎		
Green House			606.225					×	Plastic sheet has been destroyed since 2005. The cost for repair and maintenance is too high.
Green House			712.199		×				Due to the problem in the electric system
Green House			745.000			△			There is problem in control system of sprinkler and fan.
Green House			715.000				△		Waiting for the procurement of spareparts
Log House			407.000			◎		◎	
4WD Truck	MITSUBISHI	Canter FE 519	659.550			◎		◎	
4WD Truck	MITSUBISHI	Canter FE 519	658.000		◎		◎		
4WD Pickup Truck	NISSAN	Frontier 3.0	701.600		◎	◎	◎	◎	
4WD Car	ISUZU	Vega 3.0	513.000					◎	Used at RFD
Van	TOYOTA	Hiace	870.000	◎					
Multi Visual Projector	SONY	VPL-CX11	220.085		◎	◎	◎		
LCD Data Projector	SONY	VPL-PX21	430.000					◎	
LCD Data Projector	SONY	VPL-CX10	305.000	◎					
Non-linear Editing Computer	MULTI TECH	MTI-RT2500	139.000					◎	
Non-linear Editing Computer	MULTI TECH	MTI-RT X100	145.950		◎	◎	◎		
Video Visualizer	CANON	RE-450X	100.000		◎	◎	◎		
Video Camera	SONY	DCR-VX2001E	130.200					◎	
Copy machine	CANON	F13-3941-001 NP6045	359.000	◎				×	Copy machine for REX IC is being used at Nursery Division, Reforestation Promotion Office, RFD Copy machine for REX 4 is out of order. Repairment cost is too high
Copy machine	CANON	F12-7442-001 NP6241	300.000		◎	○	◎	◎	REX Center 2 limits the use due to the high maintenance cost

Condition

◎ Being used

○ Being used with limitation

△ Temporary not used

× not used

Attachment 6

Project Design Matrix (PDM)

Project Design Matrix - The Reforestation & Extension Project in the Northeast of Thailand Phase II (REX II Project)

Duration: December 13, 1999 - December 12, 2004

Implementing Agency in Thailand: Royal Forest Department (RFD), Ministry of Natural Resources and Environment

Country: The Kingdom of Thailand

Target Area: Northeast of Thailand

Target Group: Residents in Northeast of Thailand

June, 2004

Narrative Summary	Original Indicators	Revised Indicators	Means of Verification	Important Assumptions
<p>Overall Goal Sustainable forest management techniques in small-scale plantation are adopted in the project area.</p>	<p>1) Number of farmers who start new activity and the kinds of activity (For instance, Change of plantation size in the Project area, Utilization of information, Nursery plan, etc) 2) Number of community forest 3) Change of farmer's consciousness (Farmers have been increasing of their interests to the project.)</p>	<p>No change No change No change</p>	<p>Follow-up/Impact survey on model area</p>	<p>No rapid change of Forest Policy in Thailand</p>
<p>Project Purpose Systems for the extension/improvement of the sustainable forest management techniques in small-scale plantation are established in the project area.</p>	<p>1) Information, techniques and training & extension on forest management are mutually exchanged and feedback among Centers. 2) Technical improvement and know-how on forest management by project staff. 3) Frequency and number of delivery on forest management from the Project</p>	<p>Four REX centers are ready to apply the approach of setting model area to other areas 1. Four prototypes for setup of a new model area are defined. 2. All concerned materials for setting model area (eg. Manuals) are compiled and available as reference.</p>	<p>Monitoring/Evaluation report Long-term plan / Project plan (5years) Implementation plan (annual) Impact survey Slide, Pamphlet, Brochure, Leaflet of the project</p>	<p>No rapid economic/social change in the project area</p>
<p>Outputs 1. Forest management information is accumulated at RFD. 2. Sustainable forest management techniques in small-scale plantation are improved. 3. Information and techniques on the forest management are introduced to the residents through the RFD and its network activities. 4. Monitoring results is well utilized for the improvement of project activities.</p>	<p>1-1. Effective usage of data (List of agency for data inquiring) 1-2. Frequency of up-data and quality of information 2-1. Recognition & application of new techniques by farmers 2-2. Formation of demonstration forests by using new techniques 3-1 Satisfaction of farmers (to what extent the training met Farmer's needs) 3-2. Number of new training conducted and variety of training participant 3-3. Increase of extension activity focused on forest 3-4. Farmers know the project 3-5. Increase of tree planting 4-1. Improvement of each activity in regular basis 4-2. Information, techniques and training & extension are mutually exchanged and feedback among each</p>	<p>1.1 Direct and indirect target will receive information on sustainable management techniques from REX Project and through information network. 1.2 Forest Management data is frequently and updated. 2.1 Numbers of plus trees, cutting seedlings, species, variety and technical papers which are new produced by new techniques. 2.2 Numbers of experimental plot and technical paper 2.3 Numbers of training materials 2.4 Numbers of Center report 2.5 Numbers of manual and handbook 3.1 80% of ex-trainees are satisfied (to what extent the training met farmer's needs) 3.2 Numbers of new training courses and training participants. 3.3 30% of the ex-trainees in the model area apply knowledge and techniques of sustainable forest management provided by the project. 3.4 Tree planting farmers in model area increases</p>	<p>1 Questionnaire Manual for operation & data analysis Database system in Centers 2 Forest management handbook Technical papers Drawing up Manual of nursery and tending techniques for forest management Demonstration forests 3 Curriculum for training Survey report for training Report/Evaluation form Questionnaire/interview to the participant Mass-media (Radio, Newspaper) Leaflet and brochure for extension Extension guidebook List of visiting farmer for extension 4 Report of each Center Project plan (5 years) Regional report Provincial annual report Annual plan for project implementation</p>	<p>The outputs of the project are highly appreciated and utilized by the RFD.</p>

Activities	Inputs		
	Japanese side	Thai side	
<p>1. Forest management information</p> <p>1-1. Collection and analysis of the forest management information and data</p> <p>1-2. Building up database management systems</p> <p>1-3. Development of information delivering systems</p> <p>2. Sustainable forest management techniques in small scale plantation</p> <p>2-1. Improvement of nursery techniques</p> <p>2-2. Improvement of reforestation techniques</p> <p>2-3. Improvement of the method for forest products utilization</p> <p>2-4. Improvement of existing demonstration forests</p> <p>2-5. Drawing up handbook for forest management</p> <p>3. Training and Extension on forest management</p> <p>3-1. Establishment of extension model areas</p> <p>3-2. Development of training on forest management</p> <p>3-3. Development of extension techniques on forest management</p> <p>3-4. Tree planting promotion in target area</p> <p>4. Monitoring</p> <p>4-1. Monitoring of project activities on a regular basis</p> <p>4-2. Picking up useful information in order to improve each project activity</p>	<p>1. Long-term experts:</p> <p>Japanese chief advisor: Project coordinator: Forest management information Forest management techniques Training and extension</p> <p>Short-term experts (as necessity):</p> <p>2. Training of counterparts in Japan:</p> <p>3. Machinery and equipment: (in the field of Forest management information, Forest management techniques, Training and extension, and other equipment necessary for the project)</p> <p>4. Portion of local cost</p>	<p>1. Project staff Project director: Director General, Forest Department (RFD) Project manager: Director, Reforestation Office (RFD) Field manager: To be appointed by the Project Director Project coordinator: To be appointed by the Project Director Chief of REX Center 1-4 and Information Center Counterparts at each five Centers in the field of: (Forest management information, Forest management techniques, and Training and extension)</p> <p>Administrative personnel (Clerks, Drivers, laborers, other necessary supporting staff)</p> <p>2. Land for Project office & related facilities and Model forests Project Office and room space for Japanese experts Laboratory, Administrative Room, others</p> <p>3. Local cost</p>	<p>The project staff can spare sufficient time to the project activities.</p> <p>The duty on the project activity in each section shall be clarified.</p> <p>The related organization of the project can collaborate to the project.</p> <p>Preconditions</p> <p>People in the project area are supported to the project.</p> <p>The outcomes of REX I can succeed into REX II.</p>

Attachment 7

Third Party Review by External Expert

Third Party Review by External Experts

Ex-Post Evaluation on

The Reforestation and Extension Project in the Northeast of Thailand (Phase II) (REX II)

* This Third Party Review by External Experts is to examine the end-product (an evaluation report and a summary sheet) of ex-post evaluation of the above-mentioned project in light of its structure, verification procedure and overall consistency. It is to be noted that the review is not to question the validity of the evaluation results per se.

* On the leftmost column of each item, choose the rating from A as 'excellent', B as 'good', C as 'acceptable' and D as 'unacceptable'.

* When you choose D for an item, specify the reason in comment fields.

* For more details of viewpoints for each item, refer to the corresponding page of 'JICA Project Evaluation Guideline' which is indicated on the rightmost column of each item.

1 Evaluation Framework

Reference page No.
of 'JICA Project
Evaluation Guideline'

A	(1) Time Frame of Evaluation Study	97
Viewpoint	Necessary field survey activities such as data collection and discussion with counterparts are appropriately set within the time frame of the evaluation study. Time frame also contains preparations such as distribution of questionnaires, and are appropriate in terms of timing, length and schedule of the evaluation study.	
C	(2) Study Team	107
Viewpoint	Team members are assigned on a impartial basis, and are with balanced specialty.	
Comment. On team members, only two persons without indicating field of specialization		

2 Date Collection and Analysis

B	(1) Evaluation Questions	51
Viewpoint	Evaluation questions are in line with evaluation purposes and set properly in the evaluation grid. General questions as to the five evaluation criteria are narrowed down to more specific sub questions to identify necessary information/data to be collected.	

B	(2) Data Collection	72
Viewpoint	Data collection is conducted based on the evaluation grid, and is sufficient for obtaining answers for evaluation questions. Additional information are collected for unexpected and newly confronted questions during the process.	
B	(3) Measurement of Results	61
Viewpoint	Achievement level of overall goal is examined on the basis of appropriate indicators, being compared with targets.	
B	(4) Examination of Causal Relationship	62
Viewpoint	The causal relationships whether the effects for the beneficiaries resulted from the project is examined either in a qualitative or quantitative manner (i.e. Are the effects at the overall goal level caused by the project intervention?)	
Comment. Carried out accordingly		

3 Evaluation Results

C	(1) Impact	57, 85-86
Viewpoint	Perspectives for evaluation of 'Impact' (e.g. achievement level of the overall goal, causal relationships between the outcome of the project and overall goal, ripple effects) are substantially covered. Grounds for judgment are clearly stated in a convincing manner.	
C	(2) Sustainability	58, 85-86
Viewpoint	Perspective for evaluation of 'Sustainability' (e.g. probability of activities to be continued and outcomes to be produced in terms of 1)policies and systems, 2) organizational and financial aspects, 3) technical aspects, 4) Society, Culture and environment and) are substantially covered. Grounds for judgment are clearly stated in a convincing manner.	
B	(3) Factors Promoting Sustainability and Impact	85-86
Viewpoint	Promoting factors on 'Impact' and 'Sustainability' are analyzed properly based on the information obtained through evaluation process.	
C	(4) Factors Inhibiting Sustainability and Impact	85-86
Viewpoint	Inhibiting factors on 'Impact' and 'Sustainability' are analyzed properly based on the information obtained through evaluation process.	
B	(5) Recommendations	87-88
Viewpoint	Recommendations are made thoroughly based on the information obtained through the process of data analysis and interpretation. Recommendations are specific and useful for feedbacks and follow-ups, preferably being prioritized with a time frame.	

C	(6) Lessons Learned	87-88
Viewpoint	Lessons learned are derived thoroughly based on the information obtained through the process of data analysis and interpretation. Lessons learned are convincing and useful for feedbacks, being generalized for wider applicability.	
Comment. Could not clearly differentiate the effects of the project from possible factors outside the project and timing of those factors.		

4 Structure of Report

A	(1) Writing Manner	89,103
Viewpoint	Logical structure and major points are clearly described in an easily understandable manner.	
B	(2) Presentation of Primary Data and Utilization of Figures	89,103
Viewpoint	Sufficient primary data such as on the target, contents and results of interviews and questionnaires are presented properly in the report. Figures and tables are utilized effectively to present statistics and analysis results.	
Comment. Time sequence of events was not well presented		

5 Overall Review based on 'Criteria for Good Evaluation'

B	(1) Usefulness	13-14
Viewpoint	In light of the effective feedback to the decision-making of the organization, clear and useful evaluation results are obtained.	
A	(2) Impartiality and Independence	13-14
Viewpoint	Evaluation is impartially conducted in a neutral setting	
A	(3) Credibility	13-14
Viewpoint	In light of the specialties of evaluators, transparency of the evaluation process and appropriateness of the criterion of judgment, evaluation information are credible.	
B	(4) Participation of Partner Countries	13-14
Viewpoint	Partner countries' stakeholders participate actively in the process of evaluation, not just provide information.	
Comment. Good		

5 Overall Comment

The evaluators had carried out a very good ex-post evaluation in spite of limitations. However they should have given more focus on the farmer cooperators because they are the one to make the reforestation sustainable in the long run. Strength of farmer network (empowerment) should have been examined because it would be useful for extension which would reduce workload of the officers. Time line should have been applied to clear the effects of external factors that make extension more complex and delineate the project effectiveness from other factors.

Date

25 Feb, 2008

Name of the Third Party

Assoc. Prof. Suchint Simaraks

Designation

Name of the Institution

Faculty of Agriculture, Khon Kaen University

11/10/2011
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