

Sabo Works in Wakayama Prefecture -Evolution Through Learning a Lesson from Typhoon TALAS in 2011-

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INTRODUCTION

Recently, severe sediment disasters occur every year in Japan due to increase of intensive heavy rainfall that may be caused by global-scale climate change. The Wakayama prefecture is also damaged by sediment disasters due to the geological and climatic condition.

The Wakayama prefectural government has been implementing various non-structural measures and awareness-raising activities for residents in order to achieve zero death toll by sediment disasters. However, many human losses were caused by typhoon TALAS in 2011.

This study introduces new programs that the prefectural government has been implementing after typhoon in 2011.

THE DISASTER CAUSED BY TYPHOON TALAS IN 2011

The typhoon TALAS has recorded a remarkable amount of rainfall. Widespread of continuous rainfall of more than 1000mm through the period from 29th of August to 4th of September was observed. This typhoon caused flood and stimulated the occurrence of landslides and debris flows in the southern part of the Wakayama prefecture. The damage of the disasters brought total of 61 casualties as well as 40 villages isolated by cutoff the road. The world heritages were also damaged by the disasters.

In Particular, the potential damage by sediment disasters was under apprehensiveness in the catchment area where a landslide dam was formed by a large-scale deep-seated landslide and implementing emergency Sabo works was required.

The local governments learned the importance of warning and evacuation against sediment disaster and recognized the necessity of usual awareness-raising activities from this disaster.

SABO WORKS DIRECTLY CONTROLLED BY THE CENTRAL GOVERNMENT

High developed technology was required in order to implement Sabo works in the Iya area, the Mikoshi area, and the Nachi-River basin among areas where the disasters had occurred. The Wakayama prefectural government requested emergency Sabo works directly controlled by the central government to the Ministry of Land Infrastructure, Transportation and Tourism (MLIT). And then, the Kii Mountain Area Sabo Office was established in 2012 and the Sediment Disaster Prevention Technology Center (SDPTC) was also established in 2014.

As the result of the emergency Sabo works controlled by the central government, a safety level of the affected areas has been increased. However, further Sabo works are necessary because sediment discharge is continuously keeping from devastated catchment areas.

The Sabo dam and channel works are shown in **Fig.1**.

WAKAYAMA SABO RESEARCH AND EDUCATION INSTITUTE (IWSRE)

The Wakayama prefectural government established the IWSRE in the Nachikatsu-ura town to mitigate disaster impact. The duties of the IWSRE are to do research on the Sabo technology, to share information on results of the research and to hand down disaster remembrance to posterity.

The institute is shown in **Fig.2**.

In the IWSRE, the SDPTC implements research and development about advanced Sabo technology in cooperation with the Sediment Disaster Prevention Research Organization that was organized by central and local governments, universities, and institutes in 2014.

The organization chart is shown in **Fig.3**.

The staffs of the IWSRE carry out awareness-raising activities about sediment disaster prevention, implementing various trainings to self-disaster prevention organization, fire fighters, etc. and accepting a Japan International Cooperation Agency (JICA) study tour.

In particular, when the JICA study tour visited the IWSRE, the staffs introduced Sabo works in Wakayama prefecture and exchanged their information on disaster prevention technology through a discussion.

A scene of the study tour is shown in **Fig.4**.

Moreover they explained students of primary school and senior high school a characteristic of debris flow and a function of Sabo-dam using a model experiment channel in the IWSRE as a school class.

Their awareness-raising activities are shown on HP.
<http://www.pref.wakayama.lg.jp/prefg/080604/top.html>

CONCLUSION

Establishment of the IWSRE and start of the Sabo works directly controlled by the central government are epoch making for the Sabo history of the Wakayama prefectural government.

The prefectural government makes an effort in order to mitigate disaster impact in cooperation with related organizations.



Fig.1 Sabo works



Fig.2 IWSRE

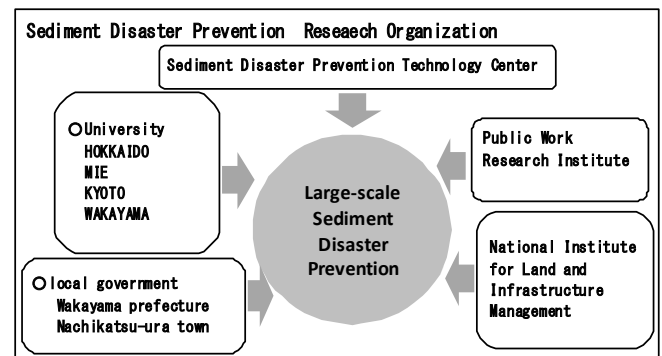


Fig.3 organization chart



Fig.4 JICA study tour

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