IDNDR

Czech and Slovak Federal Republic

National Programme

(Outline)

The territory of Czechoslovakia is exposed to a few natural hazards which only rarely reach an extreme catastrophic intensity. They are : floods, earthquakes, storms, landslides and avalanches. However, due to a very dense population and a high concenration of industry even a medium size natural event may cause extensive damage and serious consequences for economic activity. Thus the IDNDR programme is designed to intensify the already existing preventive measures and concentrates on the following activities.

1. Seismology

1.1 Detailed assessment of seismic hazard including local monitoring of seismicity and of premonitory phenomena, seismotectonic statistical analyses, investigation of local variation of strong ground motion.

1.2 Seismic microzoning of urban and industrial agglomerates, improvement of engineering geological zoning.

1.3 Further development of methods of numerical prediction of strong ground motion, incl. manuals.

1.4 Co-operation on the compilation of seismic hazard map of Central Europa.

1.5 Estimation of earthquake potential at the boundaries of convergent litospheric plates.

2. Earthquake engineering

2.1 Up-dating of building codes with consideration of Eurocode.

2.2 Elaboration of new techniques of earthquake resistant design for new development areas.

2.3 Verification and control of resistance of existing buildings in zones of intensity eight.

2.4 Development of special antiseismic regulations for vulnerable equipment in special installations of high disaster potential.

3. Engineering geology

3.1 Compilation of revised maps of landslide hazard.

3.2 Improvement of methods of slope control and of landslide prediction and warning.

3.3 Safeguarding of slopes in a rational way.

3.4 Contributions to seismic microzoning.

4. Hydrometeorology (Risks of atmospheric origin)

4.1 General

4.1.1 Analysis of damage caused by extreme hydrological and meteorological events and of their causes.

4.1.2 Zonation of most exposed regions in Czechoslovakia.

4.1.3 Analysis of the effectiveness of meteorological and hydrological alerts and warning.

4.1.4 Design and establishment of an improved monitoring system of extreme hydrological and meteorological phenomena.

4.2 Meteorology

4.2.1 Investigation of improving the accuracy of existing meteorological predictions.

4.2.2 Investigation of the conditions of origins of long lasting atmospheric inversions with catastrophically low dispersion.

4.2.3 Revision of regulations for resistance of structures to wind and avalanches.

4.2.4 Investigation of the origion of severe storms and cloud bursts over the territory of Czechoslovakia.

4.3 Hydrology

4.3.1 Improvement of forecasting of floods and droughts.

4.3.2 Evaluation of disaster potential of droughts and floods (within the programme "Hydrometeorological potential").

4.3.3 Improved structural as well as non-structural measures for flood protection.

4.3.4 Study of the propagation of dam-break flood waves in the valleys below important dams in Czechoslovakia.

4.3.5 Analysis of origin of catastrophic floods in flysch regions of Czechoslovakia.

5. Legislation

5.1 Compilation of revised or new legal regulations, securing their proper application and control of technical disaster mitigation measures.

5.2 Elaboration of special laws for insurance industry, public education and social services in case of disasters.

6. Civil protection

6.1 Assessment of expected human and material losses in Czechoslovakia stemming from expected natural calamities.

6.2 Elaboration of detailed emergency plans for disaster exposed areas.

There are plans to secure an improved flow of information and transfer of new technology concerning all above subjects (1-6). Individual results will be applied in development planning, insurance etc. in Czechoslovakia as well as abroad, through technical assistance for developing countries.

Existing manpower and facilities

Czechoslovakia has well staffed research units in seismology, earthquake engineering, engineering geology, hydrology, hydrological engineering, meteorology, urban planning and civil protection. The experts work in universities, academies of sciences, ministries and private companies. At present, eighteen institutions are involved in the IDNDR national activities.

International co-operation

The above mentioned national activities form the major component in two regional co-operative projects proposed for Central European countries for 1992-1996:

1. Regional project for technology transfer for prevention of natural disasters.

Participating countries: Czechoslovakia, Hungary, Poland Yugoslavia

Expected UN Agency sponsorship : WMO/UNDP

Main goal: Exchange of new technologies, joint assistance and transfer to developing countries

2. Environmental protection and mitigation of environmental risks of hydrometeorological and geological origin in Central Europe.

Participating countries: Austria, Czechoslovakia, Hungary, Italy, Poland, Yugoslavia.

This last project has been proposed for implemenatation in the framework of mutual cooperation within the Hexagonale Programme.

Note on funding: First contacts have been established, only additional funds for strengthening the present structures are required from the Government, the work will be done mainly with existing institutional resources. International funding is needed for fellowships, regional seminars and transfers of technology to developing countries.