

Country Name	Capacity Building of Ho Chi Minh City University of Technology to Strengthen University-Community Linkage
Socialist Republic of Viet Nam	

I. Project Outline

Background	The southern region of Viet Nam had been seen as one of the strategically important areas that would lead the country's economic and social development. In order to promote the regional development that could be accelerated by the development of agriculture, fishery and manufacturing industries, it was requisite to develop human resources endowed with high-level of knowledge and technical and engineering skills. Ho Chi Minh City University of Technology (HCMUT) had functioned as the leading research and educational institution in southern Viet Nam and had provided occasional research and development (R&D) support and training in the region. However, due to a lack of an effective institutional mechanism of "university-community linkage" and insufficiency of experiences in R&D and transfer of its outcomes to local communities that would satisfy actual local needs, efforts by HCMUT and their achievements were still limited.						
Objectives of the Project	Through enabling HCMUT to accumulate experiences, practical skills and knowledge on planning and managing pilot projects on university-community linkage, promoting pilot R&D and training for local communities, the project aimed at consolidating and institutionalizing the experience and knowledge on university-community linkage activities at HCMUT, thereby contributing to a thorough utilization of the experience and knowledge on university-community linkage in local communities. The project objectives set forth are as follows:						
	<ol style="list-style-type: none"> Overall Goal: Experience and knowledge (i.e. knowhow) on university-community linkage is thoroughly utilized in local community. Project Purpose: At HCMUT, experience and knowledge (i.e. know-how) on university-community linkage activities are examined, consolidated and institutionalized. 						
Activities of the Project	<ol style="list-style-type: none"> Project site: (1) Ho Chi Minh City, (2) Tien Giang Province and (3) An Giang Province ((2) and (3) are pilot project sites) Main activities: (1) Identify the needs of local communities and technologies to be developed through surveys and analyses; (2) Select pilot communities and projects to collaborate with; (3) Implement pilot projects (including formulating, implementing and evaluating R&D plan); (4) Prepare a training plan for each pilot project, train lecturers of trainings, prepare training materials and implement trainings for local communities; and (5) Develop guidelines/operational manuals for management of pilot projects and trainings to promote university-community linkage. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%; vertical-align: top;"> Japanese Side <ol style="list-style-type: none"> Experts: 12 persons Trainees received in Japan: 20 persons Provision of equipment (general and order-made machinery for R&D, etc.) Overseas activities cost (expenses for R&D, seminars, etc.) </td> <td style="width: 50%; vertical-align: top;"> Vietnamese Side <ol style="list-style-type: none"> Staff allocated: 22 persons Land and facilities: project offices in HCMUT, land for pilot plant of extracting oils from tea trees (Melaleuca) Local cost (expenses for pilot projects, etc.) </td> </tr> </table> 					Japanese Side <ol style="list-style-type: none"> Experts: 12 persons Trainees received in Japan: 20 persons Provision of equipment (general and order-made machinery for R&D, etc.) Overseas activities cost (expenses for R&D, seminars, etc.) 	Vietnamese Side <ol style="list-style-type: none"> Staff allocated: 22 persons Land and facilities: project offices in HCMUT, land for pilot plant of extracting oils from tea trees (Melaleuca) Local cost (expenses for pilot projects, etc.)
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Ex-Ante Evaluation	2005	Project Period	January 2006 to January 2009	Project Cost	235 million yen		
Implementing Agency	Ho Chi Minh City University of Technology (HCMUT)						
Cooperation Agency in Japan	Toyohashi University of Technology						

II. Result of the Evaluation

1 Relevance
<p><Consistency with the Development Policy of Viet Nam at the time of ex-ante and project completion></p> <p>The project was consistent with Viet Nam's development policy on 'promoting development of southern Viet Nam' and 'reforming higher education and promoting development of science and technology' as set forth in "the Strategy for Socio-Economic Development (2001-2010)", "the Five-Year Plan for Socio-Economic Development (2001-2005)", and "the Five-Year Plan for Socio-Economic Development (2006-2010)" etc. at the time of both ex-ante evaluation and project completion.</p> <p><Consistency with the Development Needs of Viet Nam at the time of ex-ante and project completion></p> <p>The project was consistent with high needs and expectations of local government officials, university staff and other technology/engineering related people in southern Viet Nam for HCMUT to develop a technology that meets the local needs and train local personnel in charge of regional development.</p> <p><Consistency with Japan's ODA Policy at the time of ex-ante evaluation></p> <p>The project was consistent with Japan's ODA policy, as stated in the "Country Assistance Program for the Socialist Republic of Viet Nam (2004)", which prioritized 'promotion of growth'. 'Human resources development to support growth' is stated as one of the targeted sectors.</p> <p><Evaluation Result> In light of the above, the relevance of the project is high.</p>
2 Effectiveness/Impact
<p><Status of Achievement for Project Purpose at the time of Project Completion></p> <p>The Project Purpose was achieved by the time of project completion. Four pilot projects were implemented under the project, namely,</p>

(1) cacao fermentation pilot project in Tien Giang, (2) Basafish filleting machine pilot project in An Giang, (3) Melaleuca essential oil extraction pilot project in Tien Giang, and (4) water treatment (of aquaculture ponds) pilot project in Tien Giang and An Giang. As these pilot projects were designed based on the needs of the two local provinces for application of new and adequate technologies, all the pilot projects basically satisfied the needs of local provinces (Indicator 1). “Operational Guidelines for University-Community Linkage” was prepared by consolidating experiences and knowledge accumulated through project activities (Indicator 2). An official organizational unit, the External Relations Office (ERO), was institutionalized as a formal and permanent body of HCMUT with budget and human resource allocation (Indicator 3). Moreover, trainings were implemented for successful implementation of all of the four pilot projects.

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The continuation status of project effects is partial. Among the four pilot projects, cacao fermentation technology (already commercialized) and water treatment technology of aquaculture ponds have been under an expanded use, and Melaleuca essential oil extraction technology has been under a rather limited use due to its low production volume, though it has been continuously utilized by a technology company HCMUT established in 2013. However, Basafish filleting machine has not been utilized since a potential user, which is a leading fish processing company, has not yet decided whether to introduce the machine in the company. In this sense, the needs of local provinces have partially been addressed and/or satisfied since project completion. “Operational Guidelines for University-Community Linkage” has been utilized by HCMUT staff. ERO has been continuously functional with budget and human resource allocation.

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal was partially achieved at the time of ex-post evaluation. 30 requests on average have been received from local provinces to solve their problems every year since project completion, among which at least four to five topics per year have been selected as pilot projects (Indicator 1). Eleven to twelve pilot projects per year were conducted between 2009 and 2011, four to five pilot projects per year have been implemented since 2012, with more than ten provinces¹. According to a questionnaire survey to local people conducted by HCMUT, five out of six respondents said that they found the technologies introduced by HCMUT useful (Indicator 2). While the pilot projects are selected and implemented based on research needs surveys, quantitative information was not available to verify what percent of the pilot projects satisfied the needs that ERO identified (Indicator 3). No training for local people as part of pilot projects has been implemented since project completion mainly due to a lack of budget (Indicator 4).

No negative impact of this project (including the pilot projects) on natural environment has been reported. There were no land acquisition/resettlement due to this project, either.

<Evaluation Result> The targets set in all the indicators for the Project Purpose were achieved, however, project effects have been partially maintained after project completion, as one of the technologies developed in pilot projects was not utilized after project completion. The degree of achievement of the overall goal is partial at the time of ex-post evaluation, as no training courses have been organized as part of pilot projects since project completion. Therefore, effectiveness and impact of the project are fair.

3 Efficiency

The project cost was lower than planned (ratio against the plan: 81%) and the project period was as planned (ratio against the plan: 100%). Therefore, efficiency of the project is high.

4 Sustainability

<Policy Aspect> * Common to the Phase 1 and Phase 2 projects

“Strategy for Science and Technology Development 2010-2020” (government policy) has one of its directions for improving universities’ capacity for basic research and promote close linkage with universities for human resource development. The Strategy also sets a direction for Mekong Delta Region of developing science and technology for key areas such as rice, fruit cultivation, aquaculture, and processing.

Also, a project “Science & Technology for Sustainable Development of Southwestern Viet Nam” approved by the Prime Minister is being implemented from 2014 to 2019. This Project aims at proposing science-technology solutions to promote intersectoral and regional cooperation and implementing the science and technology solutions for the Southwestern Viet Nam, which is already specified in the Strategy for Science and Technology Development 2010-2020.

<Institutional Aspect>

At the time of ex-post evaluation, major responsibility of ERO is planning and managing university-community linkage activities, and 11 staff members (one Head, two Deputy Heads, and eight members) are assigned in ERO. In addition, there are R&D and Project Management Office (RDPMO), which is responsible for planning and managing R&D activities including R&D related needs surveys, and Postgraduate Study Office (PGSO), which is responsible for promoting research-based education. Ten staff members (one Head, two Deputy Heads, and seven members) are assigned in RDPMO and thirteen staff members (one Head, two Deputy Heads, and ten members) are assigned in PGSO. The number of staff is considered to be sufficient, as all the necessary tasks for university-community linkage activities are conducted sufficiently.

<Technical Aspect>

At the time of ex-post evaluation, the project counterparts continuously work in HCMUT, and technical skill level of staff in ERO, RDPMO and PGSO is sufficient, as all the necessary university-community linkage activities are conducted sufficiently. However, there has been no plan in HCMUT to regularly improve skill level of staff members in ERO, RDPMO and PGSO since the completion of the Phase 2 project.

<Financial Aspect> * Common to the Phase 1 and Phase 2 projects

Approximately 2 billion VND has been annually allocated to ERO since its establishment. As for budget allocated for RDPMO and PGSO, around 33 to 46 billion VND has been annually allocated. However, the amount of budget has not been sufficient, as trainings have not been implemented as part of pilot projects since project completion and there are some research topics that could not be implemented or could not be implemented in full scale due to a lack of budget. Also, HCMUT does not have a particular plan to increase budget. The general budget of HCMUT, like many other universities in Viet Nam, is limited and has to be allocated to many purposes.

<Evaluation Result> While no major problems have been observed in policy and institutional aspects of the implementing agency, there are

¹ Among these pilot projects, all of them up to 2011 were implemented under the Phase 2 of this project (2009-2012), and two each in 2013 and 2014, respectively, were implemented under the ASEAN University Network / Southeast Asia Engineering Education Development Network (AUN/SEED-Net) Project Phase3 (2013-2018), another JICA technical cooperation project.

some challenges in technical aspects (i.e. lack of plan to improve responsible staff's skill level) and in financial aspects (i.e. shortage of budget). Therefore, sustainability of effects of the project is fair.

5 Summary of the Evaluation

The project achieved its Project Purpose, as the targets set in all the indicators for the Project Purpose were achieved. However, project effects have been partially maintained after project completion, as one of the technologies developed in pilot projects have not been utilized after project completion. The degree of achievement of the Overall Goal is partial at the time of ex-post evaluation, as no training courses have been organized as part of pilot projects since project completion. Nevertheless, the targets set in other indicators for the Overall Goal have been achieved, showing wider application of university-community linkage partly thanks to the Phase 2 of this project. In terms of sustainability, there are some challenges in technical and financial aspects, as there has been no plan in HCMUT to regularly improve skill level of staff members, and the amount of budget of ERO is not sufficient. On the other hand, good policy support and organizational structure for university-community linkage were observed.

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

III. Recommendations & Lessons Learned

<Recommendations for Implementing Agency>

HCMUT is recommended to update the Operational Guidelines for University-Community Linkage based on the experiences gained under the Phase 2 project so that the outputs of this Phase 1 project could be fully utilized.

<Lessons Learned for JICA>

(Lessons learned from both Phase 1 and Phase 2 of the project)

For a university to conduct research and development activities with local community in a sustainable manner, it is important to set up a clear and official organization for university community linkage within the university well before project completion, so that feasibility of such an organization can be experimented and necessary adjustment can be made as part of the project activities.

For sustainable use of technologies developed through university-community linkage by the local community, feasibility surveys of pilot projects should evaluate relevance of the pilot projects in terms of both conformities with local needs and commercial viability of adapting the research results. In case of this project, while some technologies introduced under this project have been used and further expanded in the community/private sector for more than five years without support from the Phase 2 of this project, some other technologies that were not widely commercialized had issues such as small needs for mechanization where workers are available or small scale of production by nature of the product.



Melaleuca shower gel (produced based of a pilot project)

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
<p>(Project Purpose) At HCMUT, experience and knowledge (i.e. know-how) on university-community linkage activities are examined, consolidated and institutionalized.</p>	<p>1. By the end of the Project duration, more than 70% of the pilot projects satisfy the needs of local provinces.</p>	<p><u>Status of achievement: Achieved (partially continued)</u> (Project Completion) Four pilot projects implemented under the project were designed based on the needs of the two local provinces (Tien Giang and An Giang), which shows that all the pilot projects basically satisfy the needs of local provinces. According to the questionnaire survey conducted in June 2008 to local participants in the project, ten out of 16 respondents evaluated that the pilot projects satisfied local needs by either 80%-100% or 60%-80%. (Ex-post Evaluation) Among the four pilot projects, (1) cacao fermentation technology is under commercial use; (2) for Basafish filleting machine, while the Nam Viet Corporation, a leading fish processing company, has recognized the quality of the filleting machine, as there is a sufficient supply of workers, the company has not yet decided whether to introduce the machine; (3) for Melaleuca essential oil extraction, HCMUT established a technology company named BK Nature in 2013 to produce cosmetics based on natural extracts including melaleuca essential oil from the workshop in Tien Giang. However, because of nature of the product that requires only a small portion of the oil, the consumption of melaleuca essential oil for BK Nature products is still limited; and (4) for water treatment technology of aquaculture ponds, ten sets of aerators installed in the 25 ha fish farm in the Vinh Thanh community in 2009 have effectively been operated and the farm installed more aerators for the current farm area. Some other farms use this technology for catfish pond water quality control.</p>
	<p>2. Operational guidelines and/or manuals for university-community linkage are developed by the end of the Project duration by consolidating gained experience and achievements.</p>	<p><u>Status of achievement: Achieved (continued)</u> (Project Completion) “Operational Guidelines for University-Community Linkage” was prepared by Japanese experts and project members to compile experiences and knowledge accumulated through project activities. (Ex-post Evaluation) The guideline has been used by HCMUT staff. The guideline has not been revised.</p>
	<p>3. At HCMUT, the Committee and/or an official organizational unit is institutionalized as a formal and permanent body of HCMUT with budget and human resource allocation.</p>	<p><u>Status of achievement: Achieved (continued)</u> (Project Completion) ERO was established on December 18, 2007, together with RDPMO and PGSO. Major roles and responsibilities of ERO are (1) implementing and strengthening collaborations with universities nationally and internationally, (2) promoting international relations, (3) engaging and strengthening collaborations with industries and communities, and (4) consulting the Board of Rector about external relations etc. ERO had 13 staff members (one Head, two Deputy Heads, and ten members) and approximately 2,000 million VND as annual budget. (Ex-post Evaluation) ERO has been functional, with 11 staff members (one Head, two Deputy Heads, and eight members) and approximately 2,000 million VND as annual budget. Activities conducted by ERO after project completion are seeking and establishing collaborations with local provinces in education and research, inviting members from communities to join research programs in order to solve regional common issues, and support for community-industry linkage activities etc.</p>
	<p>(Supplemental information)⁽¹⁾ Staff of HCMUT becomes able to provide trainings required for successful implementation of pilot projects.</p>	<p><u>Status of achievement: Achieved (not continued)</u> (Project Completion) Trainings were implemented for all of the four pilot projects, which combined lecture- and seminar-type technical transfer of theory with experiment or field study, with an appropriate level of teaching materials. According to the questionnaire survey conducted by the project, 96% of the past trainees until June 2008 evaluated that they were satisfied with the courses with impressions of more than “fair”. (Ex-post Evaluation) No training course has been organized as part of pilot projects due to a lack of budget since project completion.</p>
<p>(Overall Goal) Experience and knowledge (i.e. knowhow) on university-community linkage is thoroughly utilized in local community.</p>	<p>1. Requests from local provinces in southern region to solve their problem are regularly received. Among those requests, at least three topics per year are selected as HCMUT's pilot projects.</p>	<p><u>Status of achievement: Achieved</u> (Ex-post Evaluation) 30 requests on average have been received from local provinces every year since project completion, among which 11-12 topics per year were selected as pilot projects from 2009 to 2011, and four to five topics per year were selected as pilot projects from 2012 to 2015.</p>
	<p>2. University-Community linkage activities are carried out in a wider scale in terms of the number of the pilot project (more than four pilot projects) and/or of the number of cooperating local provinces/communities in southern Viet Nam. Local partners recognize HCMUT's university-community</p>	<p><u>Status of achievement: Achieved</u> (Ex-post Evaluation) The number of pilot projects actually implemented from 2009 to 2011 is eleven to twelve per year. Four to five pilot projects per year have been implemented since 2012, with more than ten provinces. Some pilot projects were financed by the provinces themselves. According to a questionnaire survey conducted by HCMUT for this ex-post evaluation⁽²⁾, in which four local people and two local officers/researchers replied, four local people answered that they find the technologies introduced by HCMUT useful. One of the two local officers/researchers replied that the cacao fermentation technology</p>

	linkage activities. (More than 40 % of local people surveyed recognize and appreciate the activities.)	transferred by HCMUT is useful, while the other replied that the technology (pilot project of “- Applying soil-cement shallow mixing (SCSM) technology to construct rural roads in the Mekong delta”) could not be used.
	3. More than 70% of implemented pilot projects satisfy the needs identified by the Committee and/or an official organizational unit of HCMUT. The pilot projects are also useful in enhancement of R&D capability of HCMUT.	<u>Status of achievement: Not achieved</u> (Ex-post Evaluation) No information was available other than described in Indicator 2 above.
	4. Training courses are organized as a part of pilot projects. The training courses are designed for local people to have updated information and knowledge helpful for their jobs.	<u>Status of achievement: Not achieved</u> (Ex-post Evaluation) No training course has been organized as part of pilot projects due to a lack of budget since project completion.

Source : JICA internal documents, Terminal Evaluation Report, Questionnaire survey to HCMUT.

Notes: (1) Three components of Outputs (management of pilot projects, R&D, and trainings) are set in PDM, however, a training component is not included in indicators for Project Purpose. As becoming able to provide trainings for local communities sufficiently is necessary for successful implementation of pilot projects (and is required for achievement of Overall Goal as well as Project Purpose), whether staff of HCMUT became able to provide trainings required for successful implementation of pilot projects is included as supplemental information for evaluating Effectiveness.

(2) The number of respondents for the survey was originally planned to be 20-30 persons. However, the six respondents were only available due to time constraints.