Proposal for Improving Local Disaster Management Capability for Large-scale Sediment Disaster

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INTRODUCTION

It is important for residents in areas prone to sediment disasters to recognize the risks as there have been cases where they were not notified of hazard points and take precautions and proactive measures on a regular basis so that they can voluntarily evacuate without depending on evacuation advisories from local governments as there have also been cases where there was a delay in providing evacuation information.

However, since it is difficult for residents alone to establish an environment that would enable this, there are measures to help local residents improve their local sediment disaster management capabilities with the support of the administration. To be specific, we provide support for workshops with residents as the main players including preparation of sediment disaster hazard maps and advance disaster management action plans.

In this paper, we report case examples of such measures, including preparation of sediment disaster hazard maps and advance disaster management action plans against sediment disasters caused by heavy rain for local residents. We also propose measures for improvement of local disaster management capabilities against river channel blocking and other large-scale sediment disasters.

METHOD

There have been a variety of reviews of preparation of sediment disaster hazard maps by local residents or sharing of roles among residents and other stakeholders based on Improvement of Disaster Management Awareness as specified in the Guidelines for Sediment Disaster Warning and Evacuation (April 2007).

Figure 1 shows the flow of the major activities of the review committee, made up primarily of local residents, to improve local disaster management capabilities. **Photo 1** shows participants in discussion at a workshop for which we provided support.

Photo 1 Workshop participants with local residents as the main players

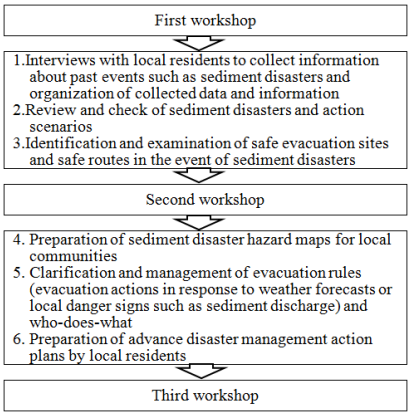

Fig. 1 Main flow of measures for improvement of local disaster

DISCUSSION

In reviewing how to prepare sediment disaster hazard maps that are easy to use, our particular focus is smooth evacuation from sediment disasters. **Table 1** shows major examples of points related to evacuation included in our sediment disaster hazard map.

Still, locations that may suffer the greatest damage if river channel blocking of maximum size occurs at locations highly prone to deep-seated landslides in the neighboring area, which have been identified so as to clarify the hazards of river channel blocking(landslide dams) (see **Fig. 2**).

In the case of river channel blocking, what triggers evacuation is the time it takes the water level to increase to a certain level of flooding which should be calculated based on the amount of inflow water in case there are areas to protect in the upriver impounded area. That duration of time is the amount of time available to residents for evacuation. For the downriver inundation area, the time until the volume of impounded water reaches the upper limit which is by definition equal to the time of breach will be the time available for evacuation. Because such information is provided to local residents by the national government as emergency sediment disaster information, it was decided that it should be mentioned as remarks in the advance disaster management action plan.

It is necessary to support by the national government in the event of river channel blocking.

Table.1 Evacuation points

○ Evacuation at home (evacuation to the second floor or other location opposite to or far from a dangerous slope)
○Evacuation to a (nearby) area outside the sediment disaster warning zone
○Evacuation to a shelter (including open sites)
○ Evacuation to a designated shelter if time allows
○ Desirable shelters or evacuation sites are where you can obtain or send information and where water and food is available.

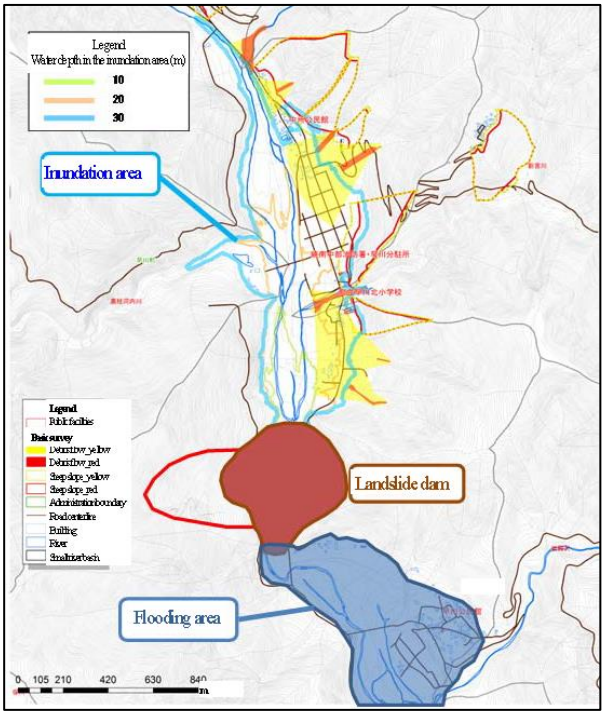

Fig. 2 Example of hazard map
(impact of water impounding by a landslide dam)

CONCLUSIONS

This report points out how important it is for the administration to provide information or guidance to local residents and the necessity of technical support by the national government as part of the measures for improvement of local disaster management capabilities in the event of river channel blocking.

At the workshops, the following points were discussed among the participants and improved the hazard maps and action plans.

- Addition, correction of actions to be taken by each neighborhood association or relevant information
- Timing of actions to be taken
- Specific roles to share among residents

Keywords: Large-scale Sediment Disaster, Hazard Map, Workshop, Local Disaster Management Capability, Advance Disaster Management Action Plans