

Republic of the Philippines

Ex-Post Evaluation of Japanese Technical Cooperation Project

Project for the Improvement of Packaging Technology for Philippine Food Products in the Regions

External Evaluator: Hisamitsu Shimoyama, IC Net Limited

## 0. Summary

The Project for the Improvement of Packaging Technology for Local Food Products was implemented by the Package Technology Division (PTD)<sup>1</sup> of the Department of Science and Technology (DOST) for the purpose of improving food packaging technology in the Philippines. The ex-post evaluation study (hereinafter referred to the study) found that relevance, effectiveness, impact and sustainability of the project are high. In terms of relevance, the evaluation study confirmed that the project is highly consistent with all the relevant areas, i.e., the development policy and the development needs of the Philippines and the relevant sector, as well as Japan's ODA policy. The study reconfirmed that the Project Purpose and all Outputs had been achieved by the conclusion of the project. In addition, given that the Overall Goal, realization of which had been anticipated by the time of the study in 2012, had also been achieved, the effectiveness and impact of the project were also found to be high. As for sustainability, it was also confirmed that the policy and institutional, organizational, technical and financial aspects of the project effects would likely be sustained. On the other hand, given the delay in the dispatch of experts at the start of the project, and given that the inputs from Japan exceeded the budget, the efficiency of the project was found to be fair. One of the contributing factors in producing these effects is that the executing agency had steadily carried out necessary measures during the planning, implementation and post-project stages. In light of the above, this project is evaluated to be highly satisfactory.



Project Location



Food Packaging Produced by the Executing Agency

<sup>1</sup> Package Technology Division (PTD): From the planning stage until the conclusion of this project, the executing agency was a project-based organization called the Packaging Research and Development Center (PRDC). Following the conclusion of the project, the PRDC was incorporated in August 2009 into DOST as a result of a reorganization, and it was renamed the Package Technology Division (PTD). In this report, the External Evaluator has used the name PRDC as it appears in any original text only when quoting the PDM.

## 1. Project Description

### 1.1 Background

In the Philippines, small and medium enterprises (SMEs) in the food industry constitute one of the sectors that contribute most to the national economy. According to data from the Philippine National Statistics Office, around the year 2000 when the request for the project was made, food SMEs accounted for more than 40% of gross regional domestic product (GRDP); in provincial areas in particular, they were a significant source of employment. However, the growth and development of food SMEs were being hampered by such factors as poor packaging and short storage periods. With the exception of some large enterprises in urban areas, most food SMEs in provincial areas found it difficult to acquire information, technology and materials for packaging. This consequently presented various other issues, such as being unable to meet the packaging standards required by major supermarkets in the Philippines as well as by export-destination countries. In 1999, the DOST established the Packaging Research and Development Center (PRDC) for the purpose of improving the packaging technology used by food SMEs. At the time of the request for the project, technical support services provided by the PRDC had reached a certain level, such as providing guidance on packaging technology suited to the individual products of food SMEs, and working on designing food labels. However, in order to satisfy the further packaging needs of its food SME clients, the executing agency needed to urgently strengthen its human capacity and facility functions. Specifically, since the packaging technology to be applied differs from food product to food product, it was necessary to develop technology that accommodates individual food products. Furthermore, the abilities of designers had to be strengthened, and better quality labels needed to be produced.

Under such circumstances, the Government of the Philippines made a request to the Government of Japan for technical cooperation aimed at capacity-building designed to improve packaging technology for food SMEs in provincial areas. In response to the request, the Japan International Cooperation Agency (JICA) conducted a study to design a project. Then JICA consulted with Philippine officials and decided to implement a JICA technical cooperation project called the “Project for the Improvement of Packaging Technology for Philippine Food Products in the Regions,” with the PRDC as the executing agency.

### 1.2 Project Outline

Overall Goal		Increase marketability of SME food products in local and export markets.
Project Purpose		Enhance the capacity/capability of PRDC to improve and upgrade the packaging technologies services to SMEs in the regions.
Output	Output 1	PRDC management and staff’s capability in planning, monitoring and managing information for project management are enhanced.
	Output 2	PRDC technical staff’s skills and knowledge for appropriate food packaging technologies are strengthened.
	Output 3	PRDC graphic design staff’s skills and knowledge for appropriate food packaging/label designs are improved.

	Output 4	Strengthened PRDC staff's capability to provide packaging consultations and field activities for client/potential client SMEs in the region.
Inputs		<p>[Japanese side]  Experts: 15 (all short-term experts)  Trainees received: 11 (training of counterparts in Japan)  None for third-country training programs  Equipment: 200 million yen</p> <p>[Philippine side]  Counterparts allocated: 27  Equipment (quantity ratio and cost ratio are unknown)  Land and facilities: Project office, utilities  Costs of local operation, salaries of counterparts, budget for training</p>
Total Cost		Approximately 410 million yen
Period of Cooperation		June 2005–June 2009
Partner Country's Related Organization		Package Technology Division (PTD), Department of Science and Technology (DOST)
Partner Country's Supporting Organization		None in particular
Related Cooperation		Project for Enhancing the Competitiveness of Fresh and Semi-Processed Agricultural Products through the Application of Appropriate and Sustainable Packaging Technology (February 27, 2013 - March 31, 2017)

### 1.3 Outline of the Terminal Evaluation

#### 1.3.1 Prospects for Achievement of Overall Goal at the Time of Terminal Evaluation

At the time of the terminal evaluation, it was unknown whether the Overall Goal was likely to be achieved. Another impact of the project was that the executing agency was able to transfer retort,<sup>2</sup> high-barrier<sup>3</sup> and other packaging technology to clients. Furthermore, seminars on packaging were able to be conducted jointly, in cooperation with the packaging coordinators assigned to the DOST Regional Offices.

#### 1.3.2 Prospects for Achievement of Project Purpose at the Time of Terminal Evaluation

At the time of the terminal evaluation, which was conducted in June 2009, because two of the relevant indicators<sup>4</sup> had been achieved, it was determined that the Project Purpose had been achieved.

#### 1.3.3 Recommendations at the Time of Terminal Evaluation

The recommendations made to the executing agency and to the DOST at the time of the terminal evaluation are as follows.

<sup>2</sup> The technology of making foods shelf stable using a flexible laminated packaging that can withstand high pressure and temperature conditions inside a retort chamber, and hermetically sealed.

<sup>3</sup> The technology of using film with significantly low oxygen and water vapor permeability in packaging.

<sup>4</sup> The indicators for the Project Purpose were as follows:

Indicator 1: The range of PRDC services has expanded by 25% satisfying the needs of SMEs clients in the region by the end of the Project.

Indicator 2: Satisfaction rate of PRDC's client SMEs are marked more than 80% of items on the "List of services on transferred technologies by the Project" by the end of the Project.

Recommendations at the time of the terminal evaluation	
Recommendations to the executing agency	
1	The PRDC should research new packaging technologies, and should maintain and improve its technical capacity through research and training in cooperation with related agencies.
2	To secure the impact and sustainability of the project, the PRDC should further strengthen cooperation with such organizations as the regional offices of each government agency, local government units, and toll packaging centers.
3	The PRDC should provide market-oriented and competitive services, such as high market growth, high-impact research and development, strengthening of the capabilities for packaging design, and improvement of facilities at the toll packaging centers.
4	The PRDC should continue to enhance the integrated database so that it can be used as a management information system.
5	To increase the visibility of PRDC services and the degree of achievement of the Overall Goal (expansion of markets for products of food SMEs), the PRDC should enable laboratory facilities to gain third-party international certification so that they can prove their international competitiveness objectively.
Recommendations to the DOST, the organization above the executing agency	
6	The DOST should take continuous budgetary measures for managing the PRDC and maintaining equipment.
7	The DOST should approve the PRDC's shift from a temporary agency to an official department in order to secure its institutional and organizational sustainability.

Source: The Terminal Evaluation Report

## 2. Outline of the Evaluation Study

### 2.1 External Evaluator

Hisamitsu Shimoyama, IC Net Limited

### 2.2 Duration of Evaluation Study

In conducting the study, the External Evaluator performed an evaluation study as follows:

Duration of the Study: June 2012–June 2013

Duration of the Field Study: January 28–February 9, 2013 and March 19–23, 2013

## 3. Results of the Evaluation (Overall Rating: A<sup>5</sup>)

### 3.1 Relevance (Rating: ③<sup>6</sup>)

#### 3.1.1 Relevance with the Development Plan of the Philippines

According to the Medium-Term Philippine Development Plan 2004–2010, which was published at the time this project was being planned in 2004, development support for SMEs was regarded as one of the priorities to be tackled by the Philippine Government. The plan indicated that approximately 70% of the nation's workforce was employed by SMEs, and that approximately 50% of those were employed in the food industry. Furthermore, the DOST had been implementing support measures through the government-funded Small Enterprise Technology Upgrading Program (SET-UP). SET-UP

<sup>5</sup> A: Highly satisfactory; B: Satisfactory; C: Partially satisfactory; D: Unsatisfactory

<sup>6</sup> ③: High; ②: Fair; ①: Low

is a nationwide strategy to encourage and assist SMEs to adopt technological innovations to improve their operations and thus boost their productivity and competitiveness. Moreover, the SME Development Plan 2004–2010, which had been formulated by the Department of Trade and Industry (DTI), considered the improvement of packaging technology as an essential element for the growth of SMEs. All of these policies had been carried out consistently from the start of the project in June 2005 until its conclusion in June 2009. Since the aim of this project is support for food SMEs, it has been consistent with Philippine development policies throughout the project period.

### 3.1.2 Relevance with the Development Needs of the Philippines

Below is a comparison of the number of food SMEs in the Philippines between 2005 and 2010.

Table 1: Comparison of the Number of Food SMEs in the Philippines

	2005	2010
Number of SMEs	51,863	49,518

Sources: Number of food SMEs in 2005 obtained from detailed planning survey; 2010 figures obtained from Micro, Small, and Medium Enterprise Development Plan for 2011 to 2015, DTI.

During this project from 2005 to 2009, 40–50% of the SME workforce was engaged in the food industry. In actual figures, there were about 50,000 food SMEs throughout the project period. Up until around 2005, large commercial facilities, such as shopping malls and supermarkets, had assumed greater prominence, and producers for packaging are required to meet nutritional labeling and other legal standards. Consequently, improvements in packaging technology became crucial. These SMEs produced small volumes of goods and had no need for large amounts of packaging materials, but private-sector packaging vendors requested them to purchase at least 100,000 pieces. Most food SMEs, however, found it difficult to place orders of 100,000 pieces of packaging material due to lack of funds. Consequently, there was a need for a service to develop packaging standards which suited the size and purpose of the products sold by these SMEs, and to sell packaging materials in quantities that these SMEs could deal with. Certain foods also require bagging equipment, but due to the weak financial footing of these SMEs, they also found it difficult to purchase this equipment themselves.

Some local government units established toll packaging centers to support these SMEs in provincial areas. These were designed to provide the fee-charged basic packaging technology required by most SMEs in provincial areas, such as packing food into bags. The executing agency provided technical support to those local governments that were operating the toll packaging centers. The support ranged from establishment to management. Since the executing agency primarily targets clients on the outskirts of Manila and those enterprises that needed packaging for food products which could not be accommodated using existing technology, it has a complementary relationship with the

centers established by local government units. Furthermore, only three<sup>7</sup> major toll packaging centers were established during the project period, and so even if the executing agency is also included, they did not satisfy the needs for the provision of technology and for the trading of packaging materials, which were required by all or the majority of the roughly 50,000 food SMEs. The needs were consistently high.

Furthermore, the DOST, the organization responsible for the PRDC, had 17 Regional Offices nationwide, and at the start of the project, packaging coordinators had been assigned to these DOST Regional Offices. However, at the time, the Regional Offices did not have sufficient capacity to provide technical services to local clients, and the executing agency ended up assuming the role of providing services directly to clients in provincial areas.

In light of the above, the project was completely consistent with the development needs.

### 3.1.3 Relevance with Japan's ODA Policy

According to the FY2004 country assistance program that was current at the time of planning, a priority of Japanese ODA to the Philippines was "strengthening the economic structure of the Philippines to provide for sustained growth." Furthermore, poverty reduction was listed in Japan's assistance policies for the Philippines. Thus the approach adopted by this project of using improvements in packaging technology to develop SMEs in provincial areas, which, in turn, would promote employment and improve the incomes of employees and thereby reduce production, was consistent with Japan's policy.

In light of the above, this project has been fully consistent with the Philippines' development policy, its development needs, and Japan's ODA policy. Therefore its relevance is high.

## 3.2 Effectiveness and Impact<sup>8</sup> (Rating: ③)

### 3.2.1 Effectiveness

#### 3.2.1.1 Project Outputs

(1) Output 1 was "PRDC management and staff's capability in planning, monitoring and managing information for project management are enhanced." Output 1 was achieved because all the set indicators were met. The achievement of each indicator is as follows.

Indicator 1-1 was "Regular monitoring activities for each technical group are implemented by the Project team by February 2008." Before the end of the project, the team began holding weekly staff meetings for the purpose of monitoring of technology including the project progress. Reports on the progress of activities were also shared among officials at the quarterly meetings of the Joint Coordinating Committee (JCC).

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<sup>7</sup> By the time of this study, in addition to the three paid packaging centers mentioned above, it seems that several small-scale paid packaging centers had been established. However, as there was no request for assistance or explanation on the management situation from the local governments to DOST or to the executing agency, the actual conditions have not been ascertained.

<sup>8</sup> This rating has been assessed by taking impact into account when determining the effectiveness.

Indicator 1-2 was “In PRDC, integrated database of provided services in use for Management Information Systems by the end of December 2008.” Despite the hint of delays in updating the data, questionnaire responses provided by the executing agency confirmed that, before the conclusion of the project, the database was being used as a management information system. For example, by ascertaining the technology required by clients through counseling, and by accumulating this information in a database, it was then utilized for the purpose of specifying the new technologies for research and development.

Indicator 1-3 was “More than 80% of planned activity is implemented as the plan by the end of the Project.” By the time of the terminal evaluation, the only activities that remained were development of software for operating the integrated database and training on packaging contaminants in food. All the activities were completed during the project period.

(2) Output 2 was “PRDC technical staff’s skills and knowledge for appropriate food packaging technologies are strengthened.” It was achieved because all the indicators were met. The achievement of each indicator is as follows.

Indicator 2-1 was “An implementation plan for technology transfer is developed by the Project team annually.” By the time of the terminal evaluation, the implementation plan was being updated every year.

Indicator 2-2 was “Three (3) technical staffs are able to apply to Philippine food products (details are listed in the “final output” of PRDC staffs”) on High Barrier or Dry/Semi-dry foods technology by June 2009.” Three technical staff members acquired skills for applying high-barrier technology to cashew nuts, brownies, bread and other dried and semi-dried foods.

Indicator 2-3 was “Three (3) technical staffs are able to apply to fresh cut vegetables (details are listed in the “Final output” of PRDC staffs capacity) on MAP technology<sup>9</sup> by June 2009.” Three technical staff members acquired skills in MAP, and although still at the testing level, had applied the technology to the packaging of lettuces and pineapples.

Indicator 2-4 was “Three (3) technical staffs are able to apply on developing retort foods using different type of packaging (details are listed in the “Final output” of PRDC staffs capability) on Retort technology by July 2008.” Three technical staff members acquired retort skills, enabling the processing of foods such as sweet corn, cassava cake, and grilled chicken.

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<sup>9</sup> Modified atmosphere packaging (MAP) technology involves the enclosure of a food in a package in which the atmosphere inside the package is modified or altered to keep the freshness and extend product shelf life.

Indicator 2-5 was “Five (5) technical staffs are able to design corrugated box with appropriate cushion for fresh fruit transport packaging (details are listed in the “Final output” of PRDC staffs capability) on Transport Packaging technology by June 2009.” Five technical staff members acquired transport packaging skills, and designed and market-tested packaging materials for the transport of strawberries. These skills were also used for mango and banana packaging.

Even after the conclusion of the project, research on these transferred technologies is continuing, funded by the DOST, and the range of items to which each technology can be applied is expanding. For example, high-barrier technology has become applied to dried fish and to *pastillas*, a unique Philippine dairy product. MAP technology has been turned to use on fresh mushrooms and other types of mushroom products, and research is also underway for technology that uses MAP to extend the shelf life of various items. As for retort technology, efforts are underway in the development of ready-to-eat foods, and they are planning to approach the private sector with proposals of putting the ready-to-eat foods in the market. Progress has also been made in the application of transport packaging technology in non-food sectors such as furniture, and research has commenced for applications of the technology to fresh flowers, fruits and vegetables.

(3) Output 3 was “PRDC graphic design staff’s skills and knowledge for appropriate food packaging/label designs are improved.” It was achieved because all the indicators were met. The achievement of each indicator is as follows.

Indicator 3-1 was “An implementation plan for technology transfer is developed by the Project team annually.” During the implementation period, the project team, including the executing agency, formulated implementation plans. Since the conclusion of the project, the executing agency has formulated a similar plan every year.

Indicator 3-2 was “Four (4) PRDC designers will create two (2) high quality packaging designs by June 2009.” Technology was transferred to four<sup>10</sup> designers, and during the implementation period, of the designs developed at the executing agency, nine received awards for design excellence at international food fairs<sup>11</sup> and similar events. Thus it is fair to say that they have developed high-quality packaging designs.

Moreover, even after the conclusion of the project, the designers have endeavored to improve their skills, receiving informal advice at every possible opportunity from the expert who was dispatched from JICA during the project. At DOST Regional Offices, in order to meet the demand for food packaging design, progress has also been made in transferring technology to contracted designers, thereby demonstrating the self-sustainability of technology.

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<sup>10</sup> Following the conclusion of the project, one designer resigned. As of 2012, three designers remained in service, and it was expected that one new designer would be employed in April 2013.

<sup>11</sup> International Food Exhibition (IFEX) 2005, 2007, 2008, 2009 and 2011.



Since the conclusion of the project, as shown in Table 2, the number of opportunities has declined for the executing agency to provide designs directly to clients.

Table 2: Number of Clients to Whom the Executing Agency Has Provided Designs

Year	Number of clients	Number of designs
2004	168	No information
2005	152	
2006	98	
2007	68	
2008	72	
2009	66	105
2010	40	95
2011	46	82
2012	46	78

Sources: 2004–2008 figures obtained from the Terminal Evaluation Report; 2009-2012 figures obtained from questionnaire survey at the time of the study.

The decrease outlined above in the number of clients served by the executing agency is due to two reasons. First, the opportunities for the executing agency to directly respond to the requests of clients in provincial areas became decreased. This is as a result of systems being put in place in provincial areas whereby design work can be quickly carried out by local designers trained by the executing agency in response to the requests of local clients.<sup>12</sup> Second, in addition to providing services to the private sector, the executing agency has participated in market development projects in collaboration with the DTI, promoting sales of local Philippine specialties. As part of this undertaking, it has also been entrusted with government business, such as developing packaging designs befitting the Philippines. Thus, in some respects, the nature of the executing agency’s business is changing.

(4) Output 4 was “Strengthened PRDC staff’s capability to provide packaging consultation and field activities for client/potential client SMEs in the region.” It was achieved because all the indicators were met. The achievement of each indicator is as follows.

Indicator 4-1 was “PRDC staffs are able to provide appropriate consultation on food packaging technologies at PRDC and in the regions by June 2009.” Staff members at the executing agency have since been able to provide consultation on food packaging technology in relation to retort packaging, MAP, high-barrier/active packaging,<sup>13</sup> transport packaging, graphic design and product branding.

<sup>12</sup> At the time of the study, efforts were made to study the number of clients receiving design services at Regional Offices. Although some regions did not provide information, most of the DOST regional offices sent their information and the data.

<sup>13</sup> Active packaging interacts with the product by actively regulating conditions of the packed food product, thereby extending product shelf life and improving product safety and quality.

Indicator 4-2 was “PRDC staffs are able to provide appropriate lectures on food packaging technologies in the seminars organized in regions by June 2009.” The lectures provided prior to the start of the project were limited to the basics of packaging and appropriate labeling. Since the implementation of the project, the PRDC staff members have been able to give lectures on attractive packaging designs, brand development, new packaging technology and transport packaging.

Indicator 4-3 was “80% of the participants of seminars in the regions evaluated improvement of the lectures / workshop / consultation on packaging technologies compare with its in 2005 by June 2009” Although a comparison was not possible because the 2005 data is not available, according to questionnaires taken at the time of seminars held in June 2009, the overall rating given by 82 participants was 4.55 points out of a possible 5 points. Satisfaction with the quality of speakers in particular was very high. According to data obtained through the study, the executing agency held 54 seminars between January 2009 and December 2012, and the average satisfaction indicated by participants in these seminars came to 4.36 points out of a possible 5 points, suggesting that a high level of satisfaction is being maintained.

From July 2009 and December 2012, a total of 2,269 participants attended 47 seminars organized by the executing agency for the purpose of introducing basic packaging technology and disseminating specific technologies. The followings are the number of seminars held between 2004 and 2012 as well as the number of participants at these seminars. Those numbers pertain to the seminars whose data was available.

Table 3: Numbers of Seminars and Participants Organized by the Executing Agency

Year	Number of seminars	Number of participants
2004	15	350
2005	72	1,722
2006	32	1,392
2007	5	153
2008	25	10,200
2009	15	1,067
2010	16	996
2011	9	457
2012	14	485

Source: Prepared by the evaluator using data provided by the executing agency.

Through this project, technology had been transferred to staff to provide effective presentations at seminars. As a result, the number of staff members at the executing agency who were able to run seminars was nine in 2009. Even after the end of the project, the executing agency proceeded to transfer technology within the agency. By 2012, this number had increased by eight to 17.

The number of staff members able to provide consulting services had been eight prior to the implementation of the project. It reached 14 by the end of the project, and had increased to 20 by

the time of the study. Consultations were provided to participants at the end of seminars through telephone conversations, email exchanges and face-to-face interviews on a day-to-day basis whenever client inquiries are received by the executing agency or by DOST Regional Offices. In cases where inquiries are dealt with by the packaging coordinator at a Regional Office, the consultation is limited to basic information. According to an interview held in Region VI, which was visited as part of the study, common client inquiries include questions on the following: (1) proper labeling; (2) proper extension of shelf-life; (3) introduction of the vendors selling small amounts of packaging materials;<sup>14</sup> and (4) the nutritional assessment of food products. With regard to (1) and (2) above, guidance is provided by utilizing past experience. With regard to (3), clients are informed of their nearest source of supply. With regard to (4), at Regional Offices equipped with the necessary facilities, food samples are accepted and analyzed. However, at those offices unequipped with assessment facilities, guidance is provided on ways of getting food samples sent to the nearest office or to the executing agency for assessment.

In 2011 and 2012, seminars introducing basic packaging technology were held at DOST Regional Offices on 33 and 35 occasions, respectively.

During the project period, Regional Offices had been unable to provide seminars. However, both the capacity of the executing agency to provide guidance and that of DOST Regional Offices to hold seminars improved as a result of the executing agency having encouraged the Regional Offices and having provided training, during the project and then on an ongoing basis even after the end of the project.

#### 3.2.1.2 Extent of Achievement of Project Purpose

The Project Purpose was “Enhance the capacity/ capability of PRDC to improve and upgrade the packaging technologies services to SMEs in the regions.” It was achieved because the indicators were met during the project period. Since the end of the project, the executing agency has pursued studies in packaging technology, and has continued to build its capacity. The achievement of each indicator is as follows.

Indicator 1 was “The range of PRDC services has expanded by 25% satisfying the needs of SMEs clients in the region by the end of the Project.” Prior to the end of the project, in accordance with client needs, the executing agency had doubled the number of technical services it could provide up to 32 from 16 at the beginning of the project. Therefore Indicator 1 was met. The types of technology are as follows.

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<sup>14</sup> As described earlier, in the Philippines, private-sector packaging vendors seldom sell small amounts of packaging materials, and are often unable to trade in the order of several hundred pieces required by SMEs.

Table 4: Comparison of the Range of Services Provided by the Executing Agency

Issues faced by food SMEs in provincial areas	Services provided before the project	Services added during the project
Poor packaging and insufficient information	<ul style="list-style-type: none"> <li>• Development of packaging technology</li> <li>• Nutritional assessment</li> <li>• Technical support for retort packaging</li> <li>• Paid packaging services</li> <li>• Seminars on packaging and brands</li> <li>• Provision of non-brand packaging materials and containers</li> </ul>	<ul style="list-style-type: none"> <li>• MAP packaging</li> <li>• Retort packaging services</li> <li>• High-barrier packaging</li> <li>• Transport packaging</li> <li>• Testing for packaging contaminants</li> <li>• Additional paid packaging services</li> <li>• Training and seminars on packaging technology</li> </ul>
Short storage period	<ul style="list-style-type: none"> <li>• Shelf-life testing</li> <li>• Drop testing</li> <li>• Vibration testing</li> <li>• Hermetic testing</li> <li>• Moisture permeation testing</li> <li>• Friction testing</li> <li>• Elution testing</li> <li>• Packaging and labeling</li> </ul>	<ul style="list-style-type: none"> <li>• Compression testing</li> <li>• Oxygen permeation testing</li> <li>• Moisture permeation testing</li> <li>• Tensile testing</li> <li>• Film identification using DSC/FTIR</li> </ul>
Unattractive appearance	<ul style="list-style-type: none"> <li>• Label design</li> <li>• Evaluation of compulsory labeling</li> </ul>	<ul style="list-style-type: none"> <li>• Packaging design</li> <li>• Training in graphic design</li> <li>• Development of Philippine-style designs</li> </ul>
Difficulty in procuring packaging materials		<ul style="list-style-type: none"> <li>• Quick-turnaround printing using digital printers</li> </ul>
Total number of technologies	16	16

Source: The Terminal Evaluation Report

Indicator 2 was “Satisfaction rate of PRDC’s client SMEs are marked more than 80% of items on the “List of services on transferred technologies by the Project” by the end of the Project.” The results of an assessment of client satisfaction conducted on 22 companies at the time of the terminal evaluation are as follows.

Table 5: Client Satisfaction at the Time of Terminal Evaluation and the Ex-Post Evaluation

	At time of terminal evaluation (sample size: 22)	At time of ex-post evaluation (sample size: 99)
5 (excellent)	17	43
4 (very satisfied)	5	54
3 (satisfied)	0	1
2 (average)	0	0
1 (poor)	0	1
Average (%)	95%*	88%**

Sources: Figures at the time of the terminal evaluation obtained from the JICA Terminal Evaluation Report; figures at time of the study obtained from the results of a beneficiary survey.<sup>15</sup>

Notes:

- \* Calculated as a percentage of the overall total score. The sample size was 22, thus 5 points (maximum possible score)  $\times$  22 = 110 points. Supposing all responses were 5 (excellent), the total score would be 5 points  $\times$  22 = 110 points (numerator), and the maximum possible score would be 110 points (denominator). Therefore, total score / maximum possible score = 110 points / 110 points = 1, and satisfaction would be 100%. Calculating the result at the time of the terminal evaluation gives  $\{(5 \text{ points} \times 17) + (4 \text{ points} \times 5)\} / 110 = 0.95$  (95%).
- \*\* Calculated as above. The sample size was 99, thus the maximum possible score was 495 points.  $\{(5 \text{ points} \times 43) + (4 \text{ points} \times 54) + (3 \text{ points} \times 1) + (1 \text{ point} \times 1)\} / 495 = 0.88$  (88%).

With reference to the indicator of the Project Purpose, namely satisfaction of 80%, client satisfaction at the time of the terminal evaluation was 95%; therefore, the indicator has been met. By way of reference, client satisfaction was also checked at the time of the study at 88%, thereby confirming that a high level of satisfaction had also been maintained even after the end of the project.

As described above, the Project Purpose was achieved because each of the indicators was met.

### 3.2.2 Impact

#### 3.2.2.1 Extent of Achievement of Overall Goal

The Overall Goal was “Increase marketability of PRDC’s client SMEs’ food products in local and export markets.” It was achieved because all the indicators were met. The achievement of each indicator is as follows.

Indicator 1 was “By 2012, 120 new PRDC’s client SMEs from the Food sector received PRDC’s services after the Project implementation.” According to data provided by the executing agency, the number of new clients<sup>16</sup> to whom services had been provided since July 2009 was 181.<sup>17</sup> Therefore Indicator 1 was met.

<sup>15</sup> In the beneficiary survey, based on a complete list of clients at the executing agency (some had already been transferred to DOST Regional Offices), requests for cooperation were sent to at least 200 clients who were contactable at the time of the study. A questionnaire was then used to survey 100 clients who had given their consent. Through the survey, the evaluator confirmed such matters as the degree of satisfaction at the time of receiving the service as well as subsequent changes in sales.

<sup>16</sup> The definition of “new customer” refers to a customer who received services of the executing agency for the first time during or after July 2009 after the end of the project.

<sup>17</sup> The gross number of clients at DOST Regional Offices was 365 in 2011, and 413 in 2012. Client numbers have been increasing, both at the executing agency and at DOST Regional Offices.

Indicator 2 was “By 2012, 90 of existing PRDC’s client SMEs out of 258 for year 2009, which received PRDC’s services after the Project implementation have expanded their market within the region, from regional to national, and from national to international.” The results of the beneficiary survey conducted at the time of the study confirmed that 61 clients from a sample size of 100 had expanded their market (equivalent to 61% of the sample). In terms of the definition of market expansion or contraction, in conducting the study, categories were set with reference to the indicator of the Overall Goal as shown in Table 6, and it was decided to confirm improvements in market size of Level 1 or greater.

Table 6: Definition of Market Size during the Ex-Post Evaluation

Size	Level	Description of market
↓ Small market  Large market	1	Barangay (smallest unit of local government units)
	2	Municipality (collection of barangays)
	3	Region (collection of municipalities)
	4	Whole of the Philippines
	5	Export to markets overseas

By taking the percentage obtained from the sample of 100 clients and applying it to the 258 SMEs as at the conclusion of the project, 61% equates to 157 SMEs. This exceeds the indicator of 90 SMEs. Therefore, Indicator 2 was achieved.

As described above, each of the indicators for the Overall Goal was achieved.

### 3.2.2.2 Other Impacts

The following are the changes in the volume of products sold by clients of the executing agency.

Table 7: Comparison of Sales Volumes Before and After the Introduction of Packaging Interventions  
(Number of Valid Responses: 70)

Change in volume of sales	Number of responses	Proportion of total (%)
0% or decrease	3	4
1–200% increase	41	59
201–400% increase	12	17
401%+ increase	15	21

Source: Beneficiary survey at the time of the study

As shown in Table 7, only 4% of all clients experienced either no change or a decrease in sales volume. On the other hand, 59% of clients responded that sales volume had grown 1 to 200%. Even clients whose sales volume increased at least 201% reached 38% of the total sample. As for reasons given by the clients for their sales growth, the results of the beneficiary survey show that 57% of respondents cited only the services of the executing agency, 41% cited the effects of publicity and advertising, 19% cited product improvements (especially in flavor), and 3% cited price cuts. The above clearly shows that, although improvements in packaging technology can be seen, the fact that clients put effort into publicity and advertising was also a considerable factor in increased sales.

As for cooperation with affiliated institutions, both during and after the project, staff at the executing agency conducted training on such matters as the basics of packaging technology, retort technology, food packaging testing, and brand development for the purpose of building the capacity of packaging coordinators assigned to DOST Regional Offices. As a consequence, the range of technologies that coordinators were capable of providing expanded and the client base of Regional Offices grew. In addition, packaging coordinators can now conduct some of the seminars that had been conducted by sending out staff from the executing agency. Table 8 below shows the number of clients and frequency of seminars at Regional Offices.

Table 8: Number of Clients and Frequency of Seminars at DOST Regional Offices

Region	Number of clients		Seminars at Regional Offices	
	2011	2012	2011	2012
I	22	21	1	1
II		34		
III	35	30	12	4
IV-A	39	41	1	1
IV-B	2	2		
V	22	16		
VI	104	75	6	11
VII	48	67	1	2
VIII	6	28		6
IX	9	5	1	2
X	5	4	3	3
XI	13	12	4	2
XII				
CAR	13	19	1	1
CARAGA	18	29		
NCR	20	30	3	2
ARMM				
Total	356	413	33	35

Source: During the ex-post evaluation survey, the executing agency interviewed each of the DOST Regional Offices and compiled the results of those interviews.

Note: The diagonal lines indicate places from which answers were not received in response to the inquiries of the executing agency.

Furthermore, as mentioned above, local government units set up toll packaging centers. As these environments become more developed, the executing agency is transferring the servicing of provincial clients to packaging coordinators and toll packaging centers. Meanwhile, the executive agency becomes able to focus more effort on the research and development of new packaging technology.

In addition, the executing agency is in charge of the development of product packaging for the SMEs recommended by the DTI, and launched the designs at a trade fair. The executing agency also provided technical support when the Central Philippine University in Iloilo City founded the Packaging Engineering Department in 2007. Furthermore, in cooperation with local government units, it also provided technical support for the establishment and operation of three toll packaging centers started up by the local governments.

It has been confirmed that, having satisfied both indicators, this project achieved the Project Purpose of “Enhance the capacity/ capability of PRDC to improve and upgrade the packaging technologies services to SMEs in the regions.” Moreover, with respect to the Overall Goal, the project led to clients expanding the size of their markets. Therefore, given that the project has produced effects as planned, its effectiveness and impact are high.

### 3.3 Efficiency (Rating: ②)

#### 3.3.1 Project Inputs

Table 9: List of Inputs

<b>Input</b>	<b>Planned</b>	<b>Actual (at completion)</b>
1. Japanese side		
(1) Experts	<ul style="list-style-type: none"> <li>• Long-term: 1</li> <li>• Short-term: 3</li> </ul>	<ul style="list-style-type: none"> <li>• Long-term: 0</li> <li>• Short-term: 15</li> </ul>
(2) Trainees received	Main fields of research <ul style="list-style-type: none"> <li>• Management</li> <li>• Retort pouches, aseptic packaging, MAP</li> <li>• Transport packaging</li> <li>• Packaging testing</li> <li>• Graphics software</li> </ul>	Main fields of research <ul style="list-style-type: none"> <li>• Project management planning</li> <li>• Retort pouches, sterilization, MAP</li> <li>• Transport packaging</li> <li>• Graphic design</li> <li>• Dried/semi-dried packaging</li> </ul>
(3) Provision of equipment	Main equipment inputs <ul style="list-style-type: none"> <li>• High-barrier development equipment</li> <li>• Retort pouches</li> <li>• Equipment needed for MAP</li> <li>• Digital printer</li> </ul>	Main equipment inputs <ul style="list-style-type: none"> <li>• Same as the left column</li> </ul>
Total cost	Approximately 379 million yen	Approximately 410 million yen
2. Philippine side		
Counterparts allocated	25	27
Offices for experts	1 room	1 room
Allocation of counterpart budget	<ul style="list-style-type: none"> <li>• Salaries of the counterpart</li> <li>• Monitoring and operation cost</li> </ul>	According to interviews with the executing agency and experts, budgets were allocated in the proper amount and without delay.
3. Implementation period		
	June 2005 - June 2009 (49 months, or 4 years and 1 month)	Same as the left column

#### 3.3.1.1 Input Elements

##### (1) Inputs from Japan

At the start of the project, one expert had been assigned as a long-term expert. However, because of the delays in activities in the first year of the project, the term of the said expert was shortened, and



the number of short-term experts was increased. From the second year onward, as the initial delays were caught up, the project proceeded as originally planned. Regarding the increase in the number of short-term experts from an original projection of three to an actual 15, according to the explanation given by a dispatched expert (Chief Advisor from the second year onward), specialist fields were fractionalized more than initially anticipated, as shown below. Single areas of expertise were divided among multiple experts, and the field of transport packaging was added. Eventually, the number of dispatched experts increased to 15.

Table 10: Comparison of Projected and Actual Fields of Expertise

Projection at planning	Actual result
General supervision (long-term)	Management
High-barrier and MAP	1) CAP*/MAP 2) Packaging testing
Retort pouches and post-packaging sterilization	1) Retort pouches 2) Aseptic packaging
Design and design software	Graphics software
-	Transport packaging**

\* Controlled Atmosphere Packaging

\*\*The field of packaging structural design was added to PDM Ver.2, which was revised in July 2006. In the end, this was renamed “transport packaging.”

Equipment was provided as planned. The utilization of equipment at the time of the study was generally good, but the digital printer had malfunctioned in 2012 and remained unrepaired. The agent who had originally signed the maintenance contract had gone bankrupt and maintenance had been transferred to a different agent. However, the repairs were behind schedule because the latter agent was unable to procure the necessary parts to repair the printer. The agent explained that repairs would be completed before the end of 2013 although the executing agency made efforts to having the digital repaired.

3.3.1.2 Total Cost

The total cost on the Japanese side at the time of planning was expected to be approximately 379 million yen. In contrast, the actual figure amounted to approximately 410 million yen, slightly exceeding the plan by 8%.

3.3.1.3 Period of Cooperation

The planned period of cooperation was 49 months, from June 2005 to June 2009. The actual result was 100% as planned. Accordingly, the evaluator found the period of cooperation to be as planned.

According to interviews with the executing agency and with experts, there are four factors to make up the first-year’s delay in the second and successive years: (1) With regard to the procurement of equipment, which had fallen behind schedule as a consequence of delays in the first-year project activities, from the second year onward, JICA dispatched an expert in equipment procurement in order to speed up the process; (2) The team of JICA experts, which was dispatched from the second year

onward, grappled earnestly with the project; (3) The staff of the executing agency maintained a strong commitment; and (4) Experts maintained communication with their counterparts via email when they are out of the Philippines.

In light of the above, although the period of cooperation was within plan, the total cost of the Japanese side exceeded the plan. Thus the efficiency of the project is fair.

### 3.4 Sustainability (Rating: ③)

#### 3.4.1 Policy and Institutional Aspects

At the time of the study, the Philippine Development Plan 2011–2016, which had been formulated by the Government of the Philippines, stipulated that the promotion of SMEs was crucial for the economic development of the Philippines, and that it required the active involvement of the government. The Micro, Small, and Medium Enterprise Development Plan for 2011 to 2015, which had been formulated by the DTI, more specifically stated that improving the poor packaging technology could contribute to the growth of food SMEs. Based on the above, the evaluator found that the policies of the Philippine Government have continued to support SMEs, including the food sector, since the planning of the project.

#### 3.4.2 Organizational Aspects of the Executing Agency

Since the planning of this project, the DOST had suggested moving the executing agency from a project-based organization, which could only be maintained as long as the budget continued, to one incorporated as a division under the DOST. Although there was no such incorporation during the project, in August 2009 after the conclusion of the project, the organization was incorporated into the DOST as the Package Technology Division (PTD). Following this, the number of permanent staff members increased from five to 17. Eight counterpart personnel from the project have stayed on and are employed as contract staff. At the time of the study, permanent staff accounted for 68% of all workers.

Packaging coordinators at DOST Regional Offices are the key to regional expansion. From the start of the project until the time of the study, technology was successively transferred to them, from the basics of packaging technology to the new technologies developed at the executing agency. Thus, their capacity building has progressed. On the other hand, at some DOST Regional Offices, the packaging coordinator is changed frequently, either because of staff retirement or resignation or the discretion of the Regional Office. As a result, another evident issue is that the fruits of training are spread across different personnel. Toll packaging centers are established, operated and funded by local government units as places for providing technology in provincial areas. By the time of the terminal evaluation, three of them had been established. Operating a toll packaging center entails many issues. An example is the center in Bulacan Province on the outskirts of the capital Manila. The center was initially managed by the regional chamber of commerce and industry (CCI). The CCI was unable to use the service charges collected from clients due to government policy on utilizing the income generated by services. For a while, the center ceased operating as the CCI abandoned management of

the center. Nevertheless, in its capacity as a technical advisor, the executing agency continued to provide support to the center, such as with the transfer of packaging technology, methods of customer acquisition and the appropriate management of facilities. Thus, the management of the three centers was put back on track and the centers were successfully developed into model centers. The plan for the future is to provide support for the establishment of three new toll packaging centers by 2013 and a further five new centers by 2015.

In light of the above, the executing agency has arguably become an organization capable of continuing to provide technical guidance to clients, utilizing the technologies transferred through this project.

#### 3.4.3 Technical Aspects of the Executing Agency

Details of the technologies transferred through this project, such as MAP and high-barrier technology, together with techniques and points to keep in mind when applying the technologies have been compiled into a report and put into database form. In each of the technical departments, several staff members have received the transfers of technology; thus even if one staff member resigns, his or her coworkers or new employees can receive technical guidance from the remaining members, or can study by themselves using the above report. Therefore, a structure has been established whereby the transfer of technology keeps flowing within the organization. With regard to databases as a management tool, as mentioned earlier, data entry had been behind schedule for a while. However, contract staff in charge of inputting data has now been assigned, and it is anticipated that information will be properly updated. Furthermore, even after the conclusion of the project, the executing agency has continued to develop technology as it receives financial assistance from the DOST. For example, in 2012, in addition to conducting research for the purpose of expanding the eligible items of expenditure for high-barrier and retort technology, 15 projects were implemented. Thus, the executing agency is developing technology in a self-sustaining manner. From April 2013, the second phase of this project will commence with an aim of designing and adopting appropriate transport packaging for eight agricultural products, and building a system for reducing loss during transport after harvest and for designing transport packaging. New technology, such as applications of transport packaging technology, will be transferred.

In light of the above, the technologies realized through this project are being developed in a self-sustaining manner.

#### 3.4.4 Financial Aspects of the Executing Agency

The budget of the executing agency is divided between GAA (General Appropriation Act) and GIA (grants-in-aid). GAA is the basic budget, such as for personnel expenses, facilities maintenance expenses and fixed activity expenses. GIA is the budget given for specific projects. The executing agency is a division under the DOST. It makes GIA applications for development expenses for such items as new packaging technology which could not otherwise be carried out under the ordinary budget; if an application is approved by the DOST, GIA is implemented as a special budget. From

September 1999 when it was established, until August 2009 when it was incorporated into the DOST, the entire budget of the executing agency was GIA because it was treated as a program.

GAA budgets were not released publicly. The budgeted and actual GIA between 2004 and 2013 are listed below.

Table 11: Budgeted and Actual GIA (2004–2013)

(Unit: Philippines Peso)

Year	Budgeted	Actual
2004	No data	14,180,316
2005	25,481,000	14,120,319
2006	20,500,000	14,471,795
2007	23,000,000	11,147,821
2008	6,400,000	19,279,842
2009	No data	20,777,856
2010	26,191,407	13,731,169
2011	28,810,547	14,229,033
2012	31,691,601	34,722,741
2013	33,276,181	31,491,000

Source: Prepared by the evaluator using data provided by the executing agency.

As shown in Table 11, there is a gap between budgeted figures and actual results. According to an interview with the executing agency, there are several reasons for this. First, with regard to expenses for equipment provided by JICA, an equal amount was deleted from the executing agency’s budget. When the executing agency was incorporated into the DOST in August 2009, 12 new people became permanent staff, and their salaries were moved from GIA to GAA. Since the table only shows GIA figures, the actual portion moved across to GAA has not been reflected. Furthermore, depending on the project period, a GIA may stretch over multiple fiscal years. The budget figures shown in the table may not necessarily list the budgets that are solely for that fiscal year.

Despite these obvious divergences, based on interviews with the executing agency and with experts, the evaluator confirmed that no delays or insufficiencies in budget implementation were observed which could have influenced the implementation of the project. Furthermore, during implementation of this project, the executing agency proposed a packaging technology project that was consistent with the policies of both the Philippine Government and the DOST, and it secured a considerable GIA budget mentioned above. GIA budget had enabled the executing agency to continue developing technologies even after the project. Going forward, given the track record of securing budgets as described above, and the fact that a counterpart budget to be borne by the executing agency for the ensuing JICA technical cooperation project has already been secured as well, the evaluator found that the financial aspect would likely be sustained.

In light of the above, no problems have been observed in terms of the policy and institutional aspects or in the organizational, technical or financial aspects of the executing agency. Therefore, sustainability of the project effect is high.

## 4. Conclusion, Lessons Learned, and Recommendations

### 4.1 Conclusion

The Project for the Improvement of Packaging Technology for Philippine Food Products was implemented by PTD of DOST for the purpose of improving food packaging technology in the Philippines. The study found that relevance, effectiveness, impact and sustainability of the project are high. In terms of relevance, the evaluation study confirmed that the project is highly consistent with all the relevant areas, i.e., the development policy and the development needs of the Philippines and the relevant sector, as well as Japan's ODA policy. The study reconfirmed that the Project Purpose and all Outputs had been achieved by the conclusion of the project. In addition, given that the Overall Goal, realization of which had been anticipated by the time of the study in 2012, had also been achieved, the effectiveness and impact of the project were also found to be high. As for sustainability, it was also confirmed that the policy and institutional, organizational, technical and financial aspects of the project effects would likely be sustained. On the other hand, given the delay in the dispatch of experts at the start of the project, and given that the inputs from Japan exceeded the budget, the efficiency of the project was found to be fair. One of the contributing factors in producing these effects is that the executing agency had steadily carried out necessary measures during the planning, implementation and post-project stages. In light of the above, this project is evaluated to be highly satisfactory.

### 4.2 Recommendations

#### 4.2.1 Recommendations to the Executing Agency

##### (1) Dissemination of technology in each region

Prior to the end of the project, it had been anticipated that packaging technology would be disseminated to regional areas by strengthening that of the executing agency and then the executing agency providing technical guidance to food SME clients. However, as also noted in the recommendations of the terminal evaluation, since the end of the project, there has been a shift in the transfer of basic packaging technology to a service in which packaging coordinators at DOST Regional Offices run seminars in their local areas and respond to client requests for advice. The variety of services that packaging coordinators can provide is increasing and they are becoming more and more equipped to respond quickly to the needs of food SMEs in provincial areas.

However, one issue with the dissemination of technology in provincial areas is that, at some Regional Offices, packaging coordinators are not building up knowledge and skills on packaging, either because they retire or resign, or because they are replaced every few years by the Regional Office. In some cases, the executing agency receives a request for training from certain DOST Regional Offices every time the coordinator is changed; however, because of the limitations of the

training instructors, it cannot always accommodate these requests. At these Regional Offices, consideration should be given to enabling the accumulation of technology by averting the frequent replacement of coordinators. As for the retirement or resignation of staff, since it is impracticable to create an environment completely free of coordinator rotations, the executing agency should also consider the systematic establishment of training periods for coordinators.

#### (2) Establishment of toll packaging centers

As mentioned earlier, DOST Regional Offices are gradually playing more of a central role in the transfer of packaging technology in provincial areas. Toll packaging centers exist as regional establishments to provide clients with packaging facilities necessary for putting the transferred technologies into practice. Regarding the establishment of toll packaging centers, many local government units and DOST Regional Offices for technical support made approaches to the executive agency, but there are concerns about the recurrent issues on the operational and management capacity of the centers. A particularly serious issue is that there are few local government units capable of making good-quality project plans. A model for management is being formed through the support of the previously-assisted three toll packaging centers. Therefore, while formulating an appropriate project plan together with a local government unit wanting to establish a new center, relationships should also be built so that technical advice can be given when issues arise to do with the management of the center after its establishment.

#### 4.2.2 Recommendations to JICA

None in particular.

### 4.3 Lessons Learned

#### (1) Long-term strategy and positioning of projects

At the start of this project, the executing agency was a project-based organization which could only be sustained as long as the budget continued. It appears that the DOST had recognized that improving packaging technology would promote food SMEs. The DOST also recognized the vital role of the executing agency to these SMEs and this has led to incorporating the executing agency to the DOST as its formal division. At the same time, because of the time required to make improvements in packaging technology for the SMEs, the executing agency also continued to appeal to the DOST about the need for organizing itself into a structure capable of sustaining activities. These approaches led to the reorganization of the agency as a division of the DOST in 2009.

Since the implementation of the project, the executing agency has not only established goals and medium- and long-term strategies in such areas as capacity building, research and development, packaging testing and human resources development; it has also prepared detailed action plans, and clearly plotted specific courses for achieving those goals. These medium- and long-term plans have not only enabled the executing agency to continue improving the level of its packaging technology, but they have also clarified the positioning of various programs, including this project, and helped sustain

the effects produced in this project. For example, during the implementation period of this project, the budgets were large and allocated particularly to the introduction of technology requiring new equipment. It was unlikely that, following the end of the project, the executing agency would be able to secure enough of a budget from internal and external sources to purchase much equipment. Accordingly, by conducting many research projects on applying existing technology to other items, the executing agency was able to broaden the technology's range of application. From April 2013, a new JICA technical cooperation project will commence. It aims to further improve already introduced technologies, such as transport packaging technology, and it is expected that new technologies and new equipment will also be introduced. These activities have been incorporated into the previously mentioned long-term strategies. Since these series of activities are related, they will do much toward the sustainability of the effects produced in this project.

In light of the above, if an executing agency in the partner country has not established medium- and long-term goals, it would be useful to introduce activities that assist the establishment of medium- and long-term goals. In projects that span multiple years, by updating medium- and long-term goal settings appropriately to suit changes in internal and external environments, the goals will gradually be made clearer.

## (2) Consistency of projects with policies

The executing agency has kept a constant check on the policies of both the DOST and the Philippine Government. It prepares applications for projects that match those policies, and it obtains large budgets. For example, by the time of the study, a policy had been implemented to market local products as Philippine specialties. The executing agency was helping in the branding of products by developing packaging for craftworks and other products made in provincial areas. Through the accumulation of such experiences, the executing agency in 2012 secured supplementary project-based budgets from the DOST for as many as 15 projects. There are not many executing agencies that can secure budgets while verifying the consistency of their activities with the nation's priority policies. As a means of sustaining the effects produced in projects, it would be useful for an executing agency to learn about ways of verifying the consistency of its activities with the priority policies of the nation and to introduce technical transfer into the preparation of budget applications.