

to have appropriate communication among them for formulating suitable regional disaster mitigation system. In regard to short-term experts, there were cases that several short-term experts dispatched at same time, and also timings of dispatch in some cases were not well appropriate because of busy schedule of works of C/Ps.

Provisions of equipment and C/P trainings in Japan were conducted appropriately.

The number of C/Ps is 27 and was increased from 24 at the time of mid-term evaluation (December 2003). Most of C/Ps have assigned continuously for the Project, except retirement by age and transfer to the other position. And most of C/Ps have good capability and good at English. Budget for STC was increased from year 2001 to 2004 significantly. Budget for the year 2005 was reduced, but certain amount of budget has been allocated.

JCC has been held 6 times, more than once a year in average. JCC is functioning appropriately as a top-level decision making committee. Regular or periodical meeting among C/Ps and Japanese experts was not settled. Meetings among C/Ps and Japanese experts have been held when necessary.

With the progress of the project activities, ownership and understanding of the Indonesian side on the Project are deepening.

There are several factors facilitated to the efficiency of the Project, for examples:

- Positive response and cooperation by local residents and local governments in the model areas.
- Good cooperation between Japanese experts and counterparts.
- Sub-directorate of Natural Disaster and also Sub-directorate of Conservation were newly created in Directorate of River, Lake and Reservoir of the General Directorate of Water Resources of the Ministry of Public Works. These sub-directorates have responsibility on disaster prevention and countermeasure for disaster occurred in relation with Sabo technology.

There are also factors negatively affected to the efficiency of the Project, for example:

- Understanding of basic concept of ISDM became clear after the mid-term evaluation.
- Contents of the technical guidelines were not mentioned clearly in the project plan.
- Limited time allocation by C/Ps to the project activities by the reason that C/Ps have another regular jobs.

Considering all aspect mentioned above, all inputs to the Project are generally well utilized in the project activities and contributed to the achievement of the Outputs. The efficiency of the Project is satisfactory.

4.4 Impacts

(1) Expectation of achievement of Overall Goal

Several technical guidelines will be developed by the Project though the activities in the model areas, and capacity development of engineers who are working in central government and local governments have been strengthened. Basis of a model can be established under the Project. Still there remains necessity to finalize and accomplish technical guidelines to be able to be



applied in hazardous areas other than the model areas.

The ISDM concept is introduced in the JBIC financed projects for Mepapi and Bawakaraeng areas, and also in the Bahorok project, which is financed by the central government (total 3 projects). Implementation of these projects will start in near future. It is expected that ex-trainees and C/Ps under the Project will participate in these projects and utilize knowledge and skills learned at the Project.

A draft model of establishment of disaster prevention committees and evacuation drills by the residents or community will be developed. As mentioned above, there remains necessity to finalize and accomplish this model to be able to be applied in hazardous areas other than the model areas.

(2) Other impacts

- A Sabo facility "obiko" for stabilizing sediment in riverbed was constructed under the Project, and local people uses this facility as a bridge. And road connected this Sabo facility was paved partially, and after then, local government also paved a part of road copying the method used by the Project.
- Local residents created a rule for the evacuation in case that rainfall continues more than 3 hours by themselves in the West Sumatra model area.
- Ex-trainees of WIDE course planned and implemented the seminars on disaster prevention awareness in 2002 in Kebumen and Banyumas regencies. Around 60 to 100 officials of respective regencies participated in the respective seminars.

4.5 Sustainability

(1) Political aspect

The president of Indonesia expressed a policy on National Movement of Partnership for Saving Water in April 2005, which has an aim to conserve water resources. Several integrated programs have been started and Sabo technology is an important tool for control erosion and sediment-related disaster. Importance of disaster management in the national policies will remain in the viewpoints related with water.

(2) Organizational aspect

It is necessary to add roles for STC in order to be able to have functions such as support activities to local governments in regard to Sabo technology (prevention of sediment-related disaster) and implement countermeasures after occurrence of disaster. At present, discussion about status of STC for becoming permanent organization is underway in the Ministry of Public Works. Therefore, it is expected that STC will have appropriate organizational and institutional status for continuing the activities of the Project after the termination of JICA's cooperation.

(3) Financial aspect

Indonesian government made efforts to increase budget to STC in recent years and organizational status of STC is expected to become a permanent one in the Directorate General of Water Resources. Therefore, it is expected that STC can secure budget necessary for activities on



disaster management in the country.

(4) Technical aspect

Generally, C/Ps have good capacity and experience on Sabo technology. As of technologies transferred under the Project, methodology of ISDM is still under development. Also non-structure measures for disaster prevention (soft aspect) is a part of important aspect and new aspect for them. Therefore, C/Ps have good capacity to conduct technical transfer to other staff of STC and staff of other related organizations, but still more strengthening of their capacity is desired.

There is an anxiety about age of C/Ps. There are several C/Ps who have more than 50 years old, and age of retirement is very near future (age of retirement of the government official is 56). Therefore technology transfer from those C/Ps to younger staff and also capacity development of younger generation will be necessary.

5. CONCLUSION

The Project is in conformity with the development policy of Indonesian Government, ODA policy of Japan and needs of disaster prevention for selected model areas. While the approach and methodology of the Project should be considered well in regard to relations among planned activities and its sequence of implementation, and also putting more corresponded activities to the changed social and economic situation under the recent democratization and decentralization in Indonesia.

Considering the fact that some outputs of the Project are not fully achieved yet and the Project Purpose will not be achieved fully by the end of the Project, we may concluded that the effectiveness of the Project is moderate.

All inputs to the Project are generally well utilized in the project activities and contributed to the achievement of the Outputs. The efficiency of the Project is satisfactory.

Regard to impact, several impacts have been produced as results of the project activities. As of prospect of achieving the Overall Goal, several technical guidelines will be developed by the Project through the activities in the model areas by the end of the Project, and capacity development of engineers who are working in central government and local governments have been strengthened. Therefore, basis of a model of ISDM can be established under the Project. Still there remains necessity to finalize and accomplish technical guidelines to be able to be applied in hazardous areas other than the model areas. Sustainability of the Project is expected be assured in term of political, organizational, financial and technical aspects.

Based on a series of discussions with the relevant Indonesian officials and counterparts as well as the results of surveys conducted by the Joint Evaluation Team, the Team evaluates that the Project Purpose will be achieved mostly by the end of the Project, and the outcomes of the Project is comparatively high in a whole. Therefore, the team concludes that the Project will be terminated on March 31, 2006 as scheduled. However, it is desirable that the cooperation on the following subjects will be continued in order to become to establish the outcomes of the Project and

