

4.2 Verification of Implementation Process

(1) Implementation in line with the Plan

Though the timing of dispatching short-term expert was delayed, which was caused by the lack of counterpart personnel, a series of activities planned at initial stage of the project has been progressed effectively towards achieving particular Outputs in terms of strengthening veterinary education based on the Plan of Operation.

(2) Project Management

Joint Coordination Committee and Local Committee were established for entire management and for technical coordination of the project by both sides respectively. Both committees are now active, however, it was back log for Local Committee due to change of the project director and manager sometimes during the project period.

(3) Assignment of Counterpart Personnel

As to the assignment of counterpart personnel, previously more involvement of fulltime counterparts and supporting staff for the smooth implementation of the planning and management of the Project activities was required, the suitable number of capable counterparts for the technical subjects has been assigned for the activities of training and research since the beginning of the third year of the Project.

(4) Recognition Degree of the Project by the Project Members

The Project being implemented at the FVM is not only well recognized by the staff and counterpart, but also by the student who has recognized the project and the experts' activities. It is also recognized that the characteristics of the Project in which the technical assistance is combined with the provision of equipment by Grant Aids serve the common objective of the strengthening of practical veterinary education.

(5) Participation Degree in the Project by Target Groups, Relevant Groups and Organizations

Undergraduate and postgraduate students of the faculty are involved in the Project through participating practical classes and research. Relevant organizations including MOAAR, MOHE and Al Baath University and SVA as well as General Organization of Cattle were highly involved in the Project especially for the training of veterinarian in order to ensure significant progress being made in the courses. The participation of these organizations contributes to accomplish the level up of diagnostic skills of Syrian veterinarians.

5. Evaluation Results

The summary of the Terminal Evaluation is described below on the basis of the Five Criteria analysis method and Evaluation Grid set using PDM agreed by both sides at the beginning of the project.

5.1 Relevance

For the following reasons, this project is judged to be of high relevance:

1) Conformity with National Policy

The Project is aiming to improve veterinary clinical diagnosis in collaboration with FVM, Al Baath University which is a solitary higher education institution in Syria. Taking into account of animal health in Syria, lack of number of veterinarians and their insufficient diagnostic skills were constraints in the field of livestock industry. Under these conditions, 10th Five Year National Development Plan emphasized strengthening improvement of veterinary service and sustainable agriculture to the sector. The Project purposes to fill the gap so the relevance of the project's strategy is high.

2) Conformity with Japan's ODA Policy

In terms of technical cooperation to Syria, Japanese government has formulated Implementation Plan of Technical Assistance – Syria. The plan shows four major fields of assistance 1) Modernization of Socio-economic conditions, 2) Water resource management and its effective utilization, 3) Expansion of social service, 4) Environmental management. This project is categorized by the modernization of socio-economic condition in the field of capacity building of human resources of which are agriculture, light industry and tourism industries.

3) The necessity and priority of the project

Taking into consideration the appropriate counter-measures to existing issues represented by importance of clinical diagnosis in animal health of livestock industry, the capacity building of veterinarians with sufficient knowledge was urgently required. MOAAR and FVM are responsible for animal health and veterinary education respectively. In this sense, the necessity for this project by the industry, and organizational needs are high.

5.2 Effectiveness

For the following reasons, the effectiveness of this project is judged to be high to a certain degree, however, more contribution to internalize the project effects to veterinary education at the faculty and to improve the maintenance system of the equipment at CLDR is required.

1) The achievement level of the Project Purpose

All the Outputs have fairly contributed to archive certain degree of the Project Purpose. The equipment granted by Japanese aid and procured by the faculty became in use condition by both sides' efforts. Using the equipment, students gained knowledge and practical diagnosis through classes which were introduced much more than previous syllabus. Diagnosis skills were formulated based on priority of major animal disease in Syria.

Training course for veterinarian, student and laboratory staff has been carried out. Total 222 veterinarians in 13 courses, 26 Diploma students and 5 laboratory staff were trained in the course. In addition, establishment of sustainable training program for veterinarian is in developing stage.

2) Relationship between the Project Purpose and the Project Outputs

In terms of improvement and strengthening veterinary education, clinical diagnosis is essential. The faculty students gained good knowledge and practical diagnostic methods. Information of animal diseases are accumulated and used for education such as increasing practical classes in consideration of routine diagnosis and formulation of diagnostic procedure. Introducing the new training program for students and veterinarians using equipment has led

to improvement of quality in diagnostic skills.

3) Other contributing factors

Counterpart training in Japan is also remarkable contribution factor in order to archive the Project Purpose. Total five counterparts including project manager (Dean of faculty) attended five fields of veterinary medicine trainings, namely Veterinary Bacteriology, Biochemistry, Veterinary Virology, Ecto-parasitology, and Veterinary Education System. The training results enhanced quality of the project activities on diagnostic skills.

5.3 Efficiency

Seen from the point of achieved Outputs, the Inputs could be said as efficient.

1) Production of Outputs

By the great efforts of both sides, Outputs of the project has smoothly been generated based on series of Input for the activities. The effective use of equipment contributes to the improvement of the quality of education. The curriculum of FVM is changed focusing the increase of practical classes, in which the information and know-how are utilized. In addition, as external services, several trainings are conducted well with high reputation.

Regarding of casual relationship between Outputs and inputs, following inputs contributed to Outputs.

- Inputs set in PDM (project space, counterpart personnel, running cost, Japanese long-term and short-term experts, training in Japan and provided implementation cost)
- Additional procurement of equipments by the faculty
- dispatching SV and JOCV
- Reorganization of implementation body at the beginning of the third year. (The project manager became the dean of the faculty.)

2) Inputs by Both Sides

Syrian side contributed to provide project space, counterpart personnel, running cost and equipment, and Japanese side dispatched experts including long-term and short-term experts and provided implementation cost. Both sides adequately allocated almost necessary inputs in terms of timing, quality and quantity, though the dispatch of short-term expert was delayed as intended time by the inadequate assignment of counterparts. After the appointment of the project manager as the Dean, conditions became proper to receive the short-term experts.

A new Training Centre as an Input by the Syrian side shown in PDM, was raised in the preparation stage as a proposal, and now it is in the design stage. Even though existing facilities served the function of the training centre so there is no effect on the activities.

3) Training in Japan

A total five counterparts attended the training course in Japan. The course contributed to increase the efficiency of the Project that the courses provided opportunities for counterpart not only to improve their technical level but also they learned discipline and practice at laboratory, differences between Syrian and Japanese cases, and veterinary educations in Japan. The effects by the course smoothly reflected to the project activities such as basic technical skills of Bacteriology, Biochemistry, Virology, Ecto-parasitology and

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Veterinary Education System.

4) Additional procurement of equipments and reagents by the faculty

After the commencement of the project, the equipment granted by Japan's ODA faced various kinds of operation problems due to insufficient maintenance capacity by the staff and additional necessary facilities. FVM took proper measures such as procurement of UPS, facilitation of adequate power supply line and reagents.

5) Reorganization of implementation body at the beginning of the third year. (The project manager became the dean of the faculty.)

Until September 2005, project director was the dean of FVM. When the project manager was appointed as the dean, the rector has become the project director. This reorganization effected smooth implementation of the project.

6) Contribution by Senior Volunteer and JOCV

A JOCV (Chemist at CLDR, Apr 2004- Mar 2006) and a SV (Virology, Apr 2006- Mar 2008) were dispatched to FVM after the commencement of the project by JICA, in which the SV is advisory services to the CLDR in the field of Virology.

5.4 Impact

The following impacts were recognized from the implementation of the project, and the possibility that the overall goal will be achieved in the near future is high on condition that qualified staff is appointed and budgetary measures are retained.

1) Prospect of achievement of the overall goal

It is assumed that the overall goal will be achieved. The training for field veterinarians which has started as one of activities of the Project is especially leading to the level up of diagnostic skills of Syrian Veterinarians. In fact, training program for continuous education to veterinarians based on the achievement of the project has been proposed among FVM, MOAAR and SVA. The program targets the improvement of knowledge and diagnostic skills of clinical veterinarians. These organizations are highly concerned with the training program and cost sharing.

2) Increasing number of academic publications

Positive ripple effects from the implementation of the project are seen. A new environment of research and diagnosis for animal diseases at the CLDR was established by the project and the equipment granted previously. This facilitation including knowledge and information accumulation has brought to increasing the number of academic publications such as camel pox, *Neospora scaninum*, *Toxoplasma gondii*, *Mycobacterium paratuberculosis* to the faculty. Currently, more than twenty research papers were submitted to international and local academic journals.

3) Cooperation with Relevant Institutions

Directorate of Animal Health

The project increased the requests of field research for infectious diseases such as sheep pox, bluetongue, hemorrhagic disease, etc., advices regarding technology of producing vaccines and its examination techniques to the Project by DOAH. In addition, mutual cooperation between CLDR and the Directorate was enhanced in the field of supply of cell lines,

providing virus strains, antigens of *Brucella* and avian influenza virus, etc. Moreover, the Directorate started to allocate budget (20 sheep) for a research activities regarding evaluation of vaccination troubles. Hence, this is brought by the ripple effect of technical training for veterinarian and close cooperation for long time with the Directorate.

General Organization of Cattle

The Faculty has been in cooperation with GOC for longer term in daily cattle survey. Especially for abortion in cattle, calf diarrhoea, bovine leukemia, and paratuberculosis (Johne's disease) which are the major problems of GOC. Besides regular cooperation, both parties have been researching on antibody prevalence of *Neospora*, which is one of the most important causes of abortion that has been recently identified.

Holding International Symposiums

The Project contributed to two international symposiums (poultry and ruminants) which were held at FVM. JICA SV made a presentation regarding disease prevention, and many students and veterinarians attended it. This activity has led to enhancing exchange of knowledge and education in particular subjects.

5.5 Sustainability.

Overall sustainability is considered as relatively high for the following reasons.

1) Institutional Aspects

The Faculty is a unique institution regarding veterinary medicine in Syria, and the role of Faculty is not only to educate students but also to offer services to animal health sector especially for providing clinical diagnosis knowledge and skills through training for veterinarians. According to the Five Year Development Plan of the Faculty, management improvement is strengthened, and scientific research at international level is proposed.

In addition Low No.6 and No.7, 2006 stipulate that teaching staff shall choose either fulltime or part time employment status, and currently there are 80% of teaching staff working as fulltime at the Faculty. This contributes to more concentration work at Faculty.

Moreover, Local Committee for the project was activated based on the recommendation by the Mid-term evaluation. Since then it become active coordination body of the project and is held every Sunday.

New Teaching Farm, New Teaching Hospital and New Training Centre are proposed beside the project, and the faculty intends to expand and apply the diagnosis skills developed and accumulated by the project.

2) Financial Aspects

10th National Development Plan draws training and qualification as the first priority, and university is the implementation body in higher education. In this fiscal year, approximately 17 million SYP has been allocated to Al Baath University and 5 million SYP was allocated to the FVM. For the next fiscal year, the FVM proposed more budget than this fiscal year. It is around 1 million SYP for implementation of the training for veterinarian as well as current training. In addition, cost sharing among FVM, MOAAR and SVA has already started to discuss, so it will be sufficient financial resources in order to continue the project activities.

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3) Technical Aspects

According to achievement of the PO and evaluation by JICA Expert, transferred technology to the counterparts such as teaching and technical staff is sustained to continue their research and diagnostic activities. Hence, the transferred technology will be spread and settle.

6. Conclusions

The project purpose is improvement and strengthening of veterinary education at Al Baath University. Throughout reviewing of several materials including the results of interviews, the evaluation team confirm the effective use of equipment for education, improvement of education methods oriented to be more practical, accumulated knowledge and know-how on animal diseases for using in education and training courses for students, faculty staff and veterinarians. The result of the evaluation is concluded as follows.

Aiming to improve and strengthen the veterinary education in Al Baath University in Syria in past 34 months, the project was implemented in response to the national policy and the organizational needs of the implementing agency, FVM, Al Baath University, in association with MOAAR and SVA, and also to the strong needs of Syria's livestock industry. With the improvement of the technical capabilities of CLDR, high-quality training and technical services were provided for students, teaching staff and technical staff, and it is expected that eventually the technical skills of the Faculty themselves have been improved, and thus, the effectiveness of this project is high.

Contributing factors are, for example, the facts that activities were implemented almost as planned and that the implementing agency already possessed operational capability of a certain level. Another factor is that human resources were placed in an appropriate way. The fact, that good relationships based on mutual trust between the experts and the counterparts were built up, is also an important contributing factor. Moreover, monitoring was adequately conducted periodically, and both sides pursued activities as partners, sharing the purpose of this project.

Furthermore, some positive and ripple effects have been seen such as the management of training course for veterinarian, and increased number of academic publications. In fact, arrangement and coordination among relevant agencies namely FVM, DÓAH, SVA, have been started by own resources. Accumulation of the diagnosis cases under the appropriate conditions of CLDR has brought about publications in local and international journals. Concerning sustainability of the project, strong ownership and management system with sufficient budget allocation by the implementation body, it is apparent to sustain the project continuity.

From the results of the evaluation using the Five Evaluation Criteria, neither the plan (project strategy, causal relationships) nor the implementation process show any serious problems, and since we could confirm the prospect that the Overall Goal will be more or less achieved, we judge that the project can be completed without problem. In the future, the FVM, with the full support of the Syrian government, needs to make much stronger efforts to secure technical levels while responding to the changes.

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7. Recommendations and Lessons Learned

7.1 Recommendations

Short Term Issues (for the remaining Project period)

(1) Proper Maintenance and Usage of Equipment in Laboratory

The use of equipment for education is almost good. However environment of laboratory needs to be cleaned for better maintenance and accurate diagnosis. Typical example is the situation of Biochemistry Laboratory, in which PCR system exists is not clean enough. For the effective usage of equipment keeping clean is to be paid attention.

(2) The Effective Use of Equipment in the FVM

The equipment is to be put in the right place in the manner that to maximize the benefit for FVM as a whole, not just for the particular laboratory. In this sense, the discussion microscope, which is for five persons to watch simultaneously, in Parasitology Laboratory, Department of Microbiology, is recommended to replace in CLDR for training, diagnosis and research with its proper usage.

(3) Equipment for Group Researches

In terms of development of research, cooperative works over each department or laboratory involving an effective use of modern equipment are very important for mutual benefits.

(4) Confirmation of Action Plans by the Local Committee

It is very important to formulate the action plan before the termination of the Project and monitor its implementation. The committee with long-term expert is recommended to discuss the action plans to develop the outcomes of the Project taking this evaluation into consideration.

Long Term Issues (for the future of the Capacity Building for FVM)

(5) Self-evaluation by FVM

The outcome of education takes time in usual. The level of the diagnostic skills as a veterinarian of those who was 1st year at the commencement of the Project cannot be judged fully at the termination of the Project. The constant feedback with reviewing the role and actual activities of graduates is necessary for developing the faculty. In this sense, the first meeting with veterinarians held in December in line with accreditation system is good trial to feedback the graduates for better development of the faculty.

(6) Management with Involvement of All Staff

Although the Law No.7 was introduced to support the full time work in 2006, it seems that the commitment of all teaching staff is still developing. The faculty should keep on taking its initiative to involve entire faculty.

(7) Further Contribution to Foster the Diagnostic Knowledge and Experience

The shift to focusing the practical skills is likely regarded as good direction based on



the hearing from diplomas and undergraduate students of 4th to 5th, with their expectation for increasing practical classes by the project activities.

It is essential to arrange that each student has much opportunities to deal with equipment. As one example, graduation thesis system is worthwhile to consider.

(8) Reference System

The linkage among related organization from the ministry to FVM is to be strategically developed by Syrian government initiative. In this system FVM may contribute to the development of livestock industry more effectively and efficiently.

(9) Maintenance of the Equipment

The continuous efforts of routine maintenance and proper use of the equipment by the staff are strongly recommended.

(10) Leading Role

Not only for Syria but also for the Middle East, FVM is expected to play an important role, making use of the equipment and know-how.

(11) Focusing the Strengthening Education Itself

The level up of students leads to producing veterinarians with good technical expertise, which improves production. Research, which is for tackling the animal diseases in the production sites, is also requested to contribute to enhancement of quality of education.

(12) Further Capacity Development of FVM Teaching Staff

It is recommended for FVM to seek cooperation with Japanese universities and Japanese government in order to dispatch their staff to attend long training courses (Master and PhD), scholarships, or fellowships through the proper official channels.

7.2 Lessons Learned

(1) Balancing the Inputs and the Project Purpose

The main input of this project is only long-term expert though the covered fields are very large. The balance between activities and inputs are to be well planned.

(2) Full and Active Involvement in the Project

With most of part-time counterparts, the management has difficulty. In addition the technical transfer is not fully expected.

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