

The first drafts of these guidelines will be developed by the end of the Project. In a sense that the guidelines can be applied properly not only in the model areas but also in other sediment-related disasters prone areas, application, verification and modification of the draft guidelines are necessary.

Through technical transfer to the counterparts of the Project and conduction of the training courses (the MPBA course, the WIDE course and the OJT course), engineers have improved capacity on disaster mitigation. In case of the ex-trainees of the WIDE course and the MPBA course, more than 60% of them are utilizing the matters learned at the training courses for their works very frequently or frequently, and about 27% of them are utilizing occasionally according to the results of questionnaire survey. In case of trainees of the OJT course, around 70% of them are utilizing the matters learned very frequently or frequently, and about 30% of them are utilizing occasionally. Also through the participation to the project activities, local governments and local residents are improving their capacity on planning and implementing disaster mitigation measures to reduce the impacts of sediment-related disasters on villages in volcanic areas. A survey on peoples' awareness will be conducted by the end of the Project. Therefore it cannot be said surely about degree of improvement of peoples' awareness on disaster mitigation in model areas, but according to the results of the interview with a chief of a village in the Merapi model area, peoples' awareness is improved in his village because of the project activities.

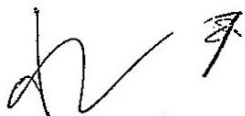
3.4 Achievability of the Overall Goal

The Overall Goal "Integrated sediment-related disaster mitigation measures are implemented in hazardous areas."

The ISDM (Integrated Sediment-related disaster management) concept is introduced in the JBIC (Japan Bank for International Cooperation) financed projects for Merapi and Bawakaraeng areas. And also the ISDM concept is introduced in the Bahorok project that is financed by the central government of Indonesia. (The ISDM concept means to secure the safety of communities by best synthesizing non-structural and structural measures according to the local conditions. The non-structural measures are methods such a warning and evacuation systems and land use control regulations, while the structural measures are construction of facilities such as Sabo dams and san pockets. The concept has been introduced because the financial and time constraints make a full set of structural measures extremely difficult in hazardous areas. The ISDM should be implemented in consideration of low-cost practical measures and contribution to improvement of rural living standard.)

Similar activities with the Project, such as establishment of warning and evacuation system in cooperation with local Sabo community, project implementation with local residents participatory approach, and use of low cost construction methods for Sabo related facilities. These projects are under process and will be implemented in near future.

Natural, social and economical condition in Indonesia differs very much by region or area. Several technical guidelines are under development by the Project through the implementation of the project activities in the model areas. As mentioned, application, verification and modification



of the draft guidelines are necessary from the viewpoints that the guidelines can be applied properly in other sediment-related disasters prone areas. Moreover, it is necessary to accomplish not only the guidelines, but also to continue capacity development of engineers of central and local governments in term of technically and socially (socialization aspects related local community participation and coordination).



4. RESULT OF THE EVALUATION

4.1 Relevance

(1) Consistency with the National Development Plan of Indonesia

According to the Indonesia's Medium-term Development Plan 2004-2009, there are 3 main agendas, such as 1) establishing democracy and justice for all, 2) creating an Indonesia that is safe and peaceful, and 3) improving prosperity economically and socially. Corresponding to the Development Plan, the Ministry of Public Works prepared a Strategic Plan of Public Work Department 2005-2009 and one of the 3 main issues is "Infrastructure development with basis in space arrangement in border area, isolated area, conflict area, and disaster area and disaster potential area to form Indonesia peace and safe". The Project, that aims the human resources development who can plan and implement disaster mitigation measures to reduce the impacts of sediment-related disasters on villages in volcanic areas, is consistent with the Development Plan of Indonesia.

(2) Consistency with the Official Development Assistance (ODA) policy of Japan

One of the priority areas of Japan's ODA for Indonesia (version of November 2004) is support on establishing society with justice and democracy. Environmental conservation and disaster prevention is an important issue within establishment with justice and democracy.

(3) Conformity with needs of targeted area, i.e. needs of disaster prevention for selected model areas

Four (4) model areas were selected through discussions between the Indonesian and Japanese sides before the start of the Project using selection criteria. As mentioned in the mid-term evaluation report, in case of the Agung model area in Bali, there was misunderstanding between the Project team and a small group of local people. Therefore, most of the activities have been discontinued except for only the follow-up monitoring of its limited achievements. The structural measures for this model area could not meet an important need of the residents, that is the water supply.

Generally, priority needs of local residents may be infrastructure development like water supply, bridge and road, or improvement of standard of living though income increases. Therefore, appropriate measures for diffusing disaster mitigation activities into local residents should be designed complying above-mentioned needs of them.

We can't say that it was not conformity with needs of target areas. But there were other urgent needs for local residents. It is necessary to consider these cases for selecting model areas when similar project will be implemented in future. It will be necessary to investigate social, economical situations and degree of people's awareness on disaster mitigation.

(4) Conformity with roles and responsibilities of STC

STC is a training and technology development center that has roles of technology development and human resources development related to Sabo technology, and dissemination of technologies in Indonesia. STC was formerly under the Directorate of Technical Guidance of the Directorate General of Water Resources, and now STC is under the Directorate of River, Lake and Reservoir of the Directorate General of Water Resources.



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 more permanent organization is underway in the Ministry of Public Works.

(5) The approach and methodology of the Project

There are 2 main approaches for implementation of the Project, those are 1) implementation of the model projects to establish the ISDM technology taking into consideration of socio-economic conditions of the target areas, and 2) develop qualified Sabo engineers who can implement and diffuse the model of ISDM. But there are several sub-approaches (activities) with many items in the Plan of Operations, and several activities were implemented in parallel. It seems that there was not enough consideration about relations among planned activities and appropriate orders or sequences of implementation of the planned activities. In addition, it seems that more approaches or more focus should be included in the plan of the Project in order to correspond to the changed social and economic situations and systems under the recent democratization and decentralization movement in Indonesia.

4.2 Effectiveness

Knowledge and skills of the engineers involved in disaster mitigation have been strengthened through participating 3 kinds of training courses under the Project. They are utilizing the matters learned at the training courses relatively in good frequency.

Four (4) kinds of technical guidelines are under preparation, and these drafts of technical guidelines will be developed till March 2006 (by the end the Project). However, in a sense that the guidelines can be applied properly not only in the model areas but also in other sediment-related disasters prone areas, application, verification and modification of the draft guidelines are necessary for dissemination.

In regard to the peoples' awareness on disaster mitigation in model areas, the residents in the Merapi model area, peoples' awareness is improved because of the project activities according to the results of the interview with the chief of a village.

As a whole, the Project Purpose, which is "Engineers involved in disaster mitigation and local residents become able to plan and implement disaster mitigation measures to reduce the impacts of sediment-related disasters on villages in volcanic areas", is not fully achieved yet.

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.

4.3 Efficiency

Dispatch of long-term and short-term experts was appropriate mostly. In regard to the dispatch of long-term expert, it seems more effective if more experts in the filed of social analysis like people awareness investigation and promotion of good coordination among local communities, local governments and central government etc., base on the ISDM concept, because it is inevitable

