ANNEX: REFERENCE GUIDE FOR PREPARATION OF NATIONAL INFORMATION

Component 1 Political Commitment and Institutional Aspects

Political commitment, strong institutions, and good governance are expected to elevate disaster risk reduction as a policy priority, allocate the necessary resources for it, enforce its implementation and assign accountability for failures, as well as facilitate participation from civil society to private sector. Due to its multi-disciplinary and multi-sectoral nature, disaster reduction falls into the agenda of many diverse institutions which, for effective implementation, requires clear assignment of roles and assumption of responsibilities as well as coordination of activities.

1.1-Are there national policy, strategy and legislation addressing disaster risk reduction? If yes, please describe to what extent current national efforts and main priority areas of the policy, and mechanisms to enforce the implementation of the policy and legislation are applied (*and/or attach any relevant documentation*

1.2-Is there a national body for multi-sectoral coordination and collaboration in disaster risk reduction, which includes ministries in charge of water resource management, agriculture/land use and planning, health, environment, education, development planning and finance? If yes, please give detailed information (name, structure and functions). *Attach any relevant documentation or indicate source of information.*

1.3-Are there sectoral plans or initiatives that incorporate risk reduction concepts into each respective development area (such as water resource management, poverty alleviation, climate change adaptation, education and development planning)? If yes, please indicate some examples and challenges / limitations encountered. If no, does your government have any plans for integrating disaster risk reduction into development sectors? If no, please also specify the major difficulties.

1.4-Is disaster risk reduction incorporated into your national plan for the implementation of the UN Millennium Development Goals (MDGs), Poverty Reduction Strategy Paper (PRSP), National Adaptation Plans of Action, National Environmental Action Plans and WSSD (World Summit on Sustainable Development) Johannesburg Plan of Implementation? If yes to any of these, who are the main contacts for these initiatives.

1.5-Does your country have building codes of practice and standards in place, which takes into account seismic risk? If yes, since when. Which are the main difficulties in keeping with the compliances of the codes.

1.6-Do you have an annual budget for disaster risk reduction? If yes, is this commitment represented as part of the national budget or project based? Through which institution/s? If no, what other financing mechanisms for risk reduction initiatives are available?

1.7-Are the private sector, civil society, NGOs, academia and media participating in disaster risk reduction efforts? If yes, how? Indicate existing coordination or joint programming between government and civil society efforts in disaster risk reduction, or major difficulties or constraints for this to be effective.

Component 2 Risk Identification

Identification of risks is a relatively well-defined area with a significant knowledge base on methods for disaster impact and hazard and vulnerability assessment. Systematic assessment of losses, social and economic impact of disasters, and particularly mapping of risks are fundamental to understand where to take action. Consideration of disaster risks in environmental impact assessments is still to become routine practice. Early warning is increasingly defined as a means to inform public and authorities on impending risks, hence essential for timely actions to reduce their impact.

2.1-Has your country carried out hazard mapping/assessment? If yes, please describe for which hazards, when they were updated and for what geographical scale they exist. Do they include characteristics, impacts, historical data, multi-hazards approach? Which institutions are using the results of the hazard assessment? To whom are they available? (*attach any relevant documentation*)

Zemljotresi – poplavi, vjetar, [illegible]

2.2-Has your country carried out vulnerability and capacity assessments? If yes, please describe the methods used and major social, economic, physical, environmental, political and cultural factors considered in the assessment(s). Who are the main contacts for these assessments *(or attach any relevant documentation or contact information.)*

2.3-Does your country have any mechanisms for risk monitoring and risk mapping? If yes, who is responsible?

2.4-Is there a systematic socio-economic and environmental impact and loss analysis in your country after each major disaster? If yes, are the results available?

2.5-Are there early warning systems in place? If yes, for what hazards and for what geographical scope. Do you have any example when the system was activated lately? Which are the main institutions involved? Please indicate any relevant lessons-learnt from the use and public reaction to early warnings issued.

Component 3 Knowledge Management

Information management and communication, education and training, public awareness and research are all parts of improving and managing knowledge on disaster risks and their reduction. Inclusion of disaster reduction at all levels of education, effective public awareness and information campaigns, media involvement in advocacy and dissemination, availability of training for communities at risk and professional staff, and targeted research are the ingredients to support the knowledge base for effective disaster reduction.

3.1-Does your country have disaster risk information management systems (governmental and/or non-governmental)? If yes, what kind of information on disaster reduction is available, how is it collected, how is the information disseminated and who are the main users? (indicate relevant sources of information, if applicable)

3.2-Are the academic and research communities in the country linked to national or local institutions dealing with disaster reduction? If yes, please describe the mechanisms for information sharing and indicate any example of usefulness and effectiveness. Which are the main research and academic institutions dealing with disaster reduction related issues (please list, if available, and indicate how their research work is related to the country's disaster risk reduction needs.)

3.3-Are there educational programmes related to disaster risk reduction in your public school system? If yes, for what age-range? Do you have any educational material developed to support the teachers in this area? *(please attach any relevant documentation)*

3.4-Are there any training programmes available? If yes, please list (if available indicate scope and target audiences of the courses). Do you have any indication on how these courses have been useful to change any practices at local or national scale?

3.5-What kind of traditional indigenous knowledge and wisdom is used in disaster-related practices or training programmes on disaster risk reduction in your country?

3.6-Do you have any national public awareness programmes or campaigns on disaster risk reduction? If available, who are the main players for raising public awareness? How are the mass media and schools involved? Who are the targeted groups and how do you evaluate the programmes?

Component 4 Risk Management Applications/Instruments

For effective disaster risk reduction, synergies are needed between sustainable development and disaster risk management practices. Moving from analyzing of and knowing about risks to taking concrete actions to reduce their impacts is a demanding step. Ideas and practices coming from different disciplinary areas will complement what is already practiced in disaster risk management. For example, instruments for risk management have proliferated especially with the recognition of environmental management, poverty reduction and financial management.

Environmental and natural resource management is among the best–known applications to reduce flood risks, control landslides (through reforestation) and control droughts (through ecosystem conservation). Physical and technical measures, such as flood control techniques, soil conservation practices, retrofitting of buildings or land use planning, are effective in hazard control. Financial instruments in the form of insurance, calamity funds, catastrophe bonds are useful to lessen the impact of disasters.

4.1- Is there any good examples of linking environmental management and risk reduction practices in your country *(key areas of environmental management may include coastal zone, wetland and watershed management, reforestation and agricultural practices, amongst others).* If yes, please indicate in what areas. *(Attach any relevant documentation ore references)*

4.2- Are financial instruments utilised in your country as a measure to reduce the impact of disasters *(e.g. insurance/reinsurance, calamity funds, catastrophe bonds, micro-credit finance, community funds, etc.)*? If yes, please describe what these instruments are and when they were established, who manages them and who are eligible to them.

4.3-Please identify specific examples of technical measures or programmes on disaster risk reduction that have been carried out in your country (see below, case studies).

Component 5 Preparedness and Contingency Planning

Preparedness and emergency management has been used as a means for reducing life losses from direct and indirect effects of disasters. A well-prepared system is expected to be effectively informed by early warning, endowed with regularly rehearsed national and local contingency and evacuation plans, fitted with communications and coordination systems, as well as adequate logistical infrastructures and emergency funds. Local-level preparedness, particularly at community level, including training, deserves special attention as the most effective way of reducing life and livelihood losses.

5.1- Do you have disaster contingency plans in place? Are they prepared for both national and community levels? If yes, please describe their main components, who is responsible for activating the plan(s)?Are the plan(s) updated on annual basis? Have you ever used the contingency plan(s) that was or were developed? If yes, what was the result?

5.2- Has your government established emergency funds for disaster response and are there national or community storage facilities for emergency relief items – mainly food, medicine, tents/shelters? If yes, please provide some details.

5.3- Who is responsible for the coordination of disaster response preparedness and is the coordination body equipped with enough human and financial resources for the job? Please comment on the effectiveness of the coordination work done so far?

Component 6 Call for good practices in disaster risk management

Based on the above analysis and information provided, please provide at least two examples of any successful implementation of disaster reduction activities in your country (could be of local, national or regional scale); any project or community based experience, national policy, interaction between sectors, etc., would be welcome. Provide maximum one page on each example, indicating area of work, institutions and actors involved, duration, impact of the activities, lessons-learnt and if the example have been replicated. You may also kindly direct us to relevant web-based information/organization.

Component 7 Priorities you want addressed at World Conference on Disaster Reduction

What do you think are the priority topics to be agreed upon at the World Conference to enhance and strengthen national policy and practice to reduce risk and vulnerability to natural and technological hazards? Please list any other thematic areas or specific topics of discussion that you consider of importance to increase the effectiveness of disaster risk reduction for your country.

Please also indicate any particular experience or project that your country would like to exhibit or present at the Conference.

1.1.2.

The Central crisis headquarters and crisis headquarters of the county and district offices fulfill their tasks in accordance with the Act No. 387/2002 Coll. on "Management of state in crisis situations except war and warfare" The central crisiss headquarters coordinates the activities of the bodies of the state management, of the bodies of the territorial self-administration and other compounds dedicated to the solution of crisis situation within the period of crisiss siatuation. The minister of the interior is the head of the central crisiss headquarters. The structure of the central crisis headquarters is stipulated by its statute, which is approved by the Government of the Slovak republic. The ministers of foreign relations and the minister of defence are the deputies of the head of central crisis headquarters, its members are the representatives of all ministries and of central bodies of the state management. The central crisis headquarters coordinates the activities of crisic headquarters of governmental branches, cooperates with the Security council of the SR at preparation of the solution of the crisis situation, controls the fulfilment of the tasks and measurements taken by the government of the SR, recommends the government of the SR the use of specific reserve of the finance resources dedicated to the solution of the crisiss situation and elimination of its consequences and recommends the government of the SR the request for assistance from abroad including humanitarian aid for the solution of the crisis situation.

2.2.1.

a) In accordance with the Act of the National Council of the SR No. 42/1994 on "Civil Protection of the Population" as worded in later amendments, the Office of Civil Protection of the MoI of the SR elaborates the document "Analysis of the territory from the point of view of possible emergency situation" which is elaborated on all levels of the management of state administration. The analysis of the territory is beeing eleborated for the purpose of examination of the danger in the event of emergency situation with the respect of the sources of threat. The analysis of the territory is the basic document for the purpose of elaboration of the complex protection of the population of the SR. Its importance is lying in the specification of the categories of the evaluated territory unit and represents the basic document for the elaboration of the plans for the protection of the population and other plans (sheltering, evacuation, notification and warning, ...). The analysis of the territory is beeing elaborated both in the text and graphic formats.

b) "Analysis of area vulnerability from flood standpoint" is being realized in terms of risk mapping in POVAPSYS project (enclosure no.1). In the 1st step the scale 1:500 000 was chosen for the risk map processing from the flood-threat aspect. The scale for synoptic maps of storm occurrence processing is 1:750 000. The plan for following years is to elaborate more detailed picture of risk area processing for the potentially most endangered regions, choosing of suitable simulation precipitation-flow models and preparing of scenarios for solution of the most unfavorable combinations of precipitation and river basin satiation for flood threat.. The access to the maps will be free. Especially the maps intended for hydroprognosis departments of SHMI and SVP (river basin companies) as the basis for decision of application precipitation-flow models localization will be offered.

c) By decision of Ministry Council of European Community No. 87/600/EURATOM of December 14, 1987, the system ECURIE (European Community Urgent Radiological Information Exchange) is defined. ECURIE requires from the state to inform other member states, if it decides to take protective measures, or if it finds out abnormal radiation dissipation. The system EURDEP (European Union Radiation Data Exchange Platform) is the technical and expert support for ECURIE and it includes national databases of radiation monitoring in one central database. The expert and technical centre for the ECURIE is the Joint Research Centre (EC JRC) in Ispra, Italy. The monitoring network of SHMI (Slovak Hydrometeorological Institute) is also part (enclosure no.2) of it. By the decision of the Commission for Radiological Accidents of the SR (KRH SR) of November 29, 2001 the SHMI was put in a charge of realization of the project "Uniform Database of Radiation Data in the SR" (JDRU SR). The project joins monitoring results of individual parts of Radiation monitoring network of the SR in the uniform data environment and thereby upgrades the monitoring quality. The organs covering the radiation protection and the security of the sources of ionization radiation joined in this project (JDRU SR) come from the Ministry of Health of the SR (Slovak Health Service University, State Health Institutes), the Ministry of Interior of the SR (Civil Protection – Úrad CO SR), the Ministry of Defense SR (5^{th} Radiological Centre of Armed Forces SR – 5. radiačné stredisko OS SR), the Ministry of Economy of the SR (Slovak Power Plants – SE a. s.) and the Ministry of Environment of the SR (SHMI).

2.2.3.

Environment monitoring system conception of the Slovak Republic was formed gradually by "government resolutions of the Slovak Republic" (No. 449/1992, No. 620/1993, No. 357/1999), last No. 7/2000 of January 12, 2000 on "Finish building conception of complex monitoring and informative system of environment". It divides environment monitoring into three basic, one another complete levels, in which space, time, material and organization-operating aspects overlap:

- State monitoring
- Regional monitoring
- Local, or purpose monitoring.

Decisive environmental monitoring system, which another levels methodical and also structural fasten on, is state monitoring system of the Slovak Republic environment. It is divided into subsystems – Partial Monitoring System (ČMS), according to monitoring part of environment, or according to problem spheres. Ministry of Environment of the Slovak Republic provides coordinating-methodic function. Guarantors of individual partial monitoring systems provide realization function.

On the base of Act of the National Council of the SR No. 261/1995 Coll. (Z.z.) on the State information system (SIS - ŠIS), the conception of resort part of SIS of the Ministry of Environment of the SR was processed. The result is an inception of 18 subsystems. The Information System of Monitoring (ISM) project and Information System of Environment (ISoE - ISŽP) project are also among them. The SHMI was put in a charge of Partial Monitoring System Centre - atmosphere, meteorology and climatology, water and radioactivity of environment by the decision of the minister of Environment of the SR .

Within the meaning of bilateral "Agreements on cooperation in border waters" between the Government of the SR and Governments of the Czech Republic, Poland and Ukraine, common plans for flood protection of flows and levees in border areas are made. Hydrometeorological institutes exchange mutually information about monitoring network level and hydrometeorological characteristics, needed for flood forecast services preparation. They exchange information mutually about changes at hydroelectric power stations and equipment, and negotiate planed strokes of the management of water supplies in advance, which influence flow relationships in border profiles. Within the meaning of the agreements, the flood organs of all levels arrange the flood plans harmonizing.

The Government of the Slovak Republic, by its resolution No. 31 of January 19, 2000, approved "Flood protection program of the SR till 2010". The "Flood warning and

Forecasting System of the Slovak Republic" (POVAPSYS - enclosure no. 3) is also part of it, and is directed at innovation of flood warning and forecasting methods, operative running and needed infrastructure. The SHMI, as an organization responsible for giving out hydrological, meteorological and environmental forecasts, was put in a charge of its realization.

2.2.5.

There is territorial warnig system of the CP of the population in the SR, whose construction/set-up and its operation is provided by the MoI of the SR. The early warning of the population on the territory which is not directly endangered is provided by the teritorial system. Special accent is given to the densely populated territories. The territorial system is completed by the autonomous systems of warning and notification. The early warning of the persons is provided by the subjects, whose activities/operation directly endangers the lifes, health and property.

The autonomous warning and notification systems of the persons are in the SR built-up on the territories endangered by the nuclear power plants, large water-management sites, (dams, water reservoires) and on the territory endangered by the production, storage and handling of hazardous substances.

The functionality of the warning and notification systems is regularly checked. They were not activated in recent period by the reason of the acute threat.

The bodies of state administration, the bodies of self-administration on the levels of cities and municipalities, the legal entities and entrepreneurs who may endanger the territory by its activities are attached to the warning and notification system. The system of the early warning can be activated by the MoI of the SR, by county authorities from the coordination centres of the integrated rescue system (reception of emergency calls - line 112), municipalities on its territories as well as subjects, which directly endanger the territory by its activities. Nation-wide coordination of the early warnig system is provided by the MoI of the SR – Office of CP.

The local warning systems of early flood warning are beeing put into operation within the POVAPSYS system. The local warning system provides the authorised local authorities with the early warning of the occurence of flash floods as well as with information on achieving or overfullfilment of specified limit rates of the aggregated rainfall amount and rainfall intensity and water-level stage (on given stream) in concerned river-basin. The aim of the system is providing to local authorities, in advance, with warnings about flood occurence in small river basins to eliminate their destructive impact and loss of lives.

Príloha č.1

Analysis of Area Vulnerability

In the 1st step the scale 1:500 000 was chosen for risk maps processing from flood threat aspect. The scale for synoptic maps of storm occurrence processing is 1:750 000.

Till the end of 2003, maps have been made:

1. Sensible and vulnerable areas, on the base of chosen elements of primary and secondary country structure (expression of morphometric potential of area of the Slovak Republic for flood situations rise in the scale 1:500 00 and expression of geoecologic potential of area).
2. Special source maps for risk evaluation
   - map of land covering,
   - map of potential land erosion (landslide and ravines),
   - map of flood index,
   - map of maximum intensity of precipitation,
   - map of hydro-modules,
   - map of protection 2- and 5-day precipitation amount for repetition averaged onetime in 50 and 100 years,
   - map of N-annual flood for vegetation season,
   - map of N-annual flood.
3. Map of vulnerability: towns and municipalities classification of the Slovak Republic by their potential vulnerability.

On the base of individual maps (from points 1. and 2.) overlapping method, potential sensible areas mark out in the flood threat point of view.
Accessories of information from map of vulnerability, picture of potential threaten towns and municipalities of the Slovak Republic are reached.

For next years, we are planning to process detail picture of risk area for potential the most threaten areas, to choose appropriate tentative simulaton precipitation-flow models, and to prepare scenarios for solution of the most adverse combination of precipitation and river basin saturation for flood threat.

SHMI (Slovak Hydrometeorological Institute), ÚH SAV (Institute of Hydrology of the Slovak Academy of Sciences), PRIF (Faculty of Natural Sciences) and FMFI UK (Faculty of Mathematics, Physics and Informatics of the Comenius University), SvF STU (Faculty of Civil Engineering of the Slovak University of Technology) and SVP š.p. (Slovak State-Owned Company of the Management of Water Supplies) cooperate on maps.
Individual organizations are also (in the case of necessity) responsible for their actualization.
In this task interested in "static maps" creation, their frequent actualization is not expected.

The maps of potential risk from flood threat aspect are processed in the scale 1:500 000 for whole the territory. Detail processing is assumed only in potential risk areas. Processing of flood areas in surrounding intra area is in SVP competence.
The maps in the scale 1:400 000 are in electronic form for Department of Forecasts and Warning – Hydrology and in the scale 1:750 000 for Department of Forecasts and Warning – Meteorology in JTSK attribution.

Access to maps will be free. Especially maps are offered to hydroprognosis departments of SHMI and SVP (river basin companies) as the basis for decision of application precipitation-flow models localization. They are also offered to department "Operating Information Centre" of SHMI for decision of local warning systems activation and as a basis for accident planning of preventive measure and processing of crisis situations solution scenarios for crisis management.

Degree of risk (potential threaten) is defined as a synergic effect of individual source maps above-mentioned, more exactly of individual indicators in mentioned maps. Indicators are: parameters of physic-geographic area, information reached (from historical notices) from the period of precipitation and landslides observation (and their processing), and also information about anthropogenic activities in inter area of towns and municipalities (in vulnerability processing).

Source maps and resultant map are static, they expression the potential threatens (e.g. maps of long-term specific flows, synoptic maps... Dynamic risk maps are inserted in hydrodynamic models). Quasi-dynamic solution will be for making scenarios of individual sensible river basins (for 2003 is modeled river basin Hron for Banská Bystrica), near which flows from precipitation-flow models are processed for matrix of precipitation inputs and previous river basin saturation The result will be area marking of over limited flows in mentioned matrix.

Príloha č.2

RADIATION MONITORING NETWORK OF THE SLOVAK HYDROMETEOROLOGICAL INSTITUTE

1. Monitoring Network of the Slovak Hydrometeorological Institute

1.1 History

In 1962 the department „Radiation of atmosphere“ has been established under the Slovak Hydrometeorological Institute in Bratislava. Artificial beta radiation of atmospheric deposition has been measured in the selected meteorological stations from 1962 to 1991. Within 1962, 1963, after the testing of nuclear weapons in the 50's and the beginning of the 60's, the maximum values were reached in the former Czechoslovakia. Increased values were recorded again in 1968-1971, 1974, 1981 and in 1986 after the Chernobyl accident. In 1991 the measurmets of dose rate started.

1.2 Monitoring of dose rate

At present SHMI operates in its monitoring network 23 detectors GammaTracer fy Genitron, one mobile detector and one stanby detector. All activ detectors are placed in the professional meteorological stations in the selected parts of Slovakia. First one of these detectors was installed in 1999 and they replaced former type of detector (FAG). Last two detectors were installed in 2002. Detector GammaTracer has range of measurment from 20nSv/h to 1 Sv/h.

1.3 Aerosol monitors

SHMI operates 4 aerosol monitors in Hurbanovo, Lucenec, Stropkov and Liesek. Filters from these monitors are analysed in the Institute for Health (Cs-137, Be-7).

On the base of bilateral agreement between the Austrian Ministry of Agriculture, Forestry, Environment and Water-Management and the Slovak Ministry of Environment Austrian side gave into the ownership of the Slovak side an automatic aerosol monitor AMS-02 including container and weather station. This monitor was installed in meteorological stations Jaslovske Bohunice on 4-th October 2001. The Slovak Ministry of Environment provides the Austrian Ministry of Agriculture, Forestry, Environment and Water-Management with the readings of this monitor, free of charge, for at least 3 years and vice versa, the Austrian side gives the readings of the Austrian aerosol monitors to the Slovak Ministry of Environment free of charge. At present national monitoring center in Bratislava-Koliba is connected via ISDN line with Jaslovske Bohunice and Austrian center providing the data exchange.

2. Database of Radiation Monitoring

2.1 Collecting of data

Radiation data (dose rate in the unit nSv/h) are collected via the Institute network to the MSS (message switch system) in the meteorological station Bratislava-airport. The service program FTP-Watch runs on the server RADMON in SHMI and every 10 minutes the data from MSS are inserted into the database. The 2hour and 24hour averages are computed on the server automatically.

2.2 Database

Two backuped servers work in the system of radiation monitoring under Windows 2000 Server operating system and MS SQL Server database system.

Database works in environment client-server. On client PC runs the user front-end application. This application provides to display the data using many filters, to display tables with configurations concerning technical equipment, to display maps, graphs, etc. There is the possibility to store data into the archives, to make reports.

This extensive database gives good opportunity to mathematical and statistical analysis. DTS (Data Transformation Services) as one part of SQL Server gives possibility to design reports in many formats based on SQL scripts.

3. Cooperation in the Data Exchange on the national level

In the frame of Unit database of radiation data in the Slovak Republic, SHMI cooperates with other partners like: Slovak Army, Civil Defence, Ministry of Health, Slovak Power Plants. At present bilateral data exchange with Slovak Army is running and with other partner is prepared.

4. International Data Exchange

4.1 European Commission Joint Research Centre Ispra

SHMI cooperates with European Commission Joint Research Centre (EC JRC) in Ispra in the frame EURDEP (European Union Data Exchange Platform). At present we use in the data exchange with EC JRC new version of format EURDEP 2.0. We send data from our monitoring network on ftp server of SHMI every 24 hour and then the data are downloaded to database in Ispra.

4.2 Austria

Data between SHMI and Radiation Warning Centre Vienna are exchanging by means of directories on the radiation monitoring server of SHMI. Every 10 minutes data from 336 Austrian stations are stored into the directory on our server and then inserted into the radiation database. Every 10 minutes data from our monitoring network are stored to the directory on server on our side and then downloaded to the Austrian side.
EURDEP format version 1.3 is used.

4.3 Hungary

On the base of agreement between Hungarian Ministry of Environment, Hungarian Ministry of Interior and the Slovak Ministry of Environment, SHMI started the data exchange with Hungary Meteoservices in summer 2002. Leased line Bratislava – Budapest of capacity 16 kbit/s was established. Data files with the radiation data in the EURDEP 2.0 format are exported from our database every 10 minutes and then files are downloaded to the server in Meteoservice Hungary. Files with radiation data are downloaded from Hungarian side each 1 hour (10 minutes averages).

Data between SHMI and Meteoservices Hungary and SHMI and Radiation Warning Centre Vienna are transmitted via Regional Meteorological Data Communication Network.

Príloha č.3

Flood Warning and Forecasting System – Slovak Republic (POVAPSYS)

Territory of Slovakia has been prove to floods since time immemorial. Due to its location on the continental divide and mostly on the mountain range of Carpathians, its population concentrated in the mountain valleys and along the four major rivers (Danube, Vah, Hron and Bodrog) suffered heavily from flooding. Territorial extent of Slovakia is appr. 50 000 km^2 and population around 5 million, thus the population density ($100/km^2$) is relatively high. As a matter of fact, it is much higher due to the fact that only a small part of the whole territory is inhabited. This indicates a considerable flood threats, as can be documented by historical records, and unfortunately also by floods in recent years.

The recent extreme floods in central Europe resulted into scientific and societal concerns about the reliability of short-term quantitative meteorological forecasts and flood forecasts also in Slovakia. Beside the flood danger in large basins, flash floods also represent a serious threat.

In the years to follow, flash floods occurred almost in each of the summer seasons, hitting mostly small catchments in the sandstone flysch mountain range of the northern and eastern Slovakia. Due to their extremely fast response to intensive rain practically no warnings by the so far used conventional methods could be issued, with great local damages as the consequence.

In July and August 2002, also the large basins of Slovakia (including the Danube) were very close to the similar disaster, which affected the Czech Republic. As a consequence of this and other recent floods, the performance of several current flood-forecasting methods was evaluated. A pressing need to increase the standard of forecasts (particularly the forecast lead-times) in the cases of floods striking larger territories, rivers with regulated flows and local flood events (flash floods) has been identified.

In response, the Government of the Slovak Republic adopted the resolution No. 31 of January 19, 2000 by which the Master Plan was approved. It identifies several of flood-protective measures and its part is the project "Flood Warning and Forecasting System of the Slovak Republic" (POVAPSYS) which is aimed at the considerable innovation of the flood warning and forecasting practices. The Slovak Hydrometeorological Institute (SHMU) was made responsible for it. SHMU prepared a POVAPSYS Project proposal (or feasibility document). After public review and discussion, the POVAPSYS was approved in February 2002 by the Ministry of Environment of the Slovak Republic.

Unfortunately, the several floods which occurred immediately after the POVAPSYS approval, dredged an unexpected amount of Government funds for their alleviation, thus, substantial budgetary restrictions were applied to the Project and a partial re-funding, it was mandatory. Therefore the request for Technical Assistance was prepared for financing the highest priority preventive measures for the environmental protection against the flood threat of the territory of Slovakia, from the most appropriate EU Funds.

The Technical Assistance should support the preparation of the Project to be implemented after May 1st, 2004 – i.e. after the date of accession of Slovakia to the European Union. It means that Slovakia will be already eligible to apply for funding under Cohesion and Structural Funds.

The main aim of POVAPSYS is to develop a tool which would make possible to reduce the damage to life and property to those who might be affected by floods in future. Experience shows that it may be in any catchment, small or large, within the reach of flood waters. It is evident that achievement of this aim will increase substantially the quality of life of the local population by granting them more safety against flooding. It will also comply with the Directive on water 2000/60/EC of the European Parliament and of the Council of 23 October, 2000, which defines the framework of the Community for national water policy.

Taking into account the shortcomings of the so far used forecasting system, brief statement of the Project priority targets is as follows:

- Upgrading exiting instrumentation for hydrological and meteorological collection of the data, over whole Slovakian territory;
- Upgrading existing facilities for transmission, processing and dissemination of hydro-meteorological data, forecasts and warnings;
- Completion of the meteorological radar network over the whole territory of Slovakia, and make it compatible with the existing or planned radar networks in neighbouring countries;
- Upgrading of the short and medium term real-time hydrological and meteorological methodology.

The following main components of the Project are listed below:

- Integrated management system;
- Ground meteorological data monitoring system;
- Hydrological data monitoring system;
- Telecommunication network;
- Satellite date receiver;
- Radar network and lightning detection system;
- Meteorological and hydrological forecasting methods and models;
- Staff training.

Anticipated time schedule for implementation is from January 1, 2003 to December 31, 2006.