Ministry of Agriculture and Rural Development

Australian Government

AusAID

Collaboration for Agriculture and Rural Development
(CARD) Program

Project Completion Evaluation Report

058/04VIE

Strengthening Capacity in Forest Tree Seed Technologies Serving Research and Development Activities and ex-situ Conservation

Hanoi, March 2007

1. Executive Summary

The project "Strengthening Capacity in Forest Tree Seed Technologies Serving Research and Development Activities and *ex-situ* Conservation" was implemented by RCFTI (FSIV) and its Australian Partner – ENSIS, for a period of time from April 2005 to April 2007. The project was funded by CARD (Collaboration for Agricultural Research and Development). The main purpose of the project is to strengthen capacity in forest tree seed technology for RCFTI and local seed companies. The Center has implemented series of activities in accordance with the project proposal. It well ran 6 short training courses (2 courses in Australia and 4 in Vietnam) in order to train staff of RCFTI and local seed companies in forest tree seed technologies. It also installed an effective software to manage seed sources and purchased appropriate equipments for collecting, processing, testing and storage seed sources. One more important output produced from the project is the Manual for seed Management and Use that is approved to be high value for local seed companies and other stakeholders.The Tree Breeding Improvement Strategy for the Vietnam and the final report will be released soon as the project will be finalized next month.

2. Project Data Sheet

<table>
<tr><td colspan="3">Project Name: (058/04/VIE) Strengthening Capacity in Forest Tree Seed Technologies Serving Research and Development Activities and ex-situ Conservation.</td></tr>
<tr><td colspan="3">Vietnamese Institution: Forest Science Institute of Vietnam
Research Centre for Forest Tree Improvement (RCFTI)</td></tr>
<tr><td colspan="3">Australian Partner Institution: ENSIS. (Joint Venture between CSIRO Forestry and Forest Product and Scion, New Zealand)</td></tr>
<tr><td>Date Approved: 14 Apr. 2005</td><td>Date commenced: 18 Apr.2005</td><td>Date Completed: April 2007</td></tr>
<tr><td>Project Budget (A$):</td><td>Total: 454,524</td><td>From: AusAID: 253,044
Vietnamese institution: 95,020
Australian institution: 106,460</td></tr>
<tr><td colspan="3">Project Abstract (from Proposal): The Government of Vietnam (GoV) has embarked on a massive tree plantation program. By 2010, it plans to establish an additional 5 million hectares of plantations on cleared land, over and above the current plantation estate of one million ha, plus the equivalent of more than 50,000 hectares of community forests in scattered plantings. This dramatic expansion will require equally dramatic increased in the amounts of genetically-superior seed suitable for the different ecological zones in Vietnam. The GoV is committed to improving the quantities and qualities of tree seed produced from its own seed orchards, which is a more sustainable strategy than depending on imported seed.
This project aims at strengthening the capacity of RCFTI and selected regional production centers in forest tree seed technologies through development of a functional Tree Seed Center of international standard with seed database for record keeping. CSIRO Forestry and Forest Products is the Australian project partner and will provide the necessary training. The transfers of skills, experience and technology will contribute to the necessary research and development, including conservation measures for both indigenous and exotic species in Vietnam.</td></tr>
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Milestones completed:

- A training course on tree breeding improvement strategy organized in Australia (4 Vietnamese attended)
- A training course on design of provenance trial and data analysis organized in Australia (4 Vietnamese attended).
- A training course on seed collecting and processing organize in Vietnam (16 participants)
- A training course on seed testing organized in Vietnam (12 participants)
- A training course on management of seed stand organized in Vietnam (12 participants)
- A training course on management of seed orchard organized in Vietnam (12 participants)
- A software of seed management was installed, and 4 stall can operate
- Purchased climbing equipment, and seed cleaning equipment.
- Model of silvicultural experiments for improvement of seed quality and quantity

Reports Produced (Title/Date): Project Evaluation Report
March 21-26, 2007

Evaluation Team:

1. Dr. Pham Duc Chien (Team Leader), Forest Science Institute of Vietnam
2. Dr. Nguyen Mau Dung, Hanoi No. 1 Agriculture University
3. Mr. Le Van Tan, Science Technology and Environment Department, MARD
4. Ms. Nguyen Hai Hoa, Science Technology and Environment Department, MARD
5. Ms. Pham Thi Thanh Hoa, Water Resourse Institute
6. Ms. Le Thi Ha, Fruit and Vegetable Research Institute
7. Ms. Le Ngoc Minh, Intitute of Policy and Stratergy for Agriculture and Rural Development
8. Mr. Nguyen Duc Tam, Aquaculture Research Institute No. 1
9. Ms. Nguyen Thi Hong Thanh, Science Technology and Environment Department, MARD
10. Ms. Nguyen Thi Khoa, CARD
11. Dr. David Young, M&E Expert

Date of Evaluation: March 21, 2007

3. Evaluation matrix for the project

	Relevance	Impact	Effectiveness	Efficiency	Sustainability
Object 1: Implement an effective seed tracking/ recording system to ensure accurate management of seed records by the RCFTI					
Output 1.1: Effective information system to track seed from field collection to end user with the support of an electronic seed database and paper trail system.	A. Important for the management of seed sources	A. Improve skills and knowledge in seed management for the staff of RCFTI	B. The information system is operating only in RCFTI	B. Limited number of people can access the information system	B. High risk for the system as only one computer is used for this task.
Object 2: Develop skills in safe methods of seeds, including tree climbing, seed harvesting, processing and documentation. These skills are to be applied to RCFTI and some selected stakeholders.					
Output 2.1: Field staff trained in seed collection, processing and documentation including the use of safe tree climbing practices.	A. Staff trained with new and safe techniques for seed collection, processing and documentation	A. Reduction in accident risks while working in the field, also improve quality and quantity of seed sources.	B. Can apply for a number of species, but not all.	A. Field trials were well organized.	B. Lack equipment and fund for apply the knowledge and skills learned
Output 2.2: Appropriate tree climbing equipment provided to the various field operators within RCFTI	A. Important to have appropriate equipment.	A. Reduction in accident risks while working in the field.	B. Only useful for massive collection	B. May increase the cost for collecting seed sources	B. Equipment are seasonally using
Object 3: Develop skills in seed technology to enable personnel to effectively test, fumigate, store and document and distribute seed entered into seed centers. Ability to handle seed for long-term *ex situ* conservation measures applicable in particular to storage of					

indigenous tree species. Flexible methods will enable RCFTI to link a seed database with a paper system while other stakeholders can adopt an effective paper system. Seed sent to growers is accompanied by accurate and relevant information. Develop a Seed Operations Manual for RCFTI Seed Center.					
Output 3.1: Laboratory staff effectively trained to enable them to test, document and store seed, including conservation techniques for long-term seed storage, and effective in responding to seed requests and distribute seed and information.	A. It is necessary to have staff trained in this area.	**B**. Improve capacity to manage seed sources at RCFTI and other institutions.	B. Techniques provided for only a number of species	A. The training was well organized	B. Local institutions may have difficulty in applying techniques due to lack of suitable equipments and conditions.
Output 3.2: Seed operations manual representing the activities of the seed handling operations from seed collection through to storage and distribution.	A. Important for the management and use of seed sources.	B. Improve quantity and quality of seed sources	B. The apply the manual is limited in local institutions.	B. It is not completely completed.	B. Unclear for the plan to update new information and knowledge in the Manual.
Object 4: Improve productivity and genetic quality of seed from existing seed orchards and seed production areas by application of appropriate silvicultural treatments.					
Output 4.1: Experiments on silvicultural treatments in existing seed orchards, thinning seed production areas.	A. To improve quality and quantity of seed sources		B. Apply only for several species.	C. No results received due to the change of weather.	B. Unclear results collected in the coming time.
Object 5: Develop breeding strategies for key plantation species for long-term genetic improvement and conservation					

Output 5.1: Frameworks set for management of genetic improvement programs	A. Highly relevant - for tree breeding strategy	***Not totally completed***			
Object 6: Project management					
Output 6.1: Project managed in accordance with project proposal					
Overall Ranking	***A***	***A***	***B***	***B***	***B***

4. Further Details on Impact

4.1. Financial Impact

The project mainly focuses on strengthening capacity in forest tree seed technologies. It provides the staff of RCFTI and local seed companies with training on new skills and technologies in order to operate effectively seed source management from seed collection, processing, test and storage, documentation to distribution and use. It therefore has an indirect and long-term financial impact. For instance, farmers will probably benefit from high quality and cheap seed sources obtained from the project results. Seedlings produced as a result of the project may probably have lower mortality rate also high growth rate compared with those before the project commenced.

4.2. Social Impact

A number of staff of RCFTI and local seed companies was trained on new techniques that help to improve the management of the seed sources, and then to improve the quality and quantity of seed sources. The project also helps to strengthen the linkage among seed providers in terms of providing information, knowledge and techniques.

4.3. Environmental Impact

The project does not have any significant impact on the environment. In fact, it has a slightly positive long-term impact on the environment as high quality and cheap seed sources may probably help to increase the quality and quantity of forest plantation in Vietnam.

4.4. Institutional Impact

The project helps to build capacity and improve the relationship among seed providers in Vietnam. It also helps to produce a Manual Activities and Tree Breeding Improvement Strategy for the Vietnam.

5. Conclusions and lesson Learned

The project “Strengthening Capacity in Forest Tree Seed Technologies Serving Research and Development Activities and *ex-situ* conservation” is operated and implemented by FCFTI (FSIV) from April 2005 to April 2007. The main purpose of the project is to strengthen capacity in forest tree seed technologies by series of training courses on new techniques and knowledge for a better management of seed sources. In general, the project has been well implemented in accordance with the project proposal. The project firstly organized 6 short training courses (2 in Australia and 4 in Vietnam).

Participants in general can effectively use skills and techniques learned from courses. Secondly, the project set up a new software program at RCFTI aiming at effective management of seed sources for the Center. It is however much better if we can use the program to manage other sources of seeds throughout Vietnam. It is also very good that the project has produced the Manual for seed collecting, processing, testing, storage and distribution, which can be a great contribution to

local seed companies. Another activity of the project is to carry out silvicultural experiment (thinning, fertilizing… for seed orchards) in order to find out a good method for this aspect. The project, however, failed to have data from the field due to a sudden change of the weather. It is therefore necessary to continue this activity despite the end of the project next month. At the moment, the Tree Breeding Improvement Strategy for the Vietnam and the final report are in progress, and they should be submitted soon as the project will be finalized next month.

The project in general has been well operated following the project proposal. To obtain this result, we understand that self-management and monitoring showing by six monthly, annual, mid-term and final reports are very important. As the goal of the project focuses mainly on strengthening capacity building for RCFTI and local seed companies, the results of the project will probably have an indirect impact on farmers as they may benefit from good and cheep seed sources in the coming time. It is therefore necessary to continue monitoring and evaluating the impact of the project in the coming time to have better lessons learned from the project.