Objectives of research

Numerous temporary protection fences are used at the time of a disaster or during construction on roadside slopes. Cases have been reported in which temporary protection fences were damaged due to unexpected rock falls and slope failures because no external forces were considered such as rock falls along the slope and sediment failures. It is therefore necessary to develop techniques for detecting deformations on slopes and ensuring the security of road users.

Details of research

1. Development of precursor detection sensors
   - Collection and analysis of case studies of precursory phenomena from case studies of failures
   - Performance design requirements for displacement detection sensors
   - Development of displacement detection sensors (acceleration sensors, shaking devices, etc.)

2. Operational testing of detection sensors
   - Laboratory tests
   - Selection of in-situ testing site and operational tests

3. Development of collapse detection system
   - Examination of threshold for road management
   - Examination of detection system

4. Preparation of systems operational manual

Goals to achieve

- Preparation of guidance for installing temporary protection fences
- Proposal of road management methods against sediment disasters not applicable of temporary fences