(4) Government Buildings Planning Division, Government Buildings Department, Minister's Secretariat, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311(ext 2462); Fax 03-5251-1926.

(5) Urban Disaster Prevention Section, Urban Policy Division, City Bureau, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-5251-1853; Fax 03-5251-1939.

(6) Earthquake Disaster Measure Guidance Division, Fire-Defense Agency, Ministry of Home Affairs

2-1-2, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3581-5828; Fax 03-3593-1757.

(7) Building Disaster Prevention Section, Housing Bureau, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311(ext 3965); Fax 03-3580-7050.

(8) Safety Division, Environmental Protection and Industrial Location Bureau, Ministry of International Trade and Industry

1-3-1, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3501-1511(ext 3081); Fax 03-3501-6544.

c) **Short-term protective measures and preparedness (preparedness against volcanic disasters)**

Title of Project:

(1) Arrangement of mooring facilities required for emergency evacuation.

(2) Straightening fire-fighting power against disasters due to volcanic eruption.

Status:

(1) We Are arranging anchoring and mooring facilities required for emergency evacuation of residents in island based on evacuation facilities emergency arrangement plan in accordance with Active Volcano Disaster Countermeasures Special Measures.

(2) We are promoting the arrangement of heat-resistant armor type motor vehicles for rescue activities and special motor vehicles against disasters from volcanic eruption.

Participating institutions in the country and/or on international level:

(1) Ministry of Transport.

(2) Fire-Defense Agency, Ministry of Home Affairs.

Cost of Project:

(1) 3,370 million yen for FY1993.

(2) 105 million yen for FY1993.

Sources of Funding:

(1) Central Government: 6/10; Tokyo Metropolitan Government: 4/10, or Central Government: 4/10; Nagasaki Pref.: 6/10.

(2) Central Government: 1/3; local governments: 2/3, or Central Government: 1/2; local governments: 1/2.

Implementing agencies:

(1) Respective port managers.

(2) Local governments.

Address (telephone and fax-number) of the agency in charge:

(1) Ports and Habours Bureau, Ministry of Transport
2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100
Tel 03-3580-3111(ext 7453); Fax 03-5511-8280.

(2) Disaster Prevention Division, Fire-Defense Agency, Ministry of Home Affairs
2-1-2, Kasumigaseki, Chiyoda-ku, Tokyo 100
Tel 03-3581-3902; Fax 03-3593-1757.

c) Short-term protective measures and preparedness (researches on natural disaster prevention measures)

Title of Project:

(1) Promotion of researches on fire-fighting and disaster prevention measures.

Status:

(1) Following studies are being carried out:

- o Study for eliminating hearing disturbance due to voice competition among outdoor disaster prevention speakers.
- o Survey on the activities of disaster prevention organs in enterprises during large-scale disaster.
- o Survey on cooperation between private organizations during large-scale disasters.

Participating institutions in the country and/or on international level:

(1) —— .

Cost of Project:

(1) 21 million yen for FY1992.

Sources of Funding:

(1) Central Government: 100%.

Implementing agencies:

(1) Fire-Defense Agency, Ministry of Home Affairs

Address (telephone and fax-number) of the agency in charge:

(1) Fire-Defense Agency, Ministry of Home Affairs
2-1-2, Kasumigaseki, Chiyoda-ku, Tokyo 100
Tel 03-3581-5311; Fax 03-3593-1757.

c) **Short-term protective measures and preparedness (researches on wind and flood disaster prevention measures)**

Title of Project:

(1) Promotion of researches on wind and flood damages in Hokkaido (study on the prevention and elimination of river disasters).

(2) Researches on wind and flood damage countermeasures (test and survey on landslide suppressing walls [completed], test and survey on the layout method for landslide suppressing piles, survey on the design method for anchor works in ponded landslide area, study on the strength changing characteristics of sliding surface, study on the countermeasure method against the collapse of steep slopes by considering the trees, study on the revegitation method related to erossion control works, and test and survey on the rationalized design of rock fall preventative works.)

Status:

(1) Review of rainfall runoff model considering rainfall distribution, review of flow analysis model, flood control design method and land utilization planning have been studied.

(2) 1) Test and survey on landslide suppressing walls.

In order to suppressing the occurrence of landslide due to earth cutting for road construction, economical and effective design approaches for landslide suppressing walls were proposed as effective countermeasure work.

2) Test and survey on the layout method for landslide suppressing piles

Soil mass flow between piles and failure and others are all being reviewed together with driving position of piles.

3) Survey on the design method for anchor works in ponded landslide area.

Among the anchor design methods, initial tensioning force, anchor drive position, driving angle, setting of the number of steps and adhering strength of anchoring portions are being summarized.

4) Study on the strength changing characteristics of sliding surface.

By paying attention to the structure of sliding surface, we are reviewing the change in clay structure and soil strength changing characteristics due to displacement in order to establish methods for determining the strength of sliding surface from the structure between landslide moving histeresis and the structure of sliding surface.

5) Study on the countermeasure method against the collapse of steep slopes by considering the trees.

We established evaluation method of resisting force of trees against slope failure and are reviewing planning and design method for preventing collapses of steep slopes by utilizing trees. Up to now, we surveyed the distribution of root system of trees in slope soil layer and reviewed the

simulation models of the distribution of treeroots.

6) Study on the revegitation method related to erosion control works.

From the results of survey on the vegetation in testing area, we investigated the relation between the site condition and succession and composition of vegetation in order to review the vegetation method suited to the site condition in the erosion control works area.

7) Test and survey on the rationalized design of rock fall preventative works.

We verified that the applicability of thermal infrared scanning method and ground-probing radar method to the survey of crack distribution in rock slope.

Participating institutions in the country and/or on international level:

(1) —— .

(2) 1)-5), 7) —— .

6) Kanto Regional Construction Bureau and Chugoku Regional Construction Bureau, Ministry of Construction.

Cost of Project:

(1) 8 million yen for FY1993; 49 million yen for FY1989-FY1993.

(2) 1) 4 million yen for FY1992.

2) 4 million yen for FY1993.

3) 5 million yen for FY1993.

4) 4 million yen for FY1993.

5) 5 million yen for FY1993.

6) 5 million yen for FY1993.

7) 7 million yen for FY1993.

Sources of Funding:

(1)-(2) Central Government: 100%.

Implementing agencies:

(1) Public work Development Institute, Hokkaido Development Bureau, Hokkaido Development Agency.

(2) Public Works Research Institute, Ministry of Construction.

Address (telephone and fax-number) of the agency in charge:

(1) Public Works Development Institute, Hokkaido Development Bureau, Hokkaido Development Agency

1-jo 3-chome, Hiragishi, Toyohira-ku, Sapporo-shi, Hokkaido 062

Tel 011-841-1111; Fax 011-824-1226.

(2) 1)-4)

Landslide Division, Public Works Research Institute, Ministry of Construction

1, Asahi, Tsukuba-shi, Ibaraki 305

Tel 0298-64-2211; Fax 0298-64-2840.

5)-7)
Slope Failure Division, Public Works Research Institute, Ministry of Construction
1, Asahi, Tsukuba-shi, Ibaraki 305
Tel 0298-64-2211; Fax 0298-64-0903.

c) **Short-term protective measures and preparedness (researches on earthquake disaster prevention measures)**

Title of Project:

(1) Promotion of the researches on earthquake resistance design method and construction work for bridges.

(2) Promotion of researches on earthquake disaster measures (arrangement of large-scale earthquake resistance experiment facilities).

(3) Promotion of the researches on design method for large-scale earthquakes directly below metropolitan areas for facilities in coastal areas.

(4) Promotion of researches on earthquake disaster measures (development of earthquake disaster prevention technology in large urban district, basic research on earthquake disaster countermeasures, and survey on the selecting method for slope failure control works against earthquake).

Status:

(1) Arrangement of previous earthquake records, trial calculations of behavior during earthquake, evaluation of the applicability of various Menshin structures and analysis of the factors of structural damping by model vibration test were conducted.

(2) In order to efficiently operate the earthquake resistance experiment, necessary inspection and arrangement were performed and many efforts were made for maintenance.

(3) Large-scale earthquakes directly below metropolitan areas cause extremely big vertical ground motion. The stability of structures with huge vertical ground motion in earthquakes was examined by model vibration test.

(4) 1)Development of earthquake disaster prevention technology in large urban district.

We are developing earthquake resistance evaluation techniques, earthquake resistance design techniques, earthquake resistance countermeasure techniques for soft ground, road structures on soft ground and new types of structures in large urban district.

2) Basic research on earthquake disaster countermeasures.

For reducing damages by earthquake and create the strong national land against earthquake, we are carrying out basic survey and research on the development of earthquake disaster prevention technology and the achievements are reflected upon various technical standards.

3) Survey on the selecting method for slope failure control works against earthquake.

We surveyed the cases of slope failure and by earthquake and the cases of damages to slope failure prevention facilities due to earthquake and we also reviewed the relation between the form of collapse and classified ground

structure.

Participating institutions in the country and/or on international level:

(1)-(4) —— .

Cost of Project:

(1) 9 million yen for FY1993; 43 million yen for FY1989-FY1993.

(2) 66 million yen for FY1993.

(3) 8 million yen for FY1993.

(4) 1) 85 million yen for FY1993; 143 million yen for FY1992-FY1993.

2) 274 million yen for FY1993; 1,046 million yen for FY1991-FY1993.

3) 5 million yen for FY1993.

Sources of Funding:

(1)-(4) Central Government: 100%.

Implementing agencies:

(1) Public Works Development Research Institute, Hokkaido Development Bureau, Hokkaido Development Agency.

(2) National Research Institute for Earth Science and Disaster Prevention, Science and Technology Agency

(3) Port and Harbour Research Institute, Ministry of Transport.

(4) 1) Public Works Research Institute and Building Research Institute, Ministry of Construction.

2)-3) Public Works Research Institute, Ministry of Construction.

Address (telephone and fax-number) of the agency in charge:

(1) Public Works Development Research Institute, Hokkaido Development Bureau, Hokkaido Development Agency

1-jo 3-chome, Hiragishi, Toyohira-ku, Sapporo-shi, Hokkaido 062

Tel 011-841-1111; Fax 011-824-1226.

(2) National Research Institute for Disaster Prevention, Science and Technology Agency

3-1 Tenoudai, Tsukuba-shi, Ibaraki 305

Tel 0298-51-1611; Fax 0298-51-1622.

(3) Port and Harbour Research Institute, Ministry of Transport

3-1-1, Nagase, Yokosuka-shi, Kanagawa 239

Tel: 0468-44-5030; Fax 0468-44-0839.

(4) 1) Engineering Affairs Management Section Minister's Secretariat, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311; Fax 03-5251-1925.

2) Public Works Research Institute, Ministry of Construction

1, Asahi, Tsukuba-shi, Ibaraki 305

Tel 0298-64-2211; Fax 0298-64-2840.

3) Slope Failure Division, Public Works Research Institute, Ministry of Construction
1, Asahi, Tsukuba-shi, Ibaraki 305
Tel 0298-64-2211; Fax 02980-64-0903.

c) Short-term protective measures and preparedness (researches on volcanic disaster prevention measures)

Title of Project:

(1) Promotion of countermeasures against active volcanos (researches on volcanic disaster countermeasures).

Status:

(1) o Researches on the way of regional assistance to fire-fighting during volcanic eruption disaster.

o Researches on volcanic disaster measures are being carried out.

Participating institutions in the country and/or on international level:

(1) —— .

Cost of Project:

(1) 12 million yen for FY1992.

Sources of Funding:

(1) Central Government: 100%.

Implementing agencies:

(1) Fire-Defense Agency, Ministry of Home Affairs.

Address (telephone and fax-number) of the agency in charge:

(1) Fire-Defense Agency, Ministry of Home Affairs.

2-1-2, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3581-3902; Fax 03-3593-1757.

c) Short-term protective measures and preparedness (researches on snow disaster prevention measures)

Title of Project:

(1) Promotion of researches on port and coast disaster prevention in Hokkaido.

(2) Promotion of research on disaster prevention and reduction by snow storm and snow ice.

(3) Researches on snow damage measures (comprehensive researches on snow damages prevention technology in community).

(4) Researches on the control and prevention of the occurrence of dry snow surface layer avalanche (completed).

(5) Others (survey on design and planning methods of snow avalanche protection facilities).

Status:

(1) With respect to the removal effect of ice floes of the airbubble method, we reviewed the change of removal effect owing to the presence of wharf and delay effects of ice freezing and also drift force of ice floes and deformation of waves of during the attack of drift ice. We also surveyed the place of work for artificial reef and made a comparison between the mathematical simulated model of experiment for hydraulic model and field observation.

(2) Method of finding the degree of danger of road disaster was applied to actual road management and we are studying the road disaster prevention system. In addition, we started a study on the simulation of poor visibility.

(3) We are carrying out some studies on the regional distribution characteristics of snow cover and its fluctuation, on the motion of avalanche and disaster prevention method from avalanche and social application methods for snow measure techniques.

(4) With respect to dry snow surface layer avalanche, we quantitatively established the method of generating artificial snow avalanche based on weather and the results of outdoor snow cover observation, and we also judged the effects of a full-scale model of energy-absorbing works or avalanche protection works.

(5) We clarified the effect of protection facilities on flat topography and behavior of avalanche during collision.

Participating institutions in the country and/or on international level:

(1)-(5) —— .

Cost of Project:

(1) 5 million yen for FY1993; 23 million yen for FY1989-FY1993.

(2) 6 million yen for FY1993; 43 million yen for FY1989-FY1993.

(3) 34 million yen for FY1993.

(4) 4 million yen for FY1991 (total cost).

(5) 6 million yen for FY1993.

Sources of Funding:

(1)-(5) Central Government: 100%.

Implementing agencies:

(1)-(2) Public Works Development Research Institute, Hokkaido Development Bureau, Hokkaido Development Agency.

(3)-(4) National Research Institute for Earth Science and Disaster Prevention, Science and Technology Agency.

(5) Public Works Research Institute, Ministry of Construction.

Address (telephone and fax-number) of the agency in charge:

(1)-(2) Public Works Development Research Institute, Hokkaido Development Bureau, Hokkaido Development Agency

1-jo 3-chome, Hiragishi, Toyohira-ku, Sapporo-shi, Hokkaido 062

Tel 011-841-1111; Fax 011-824-1226.

(3)-(4) National Research Institute for Earth Science and Disaster Prevention, Science and Technology Agency

3-1 Tenoudai, Tsukuba-shi, Ibaraki 305

Tel 0298-51-1611; Fax 0298-51-1622.

(5) Slope Failure Division, Public Works Research Institute, Ministry of Construction

1, Asahi, Tsukuba-shi, Ibaragi 305

Tel 0298-64-2211; Fax 0298-64-0903.

Niigata Experimental Laboratory,Public Works Research Institute,Ministry of Construction

2-6-8, Nishiki-cho, Arai-shi, Niigata 944

Tel 0255-72-4131; Fax 0255-72-9629.

c) **Short-term protective measures and preparedness (follow-up of disasters)**

Title of Project:

(1) Clarification of wind damage occurrence mechanism by the validation of damages by Typhoon No. 19 (completed).

(2) Execution damage survey due to the Typhoon No.19 (completed).

(3) Promotion of emergency research on the Hokkaido Nanseioki Earthquake in 1993.

(4) Emergency studies on various phenomena accompanied with magma activities in Unsendake Volcano (completed).

(5) Execution of damage survey due to hurricane Andrew (completed).

Status:

(1) Storm by the Typhoon No. 19 was analyzed plane-wise and in time series, and the real situation of storm occurrence due to topographic effect and the features of typhoon structure were clarified.

(2) A fact-finding survey was conducted for damages to houses, and the behavior of residents in Nagasaki, Kumamoto, Fukuoka and Saga Prefectures; based on the results, we prepared "Wind resistance design, construction and inspection guides for houses" to be used by engineers and also a pamphlet "Precautions during storm" for house occupants in March 1993.

(3) We are clarifying the generating mechanism of tsunami and also analyzing tsunami waveforms based on tidal records, response characteristics of tide gauge and tsunami height through the comparison.

(4) Seismological method was applied to observed data of pyroclastic flow and studied the generating and flowing mechanisms of pyroclastic flow.

(5) We surveyed the damages by hurricane Andrew in Washington D.C., Miami, Florida and Lubbock, Texas and checked building standards and confirmation system.

Participating institutions in the country and/or on international level:

(1) ——.

(2) Fukuoka, Nagasaki, Saga and Kumamoto Prefectures.

(3)-(4) ——.

(5) Two by Four Association, Fire & Marine Insurance Rating Association of Japan.

Cost of project:

(1) 41 million yen for FY1991 (total cost).

(2) 18 million yen for FY1992 (total cost).

(3) 69 million yen for FY1993 (total cost).

(4) 60 million yen for FY1991 (total cost).

(5) 3 million yen for FY1992 (total cost).

Sources of Funding:

(1) Central Government: 100%.

(2) Each prefecture and Building Center of Japan: 3.5 million yen, Central

Government: 0.5 million yen.

(3)-(4) Central Government: 100%.

(5) Building Center of Japan: 5/9; Two by Four Association: 2/9; Fire & Marine Insurance Rating Association of Japan: 2/9.

Implementing agencies:

(1) Meteorological Research Institute, Meteorological Agency, Ministry of Transport; National Institute of Aglo-Environmental Sciences, Fruit Tree Research Stations, National Research Institute of Agricultural Engineering, Forest and Forest Products Research Institute of Forestry Agency, Ministry of Agriculture, Forestry and Fisheries.

(2) Building Center of Japan, Building Research Institute, Ministry of Construction.

(3) Meteorological Research Institute, Meteorological Agency, Science and Technology Agency, National Research Institute for Earth Science and Disaster Prevention, Science and Technology Agency; Geological Survey of Japan, Ministry of International Trade and Industry; Geographical Survey Institute, Ministry of Construction.

(4) Research and Development Bureau, Science and Technology Agency; National Research Institute for Earth Science and Disaster Prevention, Science and Technology Agency; Geological Survey of Japan, Ministry of Trade and Industry; Meteorological Research Institute, Meteorological Agency, Ministry of Transport; Magnetic Observatory, Meteorological Agency, same as above; Geographical Survey Institute, Ministry of Construction.

(5) Building Center of Japan; Building Research Institute, Ministry of Construction.

Address (telephone and fax-number) of the agency in charge:

(1) Meteorological Research Institute, Meteorological Agency, Ministry of Transport

1-1, Nagamine, Tsukuba-shi, Ibaraki 305

Tel 0298-53-8535; Fax 0298-53-8545.

(2) Aero-Dynamics Division, Structural Engineering Department, Building Research Institute, Ministry of Construction

1, Tatehara, Tsukuba-shi, Ibaraki 305

Tel 0298-64-2151; Fax 0298-64-2989.

(3) Research and Development Bureau, Science and Technology Agency

2-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3581-5271.

(4) Research and Development Bureau, Science and Technology Agency

2-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3581-5271.

National Research Institute for Earth Science and Disaster Prevention
3-1, Tenoudai, Tsukuba-shi, Ibaraki 305.
Tel 0298-51-1611; Fax 0298-51-1622.

(5) Aero-Dynamics Division, Structural Engineering Department, Building Research Institute, Ministry of Construction
1, Tachihara, Tsukuba-shi, Ibaraki 305
Tel 0298-64-2151; Fax 0298-64-2989.

d) Long-term preventive measures (river project)

Title of project:

(1) National river improvement project.

(2) National river maintenance and repair project.

(3) National melted snow water conductance project

(4) Small and medium river improvement project, etc.

(5) Special emergency project for severe flood disaster.

(6) Urban river improvement project, etc.

(7) Execution of comprehensive water conservation measures.

Status:

(1) With an objective to manage rivers comprehensively for preventing disasters by floods, high tides, etc., improvement works of the class 1 rivers outside the designated areas and within the specially designated areas and improvement works of the class 2 rivers in the designated areas in Hokkaido are being promoted under the 8th phase 5-year river conservation plan.

(2) River management facilities of the class 1 rivers outside the designated areas are being maintained and managed, obsolete facilities are repaired, deposited sediments are removed for securing a sufficient river section.

(3) Channels that supply melted snow water to minor rivers flowing through urban districts from rivers with affluent water are being constructed for securing the river conservation function at the same time.

(4) With an objective to manage rivers comprehensively for preventing disasters by floods, high tides, etc., river improvement works, such as levees and revetment for minor rivers, are being carried out by local governments.

(5) Emergent river improvement projects are carried out in areas where serious disasters were caused by floods, high tides, etc. in order to prevent the repetition of a disaster.

(6) With an objective to prevent urban people from disasters by floods, high tides, etc. and to realize better life environment, river improvement works in remarkably urbanizing metropolitan areas are being promoted under the 8th phase 5-year river conservation plan.

(7) At present, 17 rivers were designation as the specified comprehensive water conservation rivers across the nation; watershed river manager and watershed comprehensive water conservation measure conference are designated by the relevant prefecture and municipalities respectively, and the following measures are being taken ardently.

o Formulation of watershed arrangement plan and execution of its measures, mainly including policies and measures for the acquisition of adequate water retention and water retarding functions in river basins and river improvement projects.

o Public announcement of inundation records

Participating institutions in the country and/or on the international level:

(1)-(3) —— .

(4) Ministry of Construction.

(5) —— .

(6) Ministry of Construction.

(7) —— .

Costs of project:

(1) 369,081 million yen for FY1993.

(2) 64,720 million yen for FY1993.

(3) 2,828 million yen for FY1993.

(4) 264,163 million yen for FY1993.

(5) For directly controlled project, 18,862 million yen for FY1993.
For subsidized project, 17,367 million yen for FY1993.

(6) 243,746 million yen for FY1993.

(7) —— .

Sources of funding:

(1) Central Government: 2/3, 7/10, 3/4, 8/10, 8.5/10;
prefectures: 1/3, 3/10, 1/4, 2/10, 1.5/10.

(2) Central Government: 5.5/10, 7/10; prefectures: 4.5/10, 3/10.

(3) Central Government: 1/2; prefectures: 1/2.

(4) Central Government: 1/2 - 9/10; prefectures: 1/2 - 1/10.

(5) For directly controlled project,
Central Government: 2/3, 7/10, 8/10; prefectures: 1/3, 3/10, 2/10.
For subsidized project,
Central Government: 5.5/10, 1/2; prefectures: 4.5/10, 1/2.

(6) Central Government: 3/10 - 3/4; prefectures: 1/4 - 7/10.

(7) —— .

Implementing agencies:

(1)-(3) Ministry of Construction, etc.

(4) Prefectures

(5) For directly controlled project: Ministry of Construction.
For subsidized project: prefectures.

(6) Prefectures, etc.

(7) Ministry of Construction, relevant prefectures and relevant municipalities

Address (telephone and fax-number) of the agency in charge:

(1)-(5): Flood Control Division, River Bureau, Ministry of Construction
2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100
Tel 03-3580-4311; Fax 03-5251-1943.

(6) Urban River Section, River Bureau, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311; Fax 03-5251-1944.

(7) River Planning Division, River Bureau, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-5251-1871; Fax 03-5251-1942.

d) Long-term preventive measures (dam project)

Title of project:

(1) Multi-purpose dam construction project.

(2) National comprehensive river development project.

(3) National flow discharge control river project.

(4) National weir and embankment maintenance project.

(5) Flood control dam construction project.

(6) Weir and embankment improvement.

(7) Weir and embankment repair.

Status:

(1) Dams, weirs, lake and swamp water level control facilities, excavated reservoirs, etc. to be used not only for flood control, etc., but also for irrigation, service water, industrial water, etc. are constructed.

(Projects directly controlled and implemented by a public corporation)

94 dams have been completed, 80 dams are being constructed, and 24 dams are being planned.

(Subsidized projects)

188 dams have been completed, 114 dams are being constructed, and 52 dams are being planned.

(2) Dams that are not for specific water utilization purposes and dams that must be constructed jointly with water utilization organizations are being constructed at class 1 rivers that require flood control, etc. but are difficult to accomplish them by channel improvements are constructed. 5 dams have been completed, 4 dams are being constructed, and 6 dams are being planned.

(3) River works for improving flow discharge conditions and connecting 2 or more rivers are carried out for preventing or decreasing damages by flowing water etc., and for supplying service water and industrial water to users. The works have been completed at 1 river and underway at 4 rivers.

(4) The following works are underway at the dams managed by nation and a public corperation (93 dams as of 1993): (a) Maintenance, repair, and improvement of dam structures, discharge facilities, and auxiliary facilities, (b) Work for stabilizing mountains around dam reservoirs, (c) Construction of sand settling dams for protecting reservoirs from functional deterioration due to sand sedimentation, (d) Installation of generator facilities for management usage. In the 1993 fiscal year, these works were carried out at 104 facilities (11 dam management offices, 93 dams).

(5) Dams whose purpose is flood control (not for specific water utilization purposes) are constructed in the designated areas of the class 1 rivers and the class 2 rivers. 63 dams have been completed, 37 dams are being constructed,

and 9 dams are being planned.

(6) The following works are underway at the some prefecturally controlled dams (258 dams as of 1993): (a) Maintenance, repair, and improvement of dam structures, discharge facilities, and auxiliary facilities, (b) Work for stabilizing mountains around dam reservoirs, (c) Channel improvement work immediately below dams, (d) Installation of generator facilities for management usage, and (e) Construction of sand settling dams for protecting reservoirs from functional deterioration due to sand sedimentation. In the 1993 fiscal year, these works were carried out at 44 dams.

(7) The following works are underway at the some prefecturally controlled dams (258 dams as of 1993): (a) Repair of dam structures, discharge facilities, and auxiliary facilities, and (b) Repair of facilities for maintenance of dam reservoirs and surrounding areas. In the 1993 fiscal year, these works were carried out at 19 dams).

Participating institutions in the country and/or on the international level:

(1)-(4) —— .

(5)-(7) Ministry of Construction.

Costs of project:

(1) For projects directly controlled and implemented by a public corporation, 357.4 billion yen for FY1993.
For Subsidized project, 163.5 million yen for FY1993.

(2) 10.1 billion yen for FY1993.

(3) 29 billion yen for FY1993.

(4) 47.3 billion yen for FY1993.

(5) 40.4 billion yen for FY1993.

(6) 5.1 billion yen for FY1993.

(7) 0.9 billion yen for FY1993.

Sources of funding:

(1) For projects directly controlled and implemented by a public corporation, Central Government: 7/10; local governments: 3/10 [Projects except large scale project: Central Government 2/3; Local governments 1/3]
For subsidized project,
Central Government: 1/2; local governments: 1/2 [Large scale project: Central Government 5.5/10; local governments 4.5/10]

(2) Central Government: 7/10; local governments: 3/10 [Projects except large scale project: Central Government: 2/3; local governments 1/3]

(3) Central Government: 7/10; local governments: 3/10.

(4) Central Government: 5.5/10; local governments: 4.5/10.

(5) Central Government: 1/2; local governments: 1/2 [Large scale project: Central Government 5.5/10; local governments 4.5/10]

(6) For improvement work, dam management generator installation project, Central Government: 4/10; local governments: 6/10.

For river channel improvement work, reservoir maintenance work, Central Government: 1/3; local governments: 2/3.

(7) Central Government: 1/3, local governments: 2/3.

Implementing agencies:

(1) For projects directly controlled and implemented by a public corporation, Ministry of Construction, etc.

For subsidized project, prefectures.

(2) Ministry of Construction, etc.

(3) Ministry of Construction.

(4) Ministry of Construction, etc.

(5)-(7) Prefectures.

Address (telephone and fax-number) of the agency in charge:

(1)-(7) Development Division, River Bureau, Ministry of Construction.

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311; Fax 03-5251-1945.

d) Long-term preventive measures (erosion and sediment control project)

Title of project:

(1) National erosion and Sediment control project.

(2) Ordinary erosion and Sediment control project.

(3) Volcano erosion and Sediment control project.

(4) Erosion and Sediment control facilities repair project.

Status:

(1) The following two types of projects are underway: (a) National erosion control works consisting of construction and improvement of sedimental control dams, watercourse works, etc. with emphasis placed on heavily devastated areas and urban districts, and (b) National volcano erosion control works under which erosion control facilities, such as sedimental control dams, sand retarding basins, training levees, and watercourse works are constructed and improved with emphasis placed on volcanic areas under heavy sediment flows and areas near active volcanoes. In the 1993 fiscal year, these works were carried out on 34 river systems.

(2) The following three types of projects are underway: (a) Devastated area erosion control works in which erosion control facilities, such as sedimental control dams and watercourse works, are constructed and improved on torrents which are constantly carrying a large quantity of sand and sediments to the downstream, and torrents that show a symptom of devastation and can carry a large quantity of sand and sediments due to rain, etc., (b) Preventive erosion control works in which erosion control facilities, such as sedimental control dams and watercourse works, are constructed and improved at torrents which are not devastated at present, but can be devastated by heavy rain, etc. in future and carry a large quantity of sand and sediments, and torrents that must be improved in relation to other projects, and (c) Urban erosion control works in which erosion control facilities, such as sedimental control dams and watercourse works, are constructed and improved at rivers or torrents which have possibilities of directly bringing about sediment disasters to cities, and stone removal works, etc. are carried out according to the needs, and the function of existing dams is recovered. In the 1993 fiscal year, these works were carried out on 3,321 torrents.

(3) In volcanic areas, erosion control facilities, such as sedimental control dams, sand retarding basins, training levees, and watercourse works, are constructed and improved in provision for sand and stone avalanches, lava flows, and volcanic mud flows, etc. In the 1993 fiscal year, these works were carried out on 545 torrents.

(4) Obsolete existing sedimental control dams, watercourse works, et c. are repaired. In the 1993 fiscal year, these works were carried out on 87 torrents.

Participating institutions in the country and/or on the international level:

(1) —— .

(2)-(4) Ministry of Construction.

Costs of project:

(1) 87,456 million yen for FY1993.

(2) 177,649 million yen for FY1993.

(3) 39,260 million yen for FY1993.

(4) 864 million yen for FY1993.

Sources of funding:

(1) Central Government: 2/3, prefectures: 1/3.

(2) Central Government: 1/2, prefectures: 1/2.

(3) Central Government: 5.5/10, prefectures: 4.5/10.

(4) Central Government: 1/3, prefectures: 2/3.

Implementing agencies:

(1) Ministry of Construction, etc.

(2)-(4) Prefectures.

Address (telephone and fax-number) of the agency in charge:

(1)-(4): Sediment Control Division, Sediment Control Department,

Ministry of Construction.

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311; Fax 03-5251-1947.

d) Long-term preventive measures (steep slope failure prevention project)

Title of project:

(1) Project for prevention of steep slope failure.

Status:

(1) In cases where it is difficult or inappropriate for the owners, etc. of steep slope land to carry out preventive works for natural cliffs in steep slope collapse hazard areas, prefectures construct steep slope failure preventive facilities, such as retaining walls, drainage works, and grading works as well as other works for preventing the collapse of steep slopes.

Participating institutions in the country and/or on the international level:

(1) Ministry of Construction.

Costs of project:

(1) 95,400 million yen for FY1993.

Total project cost: 580,000 million yen (according to 3rd Steep Slope Collapse Countermeasures Project 5-year Plan).

Sources of funding:

(1) Central Government: 1/2; prefectures: 1/2.

Implementing agencies:

(1) Prefectures, etc.

Address (telephone and fax-number) of the agency in charge:

(1) Slope Conservation Division, Sediment Control Department,
Ministry of Construction
2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100
Tel 03-3580-4311; Fax 03-5251-1947.

d) Long-term preventive measures (forestry conservation project)

Title of project:

(1) National forestry conservation project in national forests.

(2) Subsidized forestry conservation project in national forests.

(3) National forestry conservation project in private forests.

(4) Subsidized forestry conservation project in private forests.

Status:

(1) The following works are conducted in national forests by Central Government: Restorative forestry conservation works by which devastated forests are restored, disaster prevention forestry conservation works by which the forests in danger of being devastated are improved, disaster prevention afforestation works for preventing blown sand disasters, tide disasters, avalanche, etc., protection forest improvement works by which protection forests whose function has deteriorated are improved.

(2) Devastated national forests in danger of damaging villages or public facilities are restored by prefectural governments.

(3) Large-scale devastated private forests are restored by Central Government.

(4) The following works are conducted in private forests by prefectural governments: Restorative forestry conservation works by which devastated forests are restored, disaster prevention forestry conservation works by which the forests in danger of being devastated are improved, disaster prevention afforestation works for preventing blown sand disasters, tide disasters, avalanche, etc., protection forest improvement works by which protection forests whose function has deteriorated are improved.

Participating institutions in the country and/or on the international level:

(1) ——.

(2) Forestry Agency, Ministry of Agriculture, Forestry and Fisheries.

(3) Prefectures.

(4) Forestry Agency, Ministry of Agriculture, Forestry and Fisheries.

Costs of project:

(1) 32,191 million yen for FY1993.

(2) 2,791 million yen for FY1993.

(3) 10,565 million yen for FY1993.

(4) 253,634 million yen for FY1993.

Sources of funding:

(1) Central Government: 100%.

(2) For volcanic areas, Central Government: 5.5/10; prefectures: 4.5/10.
For other areas, Central Government: 1/2; prefectures: 1/2.

(3) Central Government: 2/3; prefectures: 1/3.

(4) For volcanic areas, Central Government: 5.5/10; prefectures: 4.5/10.

For other areas, Central Government: 1/2; prefectures: 1/2. etc.

Implementing agencies:

(1) Regional Forest Offices and District Forest Offices, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries.

(2) Prefectures.

(3) Regional Forest Offices and District Forest Offices, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries.

(4) Prefectures.

Address (telephone and fax-number) of the agency in charge:

(1) First Management Division, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries

1-2-1, Kasumigasekı, Chiyoda-ku, Tokyo 100

Tel 03-3502-8111(ext 6522); Fax 03-3592-6259.

(2)-(4) Conservation Division, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries

1-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3502-8111(ext 6292); Fax 03-3592-6259.

d) Long-term preventive measures (landslide prevention project)

Title of project:

(1) Landslide countermeasure project executed by Central Government.

(2) Landslide prevention project.

(3) Landslide prevention facilities repair project.

Status:

(1) Landslide preventive facilities are constructed and improved, and other landslide preventive works are carried out in landslide prevention areas in order to prevent landslides.

For project controlled directly by Ministry of Agriculture, Forestry and Fisheries, works are underway in 6 districts in the 1993 fiscal year. The percentage of progress is 17.5%.

For project controlled directly by Ministry of Construction, —— .

For project subsidized by Ministry of Agriculture, Forestry and Fisheries, Of the 3,572 landslide hazard locations (surveyed in 1986), the project has covered 46% (as of the end of 1991).

For project subsidized by Ministry of Construction, —— .

(2) Construction and improvement of landslide prevention facilities, etc. and other works for preventing or reducing damages by landslides are carried out in landslide prevention areas and designeted as the protection forest.

(3) Landslide preventive facilities whose function has seriously deteriorated, but can be restored are repaired.

Participating institutions in the country and/or on the international level:

(1) For project controlled directly by Ministry of Agriculture, Forestry and Fisheries, —— .

For project controlled directly by Ministry of Construction, —— .

For project subsidized by Ministry of Agriculture, Forestry and Fisheries, Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries

For project subsidized by Ministry of Construction: Ministry of Construction.

(2) For directly controlled project, —— .

For subsidized project, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries.

(3) Ministry of Construction.

Costs of project:

(1) For project controlled directly by Ministry of Agriculture, Forestry and Fisheries, 2,940 million yen for FY1993.

For project controlled directly by Ministry of Construction, 6,071 million yen for FY1993; 61,322 million yen for FY1961-FY1993.

For project subsidized by Ministry of Agriculture, Forestry and Fisheries,

18,357 million yen for FY1993.

For project subsidized by Ministry of Construction, 33,619 million yen for FY1993; 468,124 million yen for FY1952-FY1993.

(2) For directly controlled project, 5,861 million yen for FY1993.

For subsidized project, 22,634 million yen for FY1993.

(3) 291 million yen for FY1993, 2,586 million yen for FY1984-FY1993.

Sources of funding:

(1) For project controlled directly by Ministry of Agriculture, Forestry and Fisheries, Central Government: 2/3; prefectures: 1/3.

For project controlled directly by Ministry of Construction,

o Torrent related works:

Central Government: 2/3; prefectures: 1/3.

o Other works:

Central Government: 1/2; prefectures: 1/2.

For project subsidized by Ministry of Agriculture, Forestry and Fisheries, Central Government: 1/2, prefectures: 1/2.

For project subsidized by Ministry of Construction, Central Government: 1/2, prefectures: 1/2.

*Remarks:

o Amami:(Torrent related works)

Central Government: 2/3, prefectures: 1/3

(Other works)

Central Government: 6/10, prefectures: 4/10.

o Okinawa:(Torrent related works)

Central Government: 8/10, prefectures: 2/10.

(Other works)

Central Government: 6/10, prefectures: 4/10.

(2) For directly controlled project, Central Government: 2/3; prefectures: 1/3.

For subsidized project, Central Government: 1/2; prefectures: 1/2, etc.

(3) Central Government: 1/3, prefectures: 2/3

Implementing agencies:

(1) For project controlled directly by Ministry of Agriculture, Forestry and Fisheries, Ministry of Agriculture, Forestry and Fisheries, etc.

For project controlled directly by Ministry of Construction, Ministry of Construction, etc.

For project subsidized by Ministry of Agriculture, Forestry and Fisheries,prefectures.

For project subsidized by Ministry of Construction, prefectures.

(2) For directly controlled project, Regional Forest Offices and District Forest Offices, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries.

For subsidized project, prefectures.

(3) Prefectures.

Address (telephone and fax-number) of the agency in charge:

(1) (Project controlled directly by Ministry of Agriculture, Forestry and Fisheries)

Ministry of Agriculture, Forestry and Fisheries

1-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3502-8111(ext 3931); Fax 03-3592-1987.

(Project controlled directly by Ministry of Construction)

Slope Conservation Division, Sediment Control Department, River Bureau, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311; Fax 03-5251-1947.

(Project subsidized by Ministry of Agriculture, Forestry and Fisheries)

Agricultural Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries

1-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3502-8111(ext 3927); Fax 03-3592-1987.

(Project subsidized by Ministry of Construction)

Slope Conservation Division, Sediment Control Department, River Bureau, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311; Fax 03-5251-1947.

(2) Conservation Division, Forestry Agency, Ministry of Agriculture, Forestry and Fisheries

1-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3502-8111(ext 6292); Fax 03-3592-6259.

(3) Slope Conservation Division, Sediment Control Department, River Bureau, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311; Fax 03-5251-1947.

d) Long-term preventive measures (coastal protection project)

Title of project:

(1) Coastal protection works.

Status:

(1) Coastal protection works are carried out to prevent disasters by high tides, tsunami, waves, etc, and to secure lives and properties from coast erosion and to maintain and create the coastal environment under the 5th phase 5-year shore protection work plan (1991-1995 fiscal years).

Participating institutions in the country and/or on the international level:

(1) —— .

Costs of project:

(1) 220.5 billion yen for FY1993.

Total cost: 1,040 billion yen (according to the 5th phase 5-year shore protection work plan).

Sources of funding:

(1) For directly controlled project, Central Government: 2/3, local governments,etc.: 1/3.

For subsidized project, Central Government: 1/2, 1/3, etc.; local governments,etc.: 1/2, 2/3 etc.

Implementing agencies:

(1) Ministry of Agriculture, Forestry and Fisheries, Ministry of Construction, Ministry of Transport, local governments, Seacoast administrators, etc.

Address (telephone and fax-number) of the agency in charge:

(1) Structure Improvement Bureau, Ministry of Agriculture, Forestry and Fisheries

1-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3502-8111(ext 3928); Fax 03-3592-1987.

Fisheries Agency, Ministry of Agriculture, Forestry and Fisheries

1-2-1, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3502-8111(ext 7354); Fax 03-3503-3956.

Ports and Harbours Bureau, Ministry of Transport

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-3111(ext 7445); Fax 03-5511-8280.

River Bureau, Ministry of Construction

2-1-3, Kasumigaseki, Chiyoda-ku, Tokyo 100

Tel 03-3580-4311(ext 3393); Fax 03-5251-1954.