

# Attempt at reinforcing the crisis management capability against large-scale sediment disasters through the use of the PDCA cycle

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## INTRODUCTION

In recent years, Japan has suffered many large-scale sediment disasters including formation of landslide dams as a result of deep-seated landslides (such as one in the Kii Peninsula in 2011) and debris flow disasters that almost simultaneously occur at various places (such as one in Hiroshima in 2014). In response, the Ministry of Land, Infrastructure, Transport and Tourism (MLIT) is required to conduct specialized research, and each local municipality is required to accurately conduct warning to and evacuation of citizens. It is a major mission for the national government and local municipalities to play such roles and realize improvement of the crisis management capability, especially with respect to establishing a warning and evacuation system in the case of disaster. Therefore, we proposed a manual (draft) for preparing crisis management plans and describing the role-sharing among involved actors and the rules for their collaboration, using the PDCA (Plan ⇒ Do ⇒ Check ⇒ Act) cycle.

To be precise, we have repeatedly planned and organized joint disaster prevention trainings with

various actors, on the basis of the prepared manual (draft), etc. Through such trainings, while we extract the relevant issues for responding items and actions, we have examined the crisis management plans and the manual, and have modified them from a practical point of view. At the same time, we presented the future tasks and promoted the further understanding of the necessary measures on the occasions of study meeting, workshop, or meeting of involved actors, etc. We have also organized collaborative meetings of actors, aiming to establish a good relationship among them for enabling smooth collaboration in the case of emergency. Additionally, we have proposed various attempts at improving regional disaster prevention capabilities.

We consider the series of activities described above to be effective and sustainable to prepare for disasters.

## CRISIS MANAGEMENT PLAN TO DEAL WITH LARGE-SCALE SEDIMENT DISASTERS

In response to the frequent occurrence of large-scale sediment disasters, as exemplified by those observed during the Niigata Chuetsu earthquake in 2004 and the disasters caused by the torrential rains across the country in 2006, as well as increasing demand for crisis management, the Ministry of Land, Infrastructure, MLIT compiled a crisis management plan to deal with large-scale sediment disasters (the Erosion and Sediment Control Department of the River Bureau) in March 2008. After having many deliberations in meetings, it presented guidelines for developing crisis management plans to the Regional Development Bureaus, etc., and ordered them to develop crisis management systems and take other necessary measures. In 2010, the Sediment Disasters Prevention Act was partially revised to require that when a blockage or

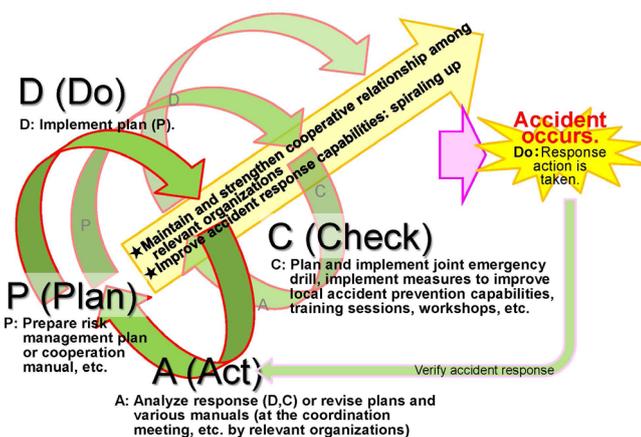


Figure 1. PDCA Cycle image

other problem above a certain scale occurs in a river channel due to torrential rain or other unusual phenomenon, MLIT should conduct a prompt investigation and adequately provide municipal governments, which represent the smallest units (administrative organizations) of government, with information necessary for them to build warning and evacuation systems for preventing secondary disasters.

Under these circumstances, the Regional Development Bureaus, which are regional organizations of the MLIT, and the Sabo Offices under their direct control, have been working to develop crisis management plans summarizing specific measures in the categories of basic policies, proactive measures (disaster prevention), emergency plans (emergency measures in case of a disaster), and (post-disaster) recovery and reconstruction in light of the current regional conditions.

#### **COLLABORATION WITH THE RELEVANT ORGANIZATIONS**

In addition to the development of crisis management plans, the Sabo Offices under the direct control of the MLIT, with the aim of promoting risk communication as part of proactive measures, have planned joint disaster prevention training where the officials of the national government, prefectural governments and municipalities as well as citizens meet together and supported its implementation, and have been working to prepare a collaboration manual that defines roles the organizations should assume to cope with disasters in collaboration with each other and rules about information sharing (or who should do what and when) based on the issues identified in the training.

With the aim of ensuring that the collaboration system among administrative organizations and their crisis management capabilities are maintained even after periodical personnel changes in administrative organizations, for the purpose of improving the effectiveness of risk management, collaborative meetings have been established and held periodi-

cally, aiming at building and maintaining a good relationship among the relevant organizations and coordinating and discussing the collaboration system.

In these meetings, the participating organizations share the results of the training (issues identified) and have examined and reviewed the collaboration manual, and MLIT and prefectural governments have supported various activities (activities to improve regional disaster prevention capabilities, workshops, etc.) in which municipalities have been engaged in routinely to control sediment disasters.

#### **USE OF THE PDCA CYCLE**

Recently, Japan has suffered many large-scale sediment disasters. Although the frequency of the occurrence of such disasters in the individual municipalities is low, a large-scale sediment disaster, once it occurs, requires a broad range of countermeasures, and it is highly likely that it cannot be dealt with adequately by a single municipality alone. Thus, the relevant organizations are making efforts during ordinary times to organize joint disaster prevention training, analyze and share the results of the training and extract issues, and examine and review plans and the manual repeatedly (PDCA cycle).

We hope that our support of these efforts will help maintain effective collaboration among the relevant organizations and reinforce crisis management capabilities in preparation for large-scale sediment disasters.

#### **KEYWORDS**

crisis management; Collaboration with the Relevant Organizations; PDCA cycle

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