

The Summary of Terminal Evaluation

1. Outline of the Project	
Country : The Lao People's Democratic Republic	Project Title : The Project for Strengthening Medical Logistics in the Lao PDR
Issue/Sector : Health	Cooperation scheme : Technical Cooperation
Division in charge : JICA Laos Office	Total cost (at the time of evaluation study) : 246,862,000 yen
Period of Cooperation	May 1, 2005 – April 30, 2008 (3 years)
	Partner Country's Implementing Organization : Medical Product Supply Center (MPSC)
	Supporting Organization in Japan : -
Related Cooperation : Grant Aid for Grassroots Human Security Project on MES, Dispatch of Senior Volunteers	
<p>1-1 Background of the Project</p> <p>In the Lao PDR, there were few technicians who can maintain and repair medical equipments. Moreover, the budget for maintaining and repairing them was not enough. Therefore, there were a lot of broken medical equipments in Lao PDR. Under the circumstances, the MOH established Medical Equipment Service Center (MES) with roles of maintaining and repairing medical equipments as a Medical Product Supply Center (MPSC)-affiliated organization in 1998. Since then, the MES has given technical support to technical staff. However, in order to solve the above-mentioned problems drastically, there was still necessity not only to teach technical staff but also to establish the framework for Medical Equipment Maintenance system in the Lao PDR.</p> <p>In addition to the problems concerning the medical equipment maintenance, because the system of the inventory control also was limited in function, most of medicines and medical products provided by various projects and donors were stocked at the central warehouse for a long time. In case of the necessity, they would not be distributed to hospitals and medical institutions properly.</p> <p>Under the circumstances, in May 2005, MOH and JICA started the project with the objective that "The mechanism is established at the central and provincial levels for managing and utilizing medicines, medical products and equipments efficiently and properly" for 3 years duration until April 2008.</p>	
<p>1-2 Project Overview</p> <p>(1) Overall Goal Medicines, medical products and equipment come to be managed and utilized efficiently and properly.</p> <p>(2) Project Purpose The mechanism is established at the central and provincial levels for managing and utilizing medicines, medical products and equipment efficiently and properly.</p> <p>(3) Outputs</p> <ol style="list-style-type: none"> 1) The system is established for supporting central and provincial levels through MES and Logistics Center¹. 2) The capacity of management, maintenance and repair for technical staff is improved at MES, central and provincial hospitals. 3) The management capacity for central and provincial hospital managers is improved. 4) The capacity of storage, handling and inventory control for staff in charge of inventory control of medicines and medical products is enhanced at the Logistics Center and warehouses in 4 target provinces. 	

(4) Inputs

Japanese side:

- Long-term Japanese expert (Project coordinator/Project management: 1 person: 36.0 MM)
- Short-term Japanese experts (Medical equipment maintenance, Inventory control, Several persons: total 18 persons: 36.2 MM)
- Training courses (In Japan, Thailand, and the Lao PDR)
- Facility construction (Logistics Center: 2,480m², US\$398,500.)
- Equipment (Computer set, forklift, data logger, tool kits, battery powered lift stacker, calibration tools, etc., US\$126,430.)
- Operational expenses (Official trips, in-country and third country trainings, etc., US\$176,205.)

Lao side:

- Personnel assignment (Project Director, Project Manager, the MES staff, the staff working for the Logistics Center, trainers from the central hospitals, etc.)
- Provision of the project office and facilities
- Others (Local cost, site and fences of the Logistics Center, running costs for electricity, water, etc.)

2. Evaluation Team

Members of Evaluation Team	Mr. Koichi Takei (Leader: Deputy Resident Representative, JICA Laos Office) Dr. Yoichi Horikoshi (Health Sector Management: Health and Medical Cooperation and Planning, Adviser to the Ministry of Health) Mr. Kazuyuki Kakuda (Evaluation Planning I: Program Officer, JICA Laos Office) Ms. Kaori Osonne (Evaluation Planning II: Assistant Resident Representative, JICA Laos Office) Mr. Takaaki HIRAKAWA (Evaluation Analysis: Consultant on Participatory Planning/Evaluation, INTEM Consulting, Inc.)	
Period of Evaluation	November 2, 2007 – November 29, 2007	Type of Evaluation : Terminal Evaluation

3. Results of Evaluation

3-1 Project Performance

Overall Goal:

- The average yearly working ratios of medical equipment at the central hospitals are 97.7% at Mahosot hospital, 73.0% at Friendship hospital, 95.5% at Setthathirath hospital, and 75.0% at Mother and Child hospital. Most importantly, the average yearly working ratios generally tend to increase at the central and provincial hospitals. Also, the working ratios of most hospitals exceed more than 80% .
- The average yearly ratios of dead stockⁱⁱ were 0.0% at the Logistics Center and warehouses in three target provinces except the warehouse in Champasak province (2.2%) .

Project Purpose:

- The number of repair of medical equipment was increased at the beginning of the Project because the technical staff at the hospitals became able to repair broken medical equipment. However, the number of repair of medical equipment has decreased at the central and provincial hospitals from 2006 to 2007 because of the adoption of the daily maintenance by users (medical doctors and nurses). It could be said that this is the effect of the Project.
- The longest average stock periods at the Logistics Center and warehouses in four target provinces have been improved from 12 months in 2006 to 6 months in 2007.
- The temperature is maintained less than the maximum standard temperature (25) at this moment after installing the air-conditioner inside the Logistics Center and three provincial warehouses.
- In the past, it took for an hour or several hours (unable to find in some case) to find the target

medicines or medical products inside the warehouses. At present, however, the staff working for the Logistics Center and four warehouses became able to find the target objects immediately because the layouts inside the Logistics Center and four warehouses were well-organized with the reference numbers of all medicines and medical products corresponding to the information of the database.

Output 1:

- Outreach activities are favorably carried out by the MES at the central and provincial hospitals, as well as by the Logistics Center at the warehouses in four target provinces. Particularly, the MES spontaneously conducted outreach activities five times in 2006 and seven times in 2007 (as of 29th November).
- Regular meetings were separately held for the central and provincial hospitals in the area of the medical equipment maintenance. In the area of the inventory control, on the other hand, regular meetings were held once a year with the representatives of each Department of the MOH, the Logistics Center, and warehouses in four target provinces all together.
- The number of references from the central and provincial hospitals to the MES tends to be increased, especially from the central hospitals (the number of references has changed to 25 times in 2007 from zero in 2006).

Output 2:

- The number of technical staff in the technical training courses on medical equipment maintenance is planned to increase from 24 participants in 2006 to 38 in 2007 (under the plan).
- The trainers have taken the technical training courses on medical equipment maintenance once a year in Japan (2005) and Thailand (2006 and 2007).
- More than five (5) types of training materials were prepared by the Project and have been utilized in the in-country training courses. Also, the training materials translated in the Lao language were highly appreciated by the participants.

Output 3:

- The total number of hospital managers (directors or deputy directors) was increased in the management training courses from 21 participants in 2005 to 24 in 2006.
- The hospitals in the country have strived to secure the budget for the medical equipment maintenance. The specific amounts of the budget for the medical equipment maintenance at each hospital are not clarified at this moment. Through the Project, however, the hospital managers recognized the importance of the medical equipment maintenance and came to secure the budget for the medical equipment maintenance even if it is small amounts of the budget.

Output 4:

- The staff working for the Logistics Center and the warehouses in the four target provinces constantly participated in the training courses for the inventory control (6 participants in 2005, 12 participants in 2006, and 11 participants in 2007).
- The Logistics Center and warehouses in four target provinces have prepared the quarterly report of inventory control. Significantly, after the adoption of the database at four provincial warehouses (Savannakhet: October 2006; Other three provinces: June-July 2007), the four provincial warehouses have submitted the monthly reports to the Logistics Center.

3-2 Summary of Evaluation Results

(1) Relevance

For the following reasons, the Project is judged to be of high relevance.

Consistency with the Development Strategies on the Health Sector in the Lao PDR

The direction of the Project is in line with the contents and concepts of the “Health Strategy

2020”, “Medical Equipment Management (MEM) Policy”, and “Revised National Medicine Policy.”

The “Health Strategy 2020” puts emphasis on six priority programs, and the following four priority programs are consistent with the directions of the Project: (1) Curative and Rehabilitation Strategies; (2) Consumer Protection Strategies; (3) Human Resource Development for Health Strategies; and (4) Health Administration Strategies.

The goal of the Medical Equipment Management (MEM) Policy is set up “to improve the utilization and management of medical equipment in all health facilities throughout the country.”

The “Revised National Medicine Policy” is related to parts of the inventory control. One of chapters in the National Medicine Policy is the “Medicine Supply: Procurement, Distribution, and Storage” described as follows: For the public sector, the government will endeavor to provide adequate storage facilities, basic equipment and sufficient number of staff for medicine supply management at all levels of the healthcare system. Also, the MOH will provide training of staff working for medicine supply management at all levels and sectors to improve the services provided by them.

Consistency with Japan’s foreign aid policy

The project concept is consistent with the content of the “Japan’s Country Assistance Program for the Lao PDR” by the Ministry of Foreign Affairs of Japan. The Program places “improving healthcare services” as one of six priority areas, and human resources development related to the health and medical care field (assistance for better maintenance and management of medical equipment) is described in the assistance policy by the priority areas.

The long-term goal of the Project is consistent with the Program on Capacity Development for Human Resources in the Health Sector described in the JICA’s country implementation plan of the Lao PDR. There are two healthcare-related programs in the JICA’s plan, and this Project is positioned in the Program on Capacity Development for Human Resources in the Health Sector.

Needs of the target group

According to the result of the preparatory study and interviewing in the terminal evaluation study, the followings are confirmed.

<Medical Equipment Maintenance>

When the hospitals received medical equipment through the government and donor agencies, they did not know how to maintain and repair medical equipment because of a lack of knowledge on medical equipment maintenance and difficulties for the hospitals to obtain the spare parts in the Lao PDR. Also, the users (medical doctors and nurses) utilized the equipment without conducting the preventive maintenance because they did not know the importance of the medical equipment maintenance. Thus, it was highly necessary for technical staff to upgrade their skills and knowledge as well as for the managers (directors or deputy directors) and users to change their awareness on the medical equipment maintenance. Regarding the spare parts of the equipment, the hospitals needed the advice and supports on types and procurement of the spare parts.

<Inventory Control>

Before starting the Project, it was quite hard to find target objects from the warehouses. Thus, it was extremely necessary to effectively utilize the spaces inside new warehouses through the construction/renovation of the warehouses and to improve the knowledge and skills of the staff working for the warehouses.

(2) Effectiveness

For the following reasons, the effectiveness of the Project is judged to be high to a certain

degree.

Achievement of the Project Purpose

<Medical Equipment Maintenance>

The mechanism has gradually been established at the central and provincial levels for managing and utilizing medical equipment efficiently and properly. There are several reasons to support the conclusions. Firstly, the daily maintenance system for medical equipment has steadily become parts of the routine works. Secondly, the hospitals intended to secure the budget for the medical equipment maintenance even if it was small amounts of the budget.

<Inventory Control>

The mechanism has steadily been established at the central and provincial levels for managing and utilizing medicines and medical products efficiently and properly. The reasons are explained in the followings. In the first place, the layouts inside the warehouses have been improved, so the stocks are classified and well-sorted inside the warehouses right now. Secondly, it became much easier for the staff to manage the stocks inside the warehouses through the adoption of the database. As a result, the staff became able to find a certain medicine within several minutes. Thirdly, the temperature properly came to be controlled in specific areas of the warehouses.

Relationship between the Outputs and the Project Purpose

Through implementing outreach and trainings/seminars by MES and Logistics Center, the supporting mechanism in central and rural areas has been established. By improving technical skills of medical equipment technicians, management skills of hospital managers and capacity for the staff in charge of inventory control have been improved. The high-quality healthcare services will eventually be provided for the patients even in rural and remote areas.

Important Assumptions from the Outputs to the Project Purpose

Technical staff and trained trainers for medical equipment maintenance and staff in charge of inventory control have continued working for MES, central/provincial hospitals, Logistics Center and warehouses in four target provinces. Therefore the Important Assumptions from the Outputs to the Project Purpose are fulfilled.

(3) Efficiency

The Inputs of the Project were efficiently transferred to the Activities and the Outputs.

Assignment of the Japanese experts

Overall, Japanese experts were appropriately assigned in the Project. In particular, only one long-term expert has managed and coordinated the entire project activities in charge of the “Project Management/Coordinator.” Even though only one long-term expert has been assigned for this Project, it could be said that the activities have favorably been promoted. From the perspective of the personnel expense, i.e., the Input of the Project, it seems that the adoption of the one long-term expert was efficient. In addition, all the short-term experts were repeatedly dispatched in each field. Speaking of the dispatch of the same experts in a short period, it could be said that the way of the assignment was significantly efficient.

Training courses in Japan and Thailand

Training courses in Japan and Thailand were very useful for the participants because they

were able to learn the concepts and advanced skills of the medical equipment maintenance and the inventory control. As most participants were the trainers for the technical staff and the staff in charge of the inventory control in the country, the training courses were so meaningful for not only the participants but also the above staff so as to establish the mechanism for disseminating the concepts and replicable skills obtained by the participants to them.

The Logistics Center

The Logistics Center is a focal point of warehouses in the country. Importantly, it could be said that the construction of the Logistics Center as the Input of the Project is considerably meaningful so as to show the model of the logistics system to the other warehouses. Also, the mechanism and layout of the Center are well-organized, so the Center became able to take in and out the stocks rapidly.

Important Assumptions for the achievement of the Outputs

The personnel assignment for medical equipment maintenance and inventory control has been promoted favorably. It is necessary for the Lao side to continuously strive for the allocation of the technical staff and the staff in charge of inventory control, specifically the assignment of the permanent staff in these areas, for the achievement of the Output.

(4) Impact

The following impact is recognizable from the implementation of the Project.

Prospects for the achievement of the Overall Goal

As mentioned in “3-1 Project Performance” above, since the indicators have favorably been improved, there are prospects that the Overall Goal will be achieved if the Lao side makes further efforts to continue the routine procedures even after the termination of the Project.

Medical equipment beyond repair should be decommissioned. While the necessity of decommissioning of medical equipment is mentioned in “Medical Equipment Management Policy,” the concrete procedure for decommissioning medical equipment has not been established. If the guideline for decommission procedure is developed and the medical equipment that is beyond repair and not in use are decommissioned, working ratio of medical equipment will increase, and then the Overall Goal will be achieved, which medical equipment will come to be managed and utilized efficiently and properly.

Positive impacts beside the Overall Goal

- At the beginning of the Project, even if the expiration date of medicines and medical products exceeded, the staff working for the old central warehouse (the Logistics Center at present) was not able to deal with them. However, they are easily able to check the expiration date of the medicines and medical products through the database right now. For example, before exceeding the expiration date of medical products stored by donors, the Center has become able to request the donors to cope with the medical products by showing the evidence prepared by the database to them.
- The introduction of the database and the arrangement of the stocks at the four warehouses improved the reporting system. Those warehouses became able to prepare the reports to the Provincial Health Offices (PHO) more easily and efficiently through the database.

(5) Sustainability

The prospects of the project sustainability will be good if human and financial resources are properly secured by the MPSC under the MOH.

Alignment with the Policy of the Lao PDR

According to the “MEM Policy” and the “Revised National Medicine Policy” as mentioned in the “Relevance”, the project activities on the medical equipment maintenance and the inventory control would be supported by those governmental policies in the Lao PDR even after the termination of the Project.

Regarding medical logistics system, there is not the guideline which clarifies the standard of behavior. In order to strengthen the support system in central and provincial level, developing the concrete guideline for medical logistics system under the Revised National Medicine Policy is recommended. With regard to medical equipment management, MEM Committee in central and provincial level does not function properly, for example, regular committee meeting has not conducted. The more efficient functioning of MEM committee as a center of activities of medical equipment management is expected.

Organizational sustainability

The most crucial point is that the project activities are incorporated into the routine works at the hospitals and warehouses, so they would be able to continue the activities as their routine works. The improvement of the medical equipment maintenance and the inventory control greatly contributes toward providing high-quality healthcare services for the people through the medicines, medical products and equipment toward the same objective.

Although it is prospective that the technical staff of medical equipment maintenance and staff for inventory control will be continuously allocated from the view point of past trend of personnel assignment, Laos side should strive to staff the personnel in both positions of medical equipment maintenance and inventory control for continuing the future activities.

<Medical Equipment Maintenance>

The managers and the technical staff would like to continue the maintenance activities because they recognize that the medical equipment greatly contributes toward saving the patient's life as well as supporting the medical services provided by the medical doctors and nurses. As the users recognized the importance of medical equipment maintenance through the instructions of the preventive maintenance repeatedly conducted by the MES and technical staff, their attitudes towards the maintenance have gradually been changed so as to be able to maintain medical equipment by their own hands according to the checklist of the daily maintenance.

<Inventory Control>

The staff working for the warehouses intends to improve the conditions of the warehouses more appropriately according to the code of conduct set up by the Project, i.e., “5S: *Seiri* (Distinguishing); *Seiton* (Sorting); *Seisou* (Cleaning); *Seiketsu* (Maintaining); and *Shitsuke* (Disciplining).” Also, the staff of the warehouse considers that they would like to make efforts in order to improve their warehouse management skills. This is because the improvement contributes toward providing high-quality healthcare services and medicines for the patients.

Financial sustainability

As shown in the Table below, the MPSC tries to secure the budget for their routine activities. The total revenues have been decreased since the fiscal year of 2006. However, most revenues were disbursed for the construction expenses to prepare fences, electricity, water supply, etc. for the Logistics Center. In consideration of the operating expenses without the construction expenses, the specific budget tends to be increased. Therefore, the MPSC intends to continue the project activities from the perspective

of the operating expenses.

Table Budget of the MPSC from FY 2005 to FY 2008

Unit: Kip

Items	2005		2006		2007		2008
	Plan	Realization	Plan	Realization	Plan	Realization	Plan
Revenues							
Government	282,300,000	282,300,000	1,106,314,000	1,106,314,000	470,937,000	470,937,000	283,176,000
Expenditures							
Operating expenses							
Salary	130,000,000	130,000,000	141,590,000	141,590,000	130,737,000	130,737,000	187,900,000
Water	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,500,000
Electricity	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	15,000,000	20,000,000
Telephone	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	6,000,000	8,000,000
Facility maintenance	14,000,000	14,000,000	15,000,000	15,000,000	15,000,000	15,000,000	12,000,000
Equipment maintenance	2,000,000	2,000,000	4,000,000	4,000,000	4,000,000	4,000,000	10,000,000
Others	37,300,000	37,300,000	40,724,000	40,724,000	37,200,000	37,200,000	41,776,000
Sub Total (Operating expenses)	207,300,000	207,300,000	225,314,000	225,314,000	210,937,000	210,937,000	283,176,000
Capital expenses							
Consturction	75,000,000	75,000,000	881,000,000	881,000,000	260,000,000	260,000,000	-
Total	282,300,000	282,300,000	1,106,314,000	1,106,314,000	470,937,000	470,937,000	283,176,000

Source: Budgetary Sheet prepared by the MPSC

Note: The Fiscal Year for the Lao government has started from 1st October to 30th September.

(FY 2005: October 2004 – September 2005)

<Medical Equipment Maintenance>

Through the Project, hospital managers recognized the importance of the medical equipment maintenance. Also, they were able to understand the importance of the preventive maintenance because of the limitation of the budget in comparison with the procurement of new medical equipment and the repair of existing equipment. As a result of their changes in awareness, the budgetary allocation for the medical equipment maintenance came to be secured even if it is small amounts of the budget.

The hospitals charge patients for the medical services provided by the hospitals, such as hospital fees, bed fees, X-ray examination, drugs, etc. Parts of those user fees came to be allocated for the medical equipment maintenance by the discretion of the hospitals.

Since the budget for the medical equipment maintenance was not allocated at the hospitals until recently, it was the enormous progress to be able to secure the budget for the medical equipment maintenance at this moment. However, the amounts of revenues from the MOH are still not sufficient for the medical equipment maintenance.

<Inventory Control>

The staff working for the Logistics Center had the opportunities to train the people of the private companies on how to manage the stocks and keep the temperature inside the warehouse. In addition, since the stock management at the Logistics Center was highly appreciated, a private company requested to keep the containers and materials inside the Logistics Center. These services might be a source of revenues for the Logistics Center.

3-3 Factors promoting project progress

(1) Factors concerning to Planning

- It is considerably significant to conduct the medical equipment maintenance as their routine works at the hospitals by involving not only the technical staff but also the managers and users along with the project plan. As a result, the medical equipment maintenance at the hospitals was smoothly promoted in collaboration with the technical staff, managers, and users.

(2) Factors concerning to the Implementation Process

- New concepts were introduced into the routine works of the staff at the MES and the Logistics Center, the managers and technical staff at the hospitals, and the staff in charge of inventory control in four target provinces, such as daily maintenance of medical equipment, adoption of the database, etc. As the project activities made their routine works more effective and efficient, they were able to accept the activities more easily than as expected.
- The staff of warehouses was able to improve their routine activities along with the code of conduct set up by the Project, i.e., “5S: *Seiri* (Distinguishing); *Seiton* (Sorting); *Seisou* (Cleaning); *Seiketsu* (Maintaining); and *Shitsuke* (Disciplining).”
- In order to prepare the operational guide of medical equipment (the procedure of how to utilize the medical equipment) in the Lao language at the provincial hospital in Savannakhet, the technical staff discussed with the responsible users of the medical equipment who had the knowledge on how to use the equipment. The hospital staff became able to share the directions for use of each medical equipment in their language.

3-4 Factors inhibiting project progress

(1) Factors concerning to Planning

- At the beginning of the Project, it was not planned to assign a short-term expert in charge of the establishment of the Logistics Center, the preparation of the tender documents, and the construction management. Although the dispatch of the expert in charge was decided after the commencement of the Project, the sufficient period was not secured for the construction of the Logistics Center because of the unplanned budget of the Project. Also, since the preparation survey on the construction of the Logistics Center was not sufficient, only a half of the actual budget was estimated for the construction. According to the insufficient budget, the scale of the Logistics Center was downscaled, and the construction standard was changed from the Japanese standard to the local standard.
- The Lao side was not able to prepare the budget for the relocation to the Logistics Center from the old central warehouse after the completion of the Logistics Center. The delay in securing the budget prolonged the process of the relocation (Completion of the Logistics Center in October 2006; Relocation to the Logistics Center in February 2007).

(2) Factors concerning to the Implementation Process

- In case of Oudomxai province, it might be necessary to improve the communication between the provincial hospital and the PHO/technical staff. Although the users are supposed to report the problems on medical equipment to the technical staff through the formal channel, the users directly report the problems to the director/deputy director at the hospital because it is often difficult to communicate with the technical staff assigned for the PHO who has a lot of maintenance and repair works within the province.
- Although each hospital is supposed to submit the report about working ratio of medical equipment to MES every six months, some hospitals have not submitted it. Regarding this matter, MES is trying to promote the hospitals to submit the report through the outreach activity and explanation of the necessity and importance of the report in the collaboration meeting.
- In the area of the inventory control, although the provincial government is supposed to transport the medicines and medical products to the district level, it is sometimes unable to allocate the sufficient budget for the transportation to the district level. This may affect the number of dead stock of medical products in provincial warehouses.

3-5 Conclusion

The evaluation study team concluded that the Project Purpose would be achieved and the

expected efficient would be had by the end of the cooperation period. In terms of the medical equipment maintenance, the adoption of the following activities greatly contributed towards achieving the Project Purpose. Firstly, the importance of the medical equipment maintenance was recognized by the managers, technical staff, and users through the instructions by the MES. Secondly, the users have gradually come to conduct the daily maintenance as their routine works. The managers recognized the medical equipment maintenance as necessary for providing high-quality healthcare services for the people. Thirdly, it became easier for the MES to monitor the working condition of the medical equipment at the hospitals through the database of the medical equipment.

With reference to the inventory control, the adoption of the following activities greatly contributed towards achieving the Project Purpose. Firstly, the newly-established central warehouse, named as the Logistics Center, has been functioning as a center of the logistics system in the country. The monthly reports to the Logistics Center have come to be firmly submitted by the four provincial warehouses. Secondly, the layouts inside the warehouses have been improved, so the stocks are classified and well-sorted with the reference number corresponding to the information in the newly-established database. As a result, the staff became able to find a certain medicine or medical product within several minutes. Thirdly, the staff became easily able to monitor the expiration date of medicines and medical products through the database. Fourthly, medicines can be stored at specific areas of warehouses in an appropriate condition because the room temperatures are properly managed with air-conditioning by the trained staff.

From the result of the evaluation based on five evaluation criteria, there is no big problem in the project design, activities and the implementation process. At the same time, since the achievement of the Overall Goal has potential, it is convenient to think that the Project will be finished as scheduled. MPSC should continuously try to secure the finances for routine activities.

3-6 Recommendations

- (1) The Project should continue to share the outcomes, experiences and lessons learnt of project activities much more widely among each Department of the MOH, each Provincial Health Office, concerning donors and organizations.
- (2) The MOH should develop and finalize the guideline as the principle for the logistics system under the “Revised National Medicine Policy” in the Lao PDR with technical support of the Project.
- (3) All of the hospitals should submit the report to the MES every six months, so that the MES can monitor and manage the working condition of medical equipment.
- (4) The MOH should facilitate the MEM Committee to function as the focal point of the medical equipment management in the Lao PDR
- (5) The MOH should continuously promote the hospitals to decommission medical equipment.
- (6) The MOH should establish the financial system for continuing the outcomes and activities achieved by the Project in terms of the medical equipment maintenance as well as the inventory control.
- (7) Donors and other organizations should consider the soft component in case of providing medical equipment for hospitals.

3-7 Lessons Learned

- (1) The Laotian textbooks for the managers and technical staff provided by the Project have been highly appreciated and used widely in the Lao PDR.
- (2) The newly-introduced concepts and activities that were extensions of the routine work promoted the changes in the consciousness easily and made the routine work more effective and efficient.
- (3) The hospital intended to establish the system for the medical equipment maintenance in a body because of involving not only the technical staff but also the managers and users at hospitals in the activities of the medical equipment maintenance.
- (4) Donors and other organizations should consider the soft component in case of providing medical equipment for hospitals.

ⁱ Logistics Center is settled under Medical Products Supply Center (MPSC) and functions both of warehousing and managing regional warehouses as a central warehouse.

ⁱⁱ The ratio of dead stock is defined as the ratio of the number of the pallets stored more than five years to the total number of the pallets in the warehouse.