

GREAT FLOOD ON KII PENINSULA CHARACTERISTICS OF LARGE-SCALE LANDSLIDE DISASTERS IN TENKAWA VILLAGE IN NARA PREFECTURE, APPROACH TO DISASTER RISK REDUCTION(DRR) AND DISASTER RISK MANAGEMENT(DRM)

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INTRODUCTION

The Great Floods on Kii Peninsula, brought by Typhoon Talas in 2011, caused great damage from deep-seated landslides throughout the southern Nara Prefecture, including Tenkawa Village. Tenkawa Village has been trying to recover from the disaster and has been reconstructing its communities with peaceful coexistence with nature in mind through the lessons learned from this disaster. This report discusses the characteristics of this large-scale sediment-related disaster and the measures taken for future disaster risk reduction (DRR) and disaster risk management (DRM).

DEVELOPMENT OF LARGE-SCALE SEDIMENT DISASTER

In Tenkawa Village, rain began on August 31 followed by strong wind and rain on September 3 while a typhoon was approaching.

Tsubonouchi, where most damage occurred, suffered a great deal from the disaster due to flooding and ponding caused by three deep-seated landslides which were blocking the river course (Fig. 1).

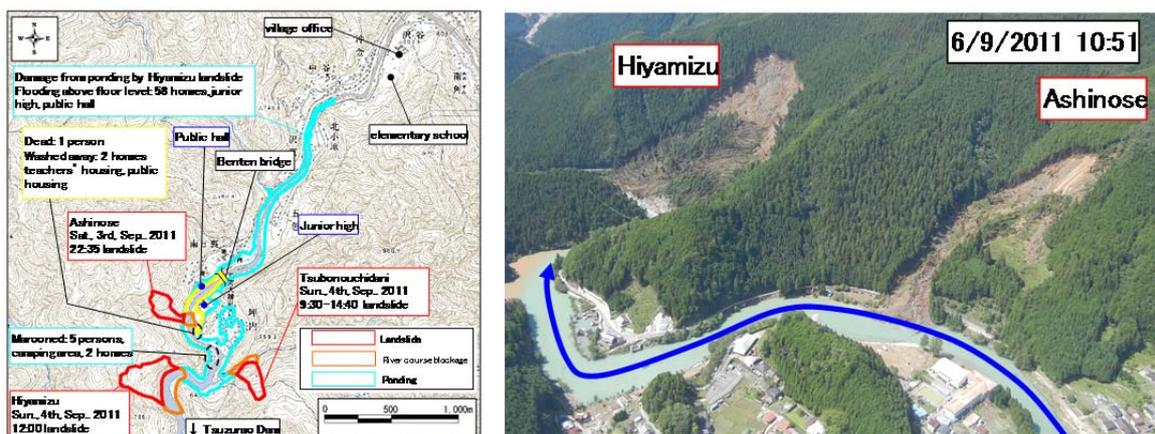


Fig. 1 Damage in Tsubonouchi District

LESSONS LEARNED FROM THE GREAT FLOODS ON KII PENINSULA

The 2011 Great Floods on Kii Peninsula demonstrated the difficulty of conducting effective warnings and evacuations in conditions of continuous heavy rain, and multiple small-scale landslides, which caused road cut-offs, disrupted communications and intermittent power

failure in many places in the village. The following are the lessons learned from the Great Floods on Kii Peninsula:

- Each community must identify its own local standards for beginning and ending an evacuation at the time of a large-scale landslide.
- A system resistant to power failures must be developed for communication and information gathering.
- A community-based DRM system, where residents take independent action for safety, even in isolation, must be developed.

APPROACH TO DISASTER RISK REDUCTION (DRR) AND DISASTER RISK MANAGEMENT (DRM)

In the wake of the Great Floods on Kii Peninsula, disaster prevention awareness of residents has improved significantly. Self-disaster prevention activities have been performed, including self-establishment of emergency supply stock, emergency drills and communication systems. Administrative bodies have been taking initiatives by supporting such activities for their sustainability in every single aspect.

1. Setting of evacuation standards by community

Because rain falls differently in different parts of the village, discussion with residents has been conducted in order to establish evacuation standards by community.

Field surveys will be conducted prior to the discussion with residents, and locally focused DRM maps will be created based on the information obtained from the local residents in a wide range of areas, and then evacuation standards will be established with a focus on feasibility based on those maps.

- Field survey and locally focused DRM map-making
- Setting of evacuation warning standards

2. Emergency supplies

Emergency storage facilities were installed in the different areas of the village to stock up on water, food and equipment, etc. for possible isolation, providing minimum living and information collection methods.

3. Communication system

The following initiatives have been implemented in order to strengthen the communication system:

- Individual emergency wireless receiver
- Ensuring multiple means of communication
- Continuous use of existing radio communications equipment for disaster prevention and administration (analog 60Mhz)

4. Disaster prevention education and emergency drills

CONCLUSIONS

For disasters that occur rarely, but have extensive damage potential, such as deep-seated landslides, the key is to strengthen the ability of local communities to protect themselves..

Keywords: large-scale sediment disasters, evacuation criteria, disaster management drill