

Sediment-related disaster

<Downpour by seasonal rain front>

Land Conservation Div., Sabo Dept.,
Ministry of Land Infrastructure and
Transport
2 Aug., 2006

Number of deaths by
22 Jun. – 2 Aug., 2006

⑤ Kyoto pref.



⑤ 2 dead at Kyotango City on 19 Jul.



④ Fukui pref.

④ 2 dead at Fukui City on 19 Jul.

② Nagano pref.



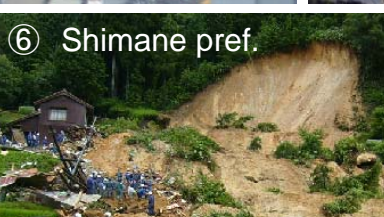
② 1 dead at Kawagishi-higashi, Okayama City on 19 Jul.



①

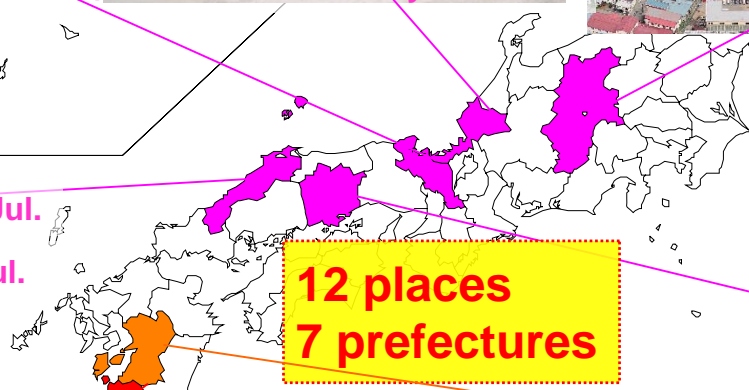
① 7 dead at Minato, Okayama City on 19 Jul.

⑥ Shimane pref.



⑥ 1 dead at Misato town on 19 Jul.

⑫ 1 dead at Unnan City on 17 Jul.



12 places
7 prefectures

Total number of sediment-related
disasters: 964

⑦ Okayama pref.



⑦ 1 dead at Niimi City on 19 Jul.

⑧ Kagoshima pref.



⑧ 1 dead at Shimode-nakama, Hishikari town on 22 Jul.

⑨ 1 dead at Satsumasendai City on 22 Jul

⑩ 1 dead at Maeme, Hishikari town on 22 Jul.



⑧



⑪ 1 dead at Yamato town on 26 Jun

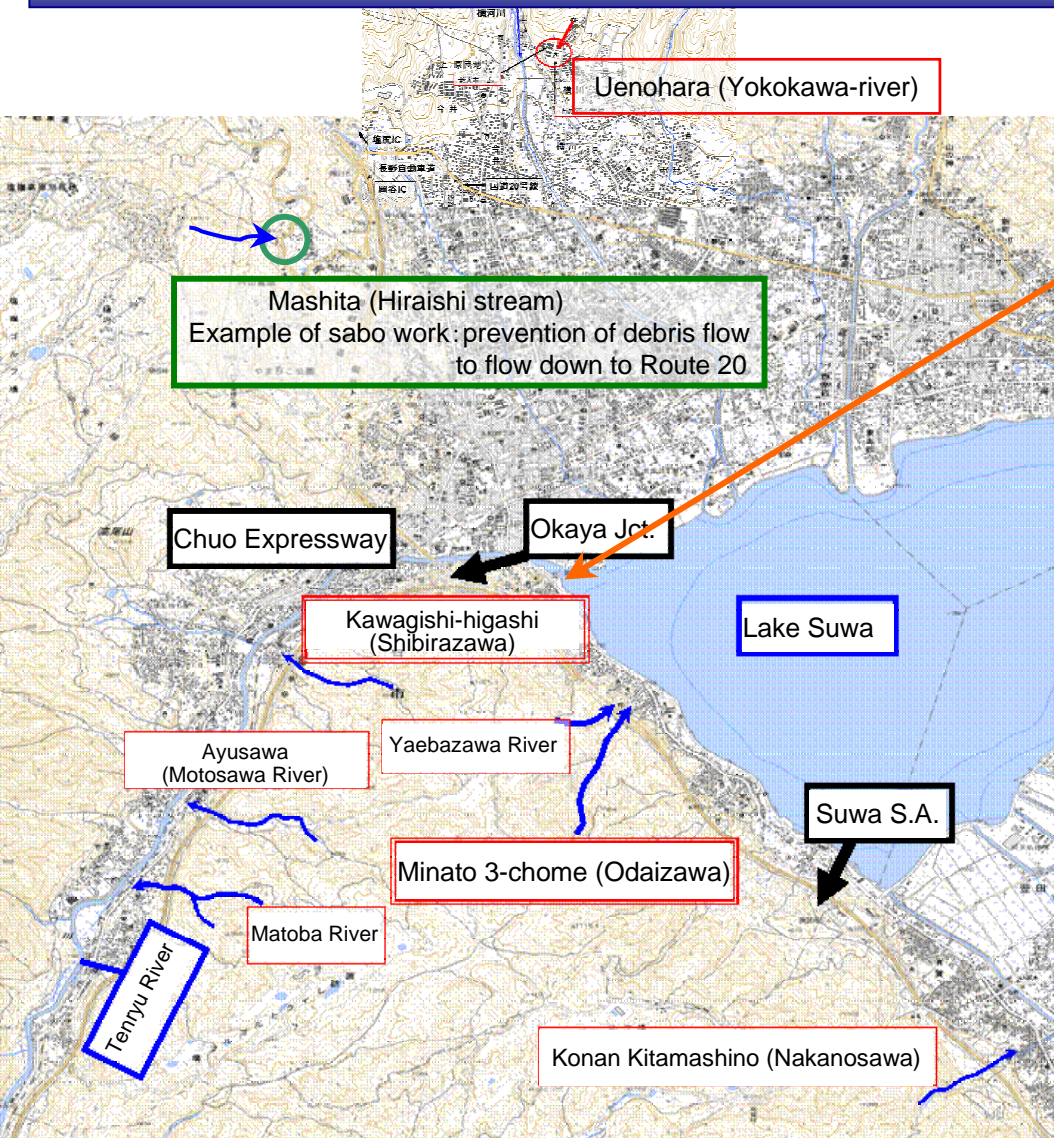
⑪

21 of them were killed by
Sediment-related disasters

32 dead and missing in the Down-
pour by seasonal rainfront in 2006

There were no facilities like Sabo dam

Rainfall situation before debris flow occurred (Okaya City, 17-19 Jul.)



Streams where debris flows occurred

Kamaguchi flood-gate observatory

Cumulative rainfall about 410mm

Mashita (Hiraishi stream)
Example of sabo work: prevention of debris flow to flow down to Route 20

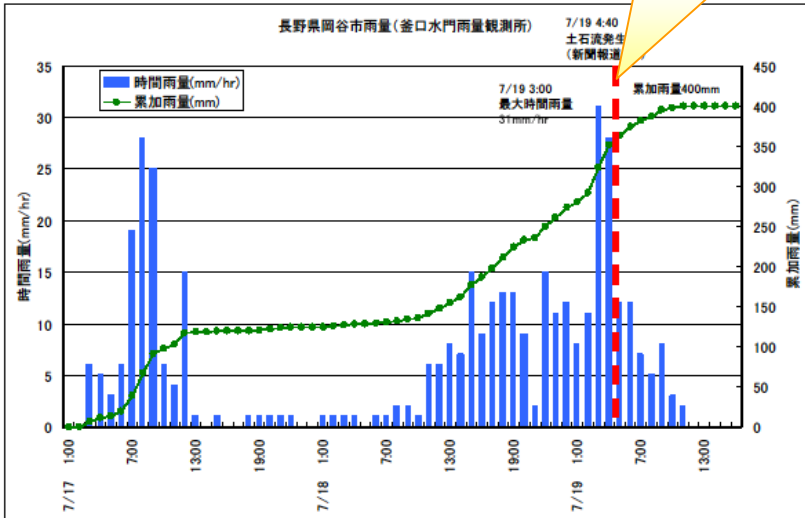


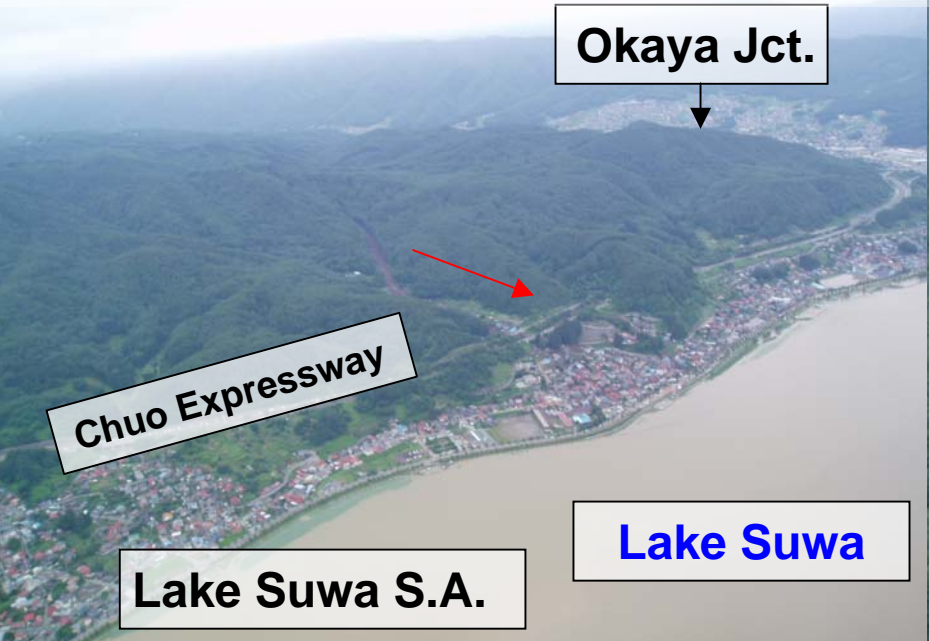
図-3 長野県岡谷市雨量 (長野県諏訪建設事務所釜口雨量観測所)
 ※ 雨量データは暫定値であり、異なることがあり得る
 ※ 土石流発生時刻は報道資料に

Debris flow occurred 4:40-5:00, 19 Jul.

Rainfall for about **three months** has been recorded in **three days** just before the debris flow occurred; it was about **410mm** (**2.8** times as much as average rainfall of July in this area)

7 dead (debris flow):
Minato 3 chome, Okaya City, Nagano Pref.

There were no facilities like Sabo dam



The situation of source point of debris flow at Minato 3-chome (Odaizawa stream)



Gully erosion by Subsequent flow



Collapse in upstream



Damage by driftwood



Gully erosion by Subsequent flow

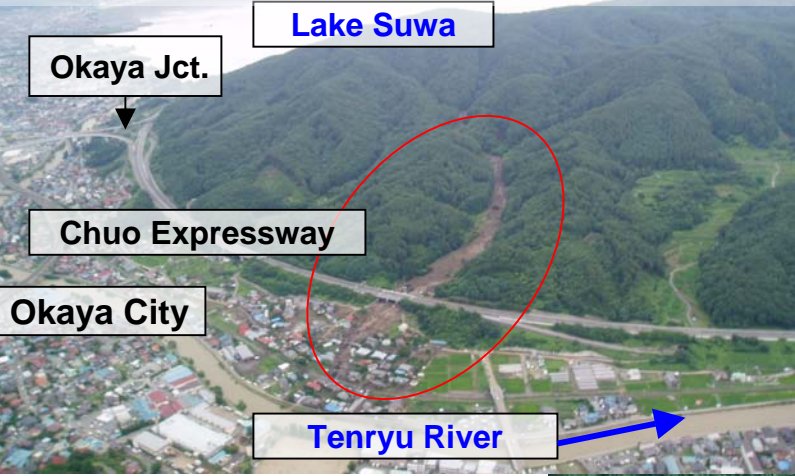
Odaizawa stream



Source point of debris flow

1 dead (debris flow):
Kawagishi-higashi, Okaya City, Nagano Pref.

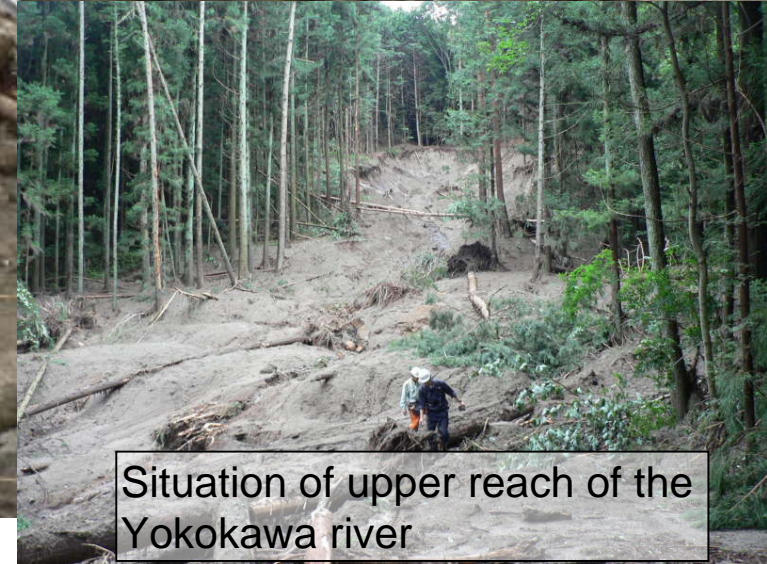
There were no facilities like Sabo dam



No human damage:

- Issue an evacuation instruction at 7:45, 19 Jul.
→161 people evacuated
- Lift the evacuation instruction on 20 Jul.

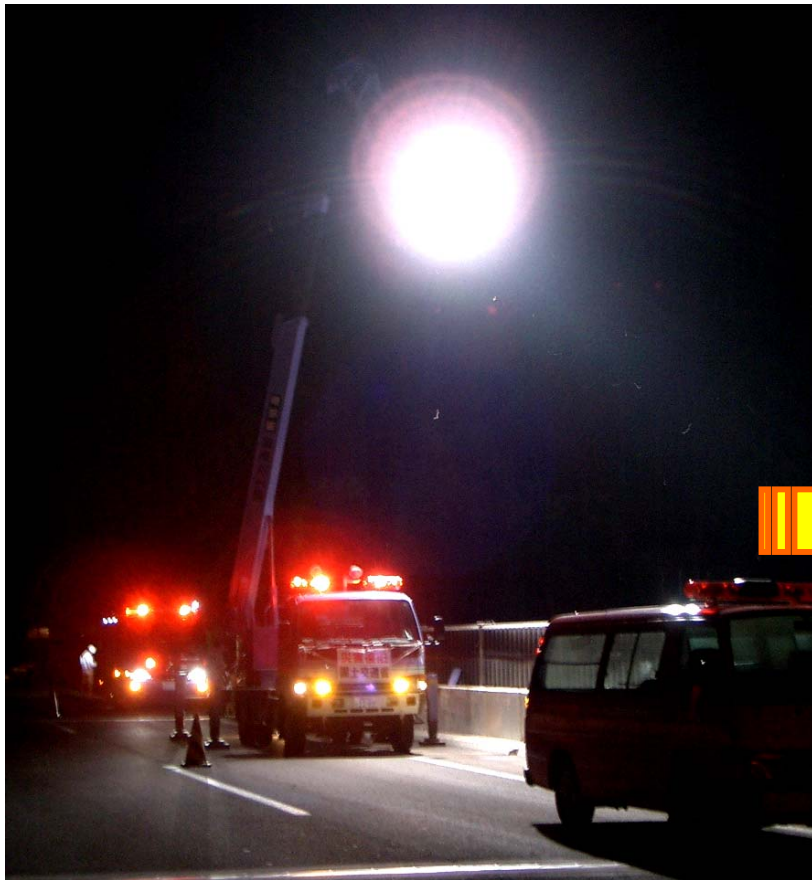
Kaminohara, Okaya City, Nagano Pref.



Situation of upper reach of the Yokokawa river

Assistance of Ministry of Land, Infrastructure and Transport for Okaya City, Nagano Pref. damaged by sediment-related disaster

After the request from Okaya City (Nagano Pref.), Kanto Regional Development Bureau supported with lighting car and other equipment needed.



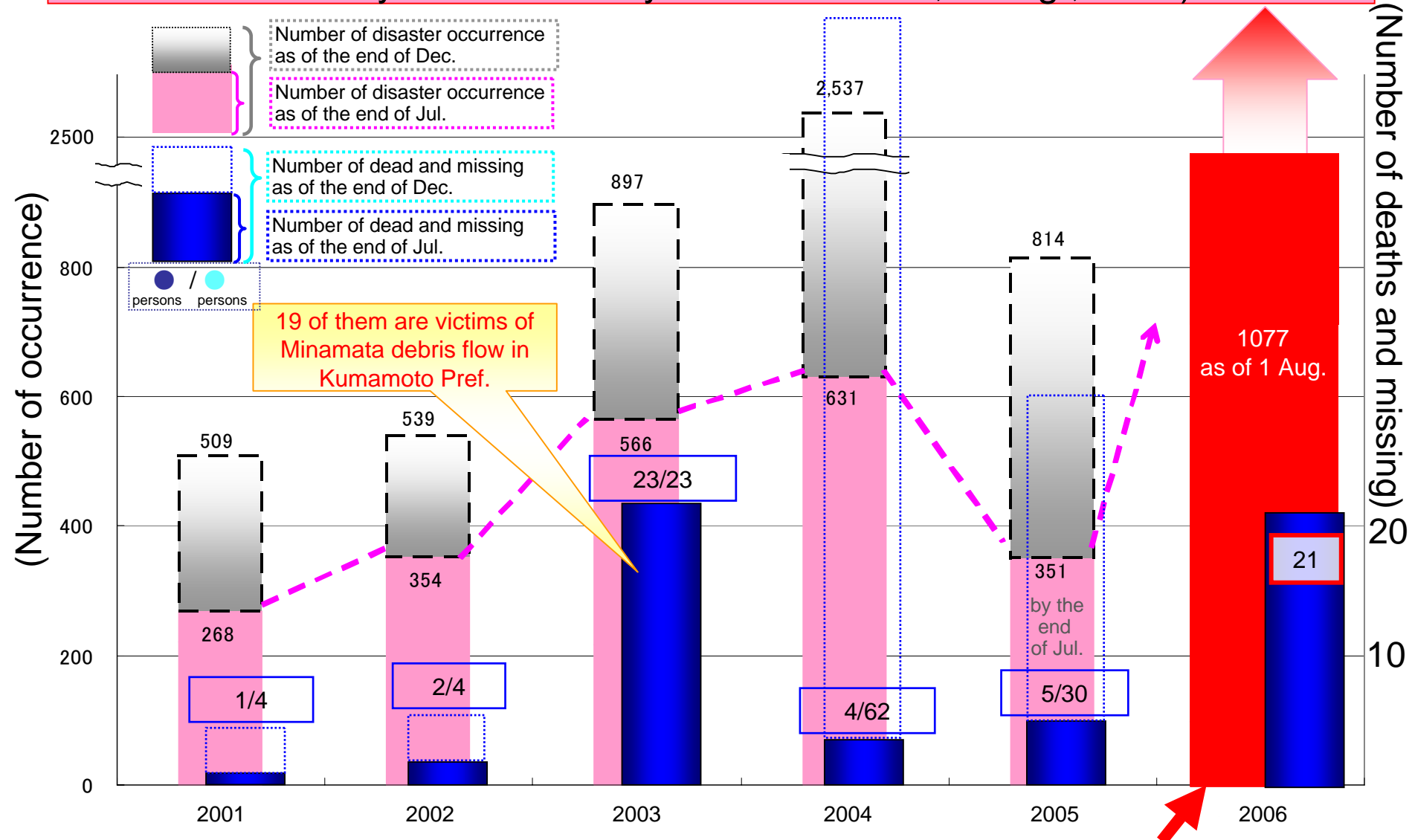
Support with a lighting car (19, Jul.)



-7-

Emergency work is being continued by the assistance of a lighting car

The situation of sediment-related disaster occurrence as of July in recent five years (as of 9:00, 1 Aug., 2006)



Disasters are occurring at a fastest pace in the recent five years, this year.
The number of death and missing is the second largest following 2003.

Example of effects of Sabo facilities

Taguchi Sabo Dam at Kawabegawa River; in the Kumagawa River System (Toji, Itsuki-mura, Kuma-gun, Kumamoto Pref.)

Sabo dam trapped debris flow occurred on 24 Jul., 2006 (by Downpour by seasonal rain front)



Collapse situation of upper stream



Taguchi Sabo Dam (completed in 2002)



92 houses, 16 public facilities (Health & Welfare Center, elementary school, clinic, village offices, police substation, the Chamber of Commerce and Industry, Agricultural cooperative etc.)



Before trapping the debris flow (photo: 2003)



After trapping the debris flow (photo: 24 Jul., 2006)

- Trapped about 6,000m³ of debris flow and drift woods
- No damage to houses etc. downstream