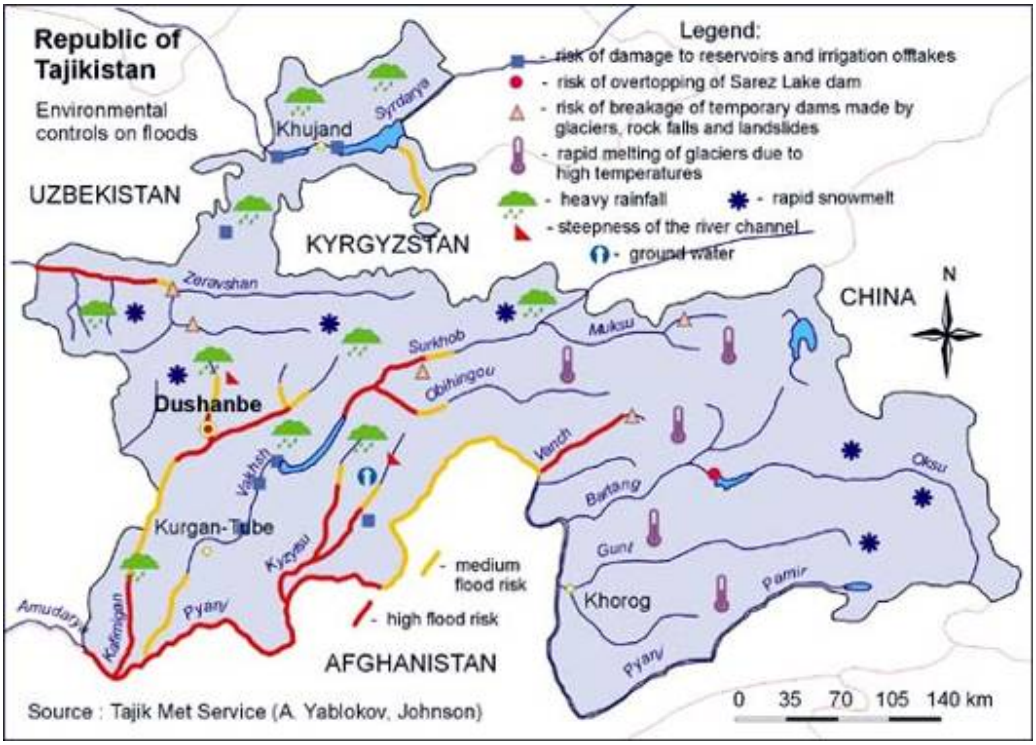
TAJIKISTAN

Country Report for Asian Disaster Reduction Center
February 2006

I. Natural hazards in Tajikistan

1.1 Natural hazards likely to affect the country

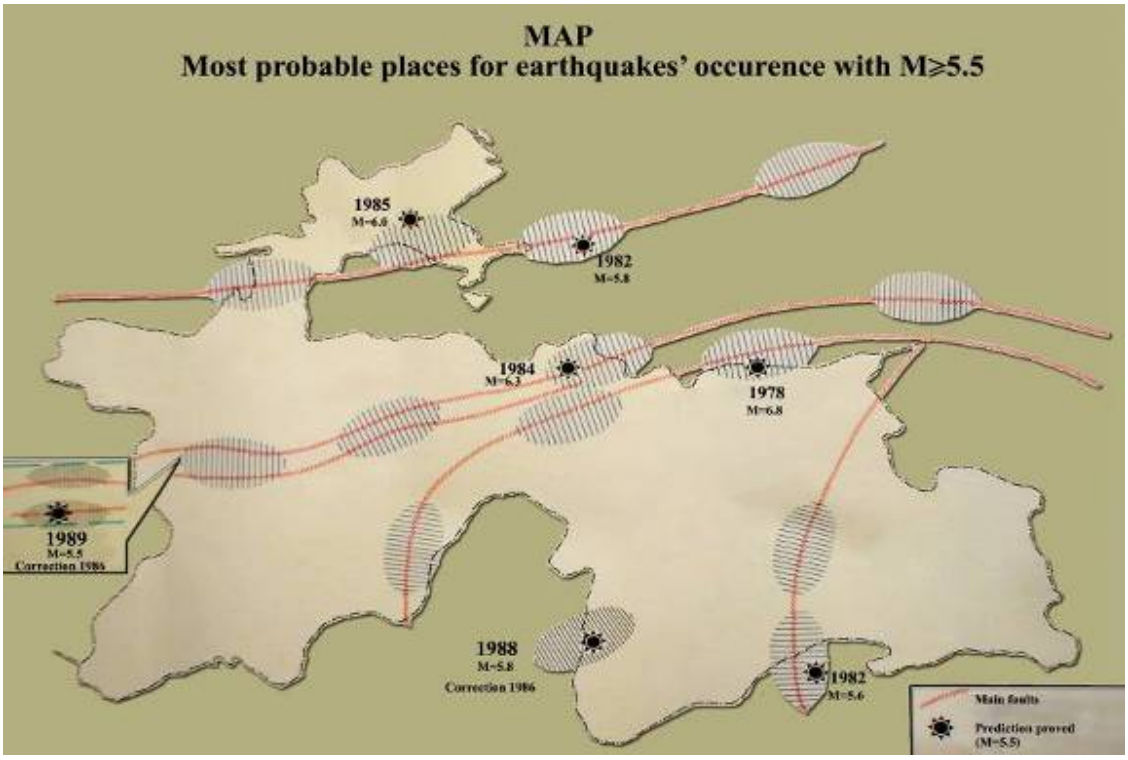
Tajikistan is prone to many types of natural hazards, including floods, mudflows, landslides (mudslides), epidemics, drought, earthquakes, avalanches, insect infestation and wind storm. About 93% of the country's area are mountainous, which widely vary in height from several hundred meters to 6000-7000 meters above sea level.



Earthquakes are typical for Tajikistan and represent a substantial threat in many parts of the country, specifically in urban environments like Dushanbe, where potential earthquake magnitude can be as high as 8-9 on Richter scale. Earthquakes in Tajikistan are seriously dangerous, since they cover broad areas and are able to cause a considerable damage to reservoir dams, buildings and communications. According to the Global Seismic Hazard Map (GSHAP, 1999) the whole country is located in the high to very high-risk zone. Here are some examples of catastrophic and the most deadliest earthquakes in Tajikistan: Karatag earthquake in 1907, Sarez earthquake in 1911, Faizabad earthquake in 1943, Hait earthquake in 1949, Gissar earthquake in 1989. During these earthquakes, the fatalities were caused by secondary affects such as landslides, rockslides, mudflows and avalanches.

Secondary affects of earthquakes can cause major economic problems as well. An example of this is the Baipaza (still ongoing) landslide, which developed in Vakhsh river back in 2004. This landslide is causing serious problems for the operation of Baipaza and Nurek Hydro-Electric Power Stations, as well as for irrigations systems.

Another example is the Hait earthquake of 1949, which was 9-10 on Richter scale. This earthquake wiped out number of villages and killed more than 28,000 people. The Sarez earthquake of 1911, caused a major rockslide and covered the village of Usoi with all its residents. The Gissar earthquake of 1989 caused a major landslide, which covered the village of Sharora with all 274 inhabitants.



Some 50 000 **landslides** have been reported by Tajik Glavgeology in the 1990s all over the republic, including both seismic and non-seismic slides. Seismic landslides triggered by strong earthquakes are much bigger than non-seismic slides and have much more serious consequences. According to these studies some 1500 of landslides/mudslides were identified to threaten settlements and industrial constructions

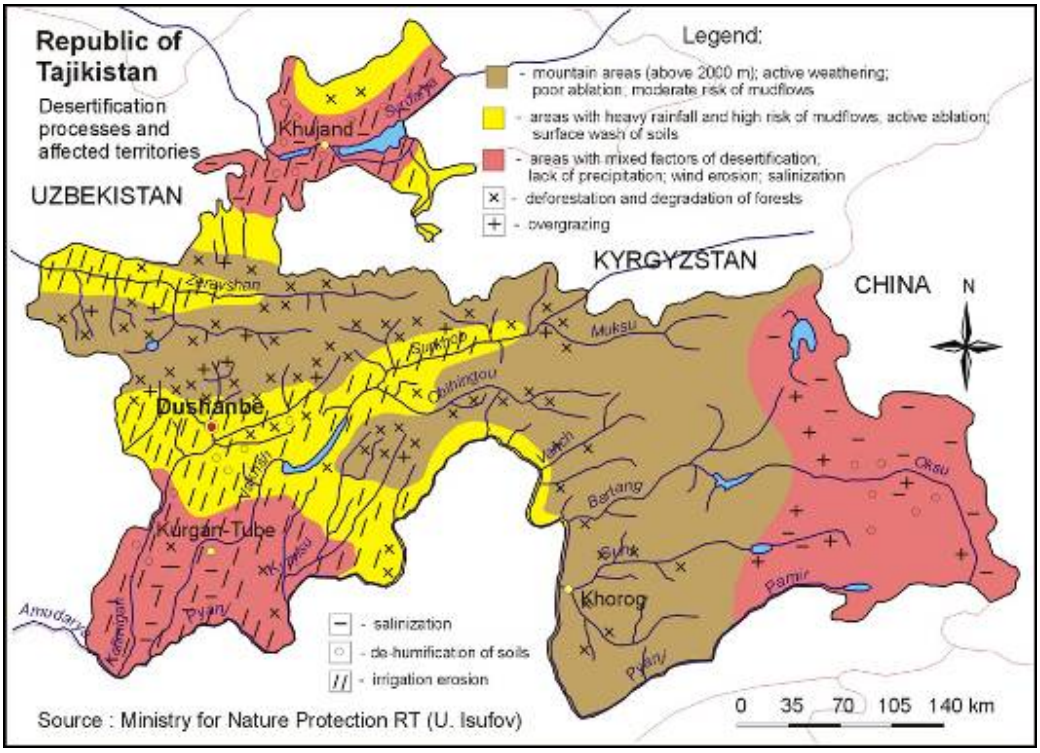
In Tajikistan **floods** occur either in spring following heavy rains, or during snowmelt in summer time. Flash floods in narrow valleys are particularly destructive. River beds rise due to the load of silt and stones carried down from the mountains. The South-eastern slopes of Gissar range, Northern slopes of Turkestan range and Southern slopes of Kuramin range are the areas with greatest flood activity, particularly in the basins of Yakhsu, Varzob, Vakhsh, Zeravshan and Obihingou rivers.

Mudflows are one of the consequences of heavy rainfall, being observed frequently in the foothills and mountainous areas of Tajikistan. Another reason for the occurrence of mudflows can be the damming of watercourses by landslides and glaciers, and the accumulation of loose debris on slopes and in the channels of watercourses behind a dam. Some 85% of Tajikistan's area is threatened by mudflows and 32% of the area is situated in the high mudflow

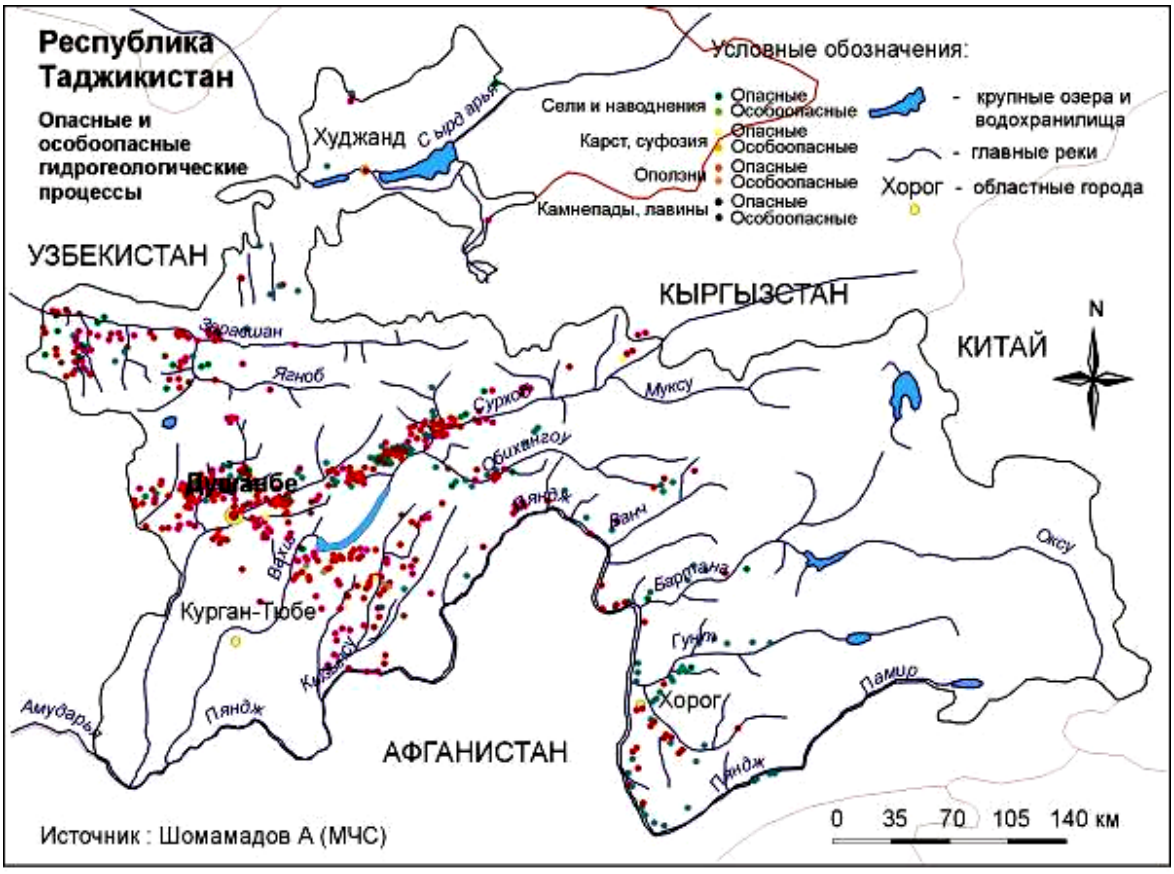
risk zone. The major mudflows that occurred in Tajikistan were: Garm district the (villages Yaldamich and Navdi) in 1969 and 1998; Pendzhikent in (Shing Jamoat), Tavildara (Langar), Nurek (Navdekh) in 1998.

The major reason of **avalanches** in Tajikistan is fresh snow formation (60-70%). Most avalanches are observed in February and March. In 1969, extraordinary avalanche activities were indicated in the Western Pamir. The number of days with avalanches exceeding twice the average was indicated in 1976, 1984 and 1987. Heavy snowfalls of 2004, 2005 and 2006 have caused damaged to the infrastructure. 5 people were killed in avalanches within few days in January 2004 and caused over 2 Mio Somoni worth damage to GBAO. In the avalanches of 2005, total number of casualties were 10. During recent avalanches in January and February 2006, a total of 23 people have been killed.

Tajikistan faced its second year of severe **drought** in 2001. From March through May 2001 hot and dry weather prevailed in the country. The country had lost a considerable part of its cereal crop, with the livestock sector being severly affected. The following map indicates the desertification processes and affected territories in Tajikistan:



The following map (in Russian) indicates the most dangerous hydro-geological processes (floods and mudflows, landslides, rockfalls and avalanches) registered around the country.



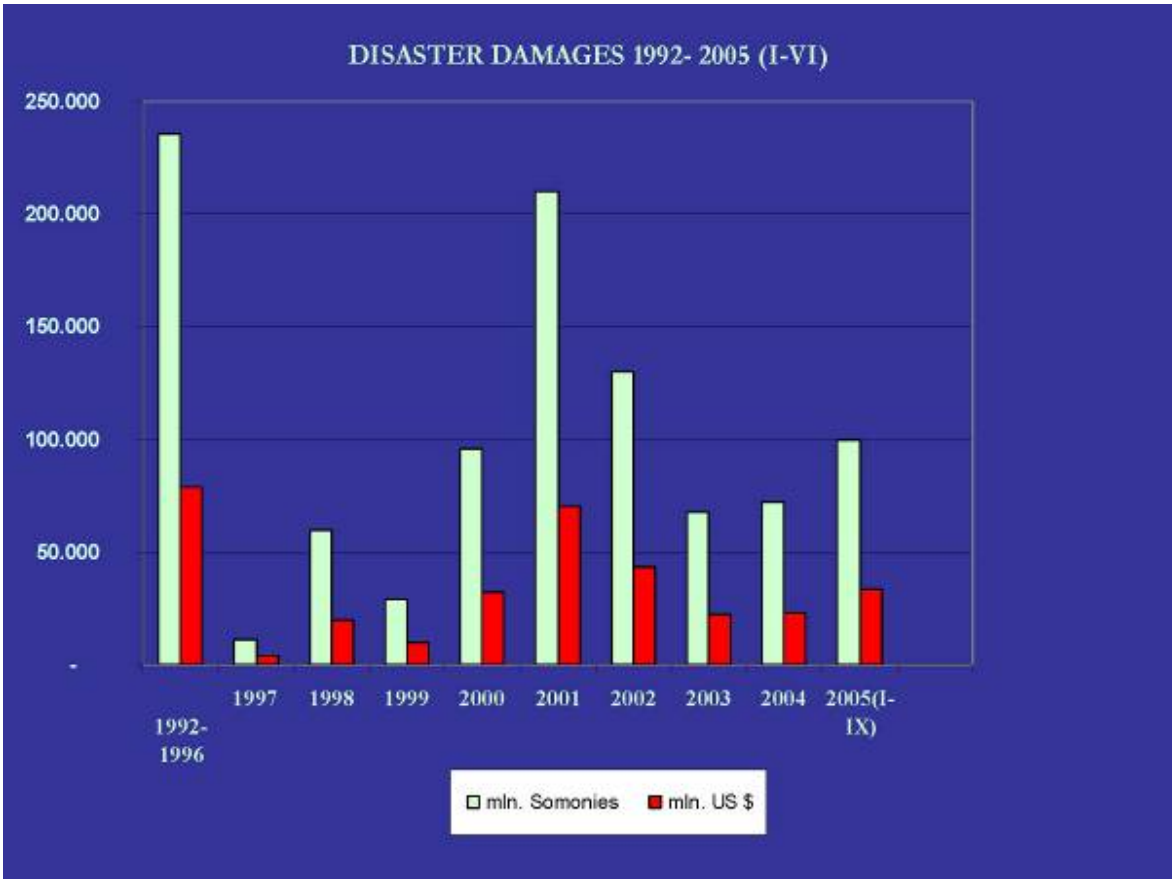
During the last five years (2001-2005) natural disasters have killed 145 people and have caused a total damage of more than 200 million US Dollars in Tajikistan.

The table below is an overview of disaster damages in Tajikistan during the past 3 years (2003-2005):

Year	# of people killed	# of houses damaged	Total financial damage
2003	20	8 896	$22 666 667
2004	19	3 961	$24 100 000
2005	47	4 654	$33 133 333
Total	86	17 511	$79 900 000

Source: ADRC country report

The economic damage from disasters are immense in Tajikistan. The chart below indicates the damages caused by disasters during 1992 to 2005:



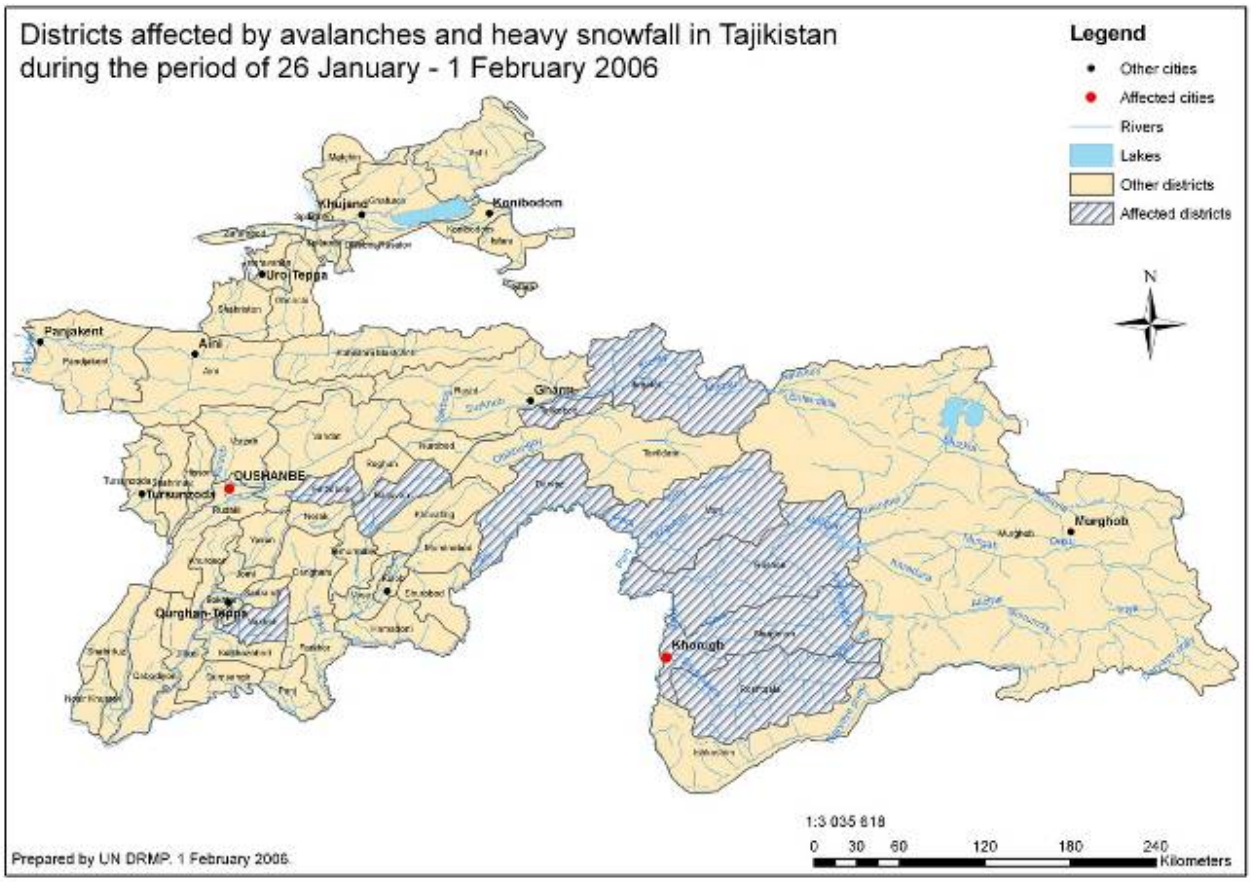
Source: ADRC country report

1.2 Recent major disasters

(1) Description of recent major disasters and response activities

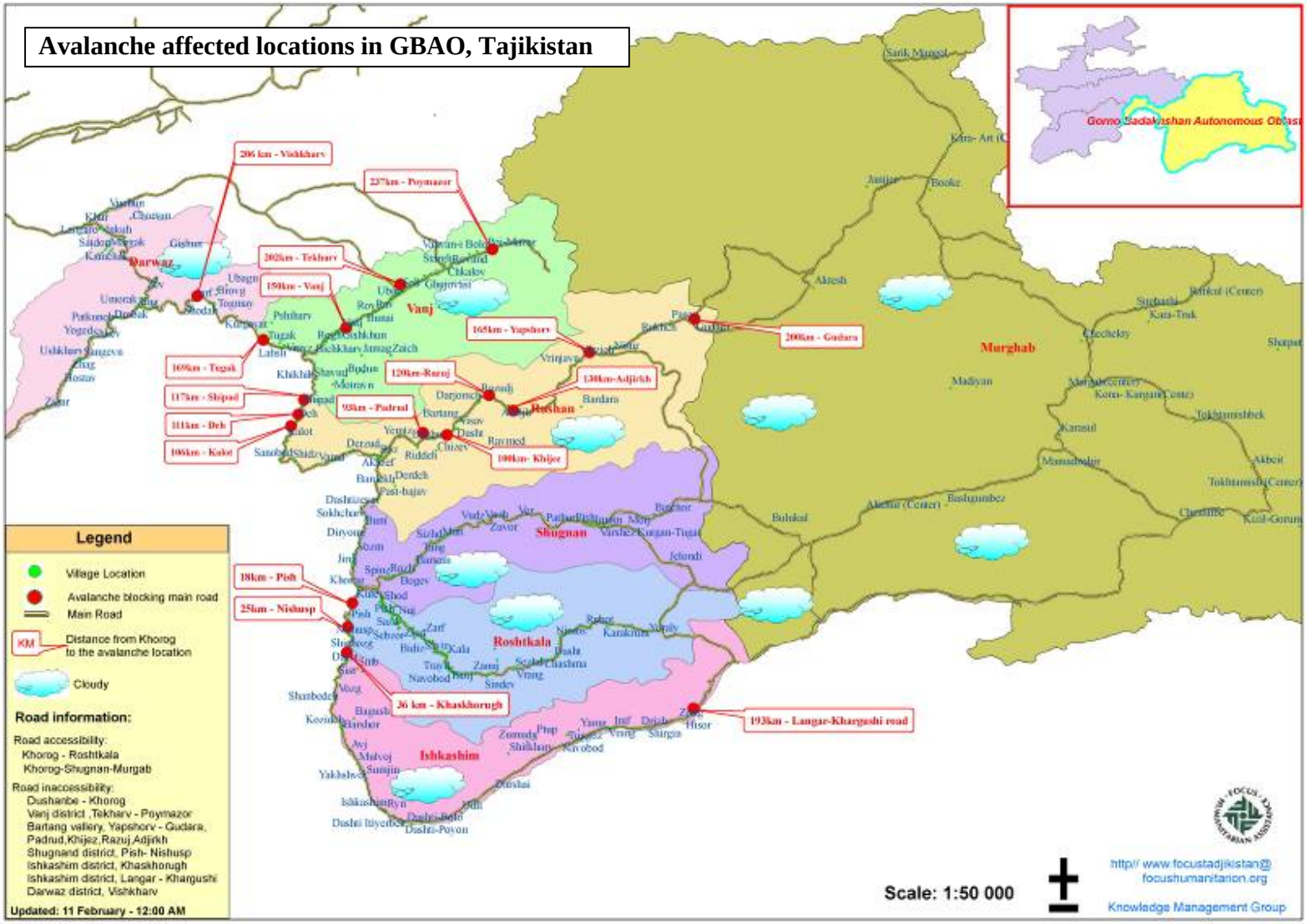
Avalanches of January 2006

Tajikistan has been hit again this year by heavy snowfall starting 26 January and continued for few days. Afterwards, the temperatures increased significantly, which triggered avalanches in most of the mountainous parts of the country. In Jirgatol District of Rasht Valley, in the eastern part of the country, 18 people were killed by one avalanche. Number of casualties reached 22 people. Total of 270 houses and 225 various social infrastructure (schools, medical points, etc) were destroyed or damaged all around the country. During a short period of time 85 km of roads, 52 km of communication lines, 20 km of electricity lines as well as 24 km of water supply systems were damaged. The map below is and overview of the districts affected during this period:



Much damage has also been reported in Gorno Badakhshan Autonomous Oblast (GBAO). The province and districts within the province were isolated for several days due to avalanches blocking the roads. The map below prepared by FOCUS Humanitarian Assistance, which includes the information collected jointly with the regional office of the Ministry of Emergency Situations, shows the GBAO districts affected and locations of avalanches:

Source: ADRC country report



Source: ADRC country report

Floods of June 2005

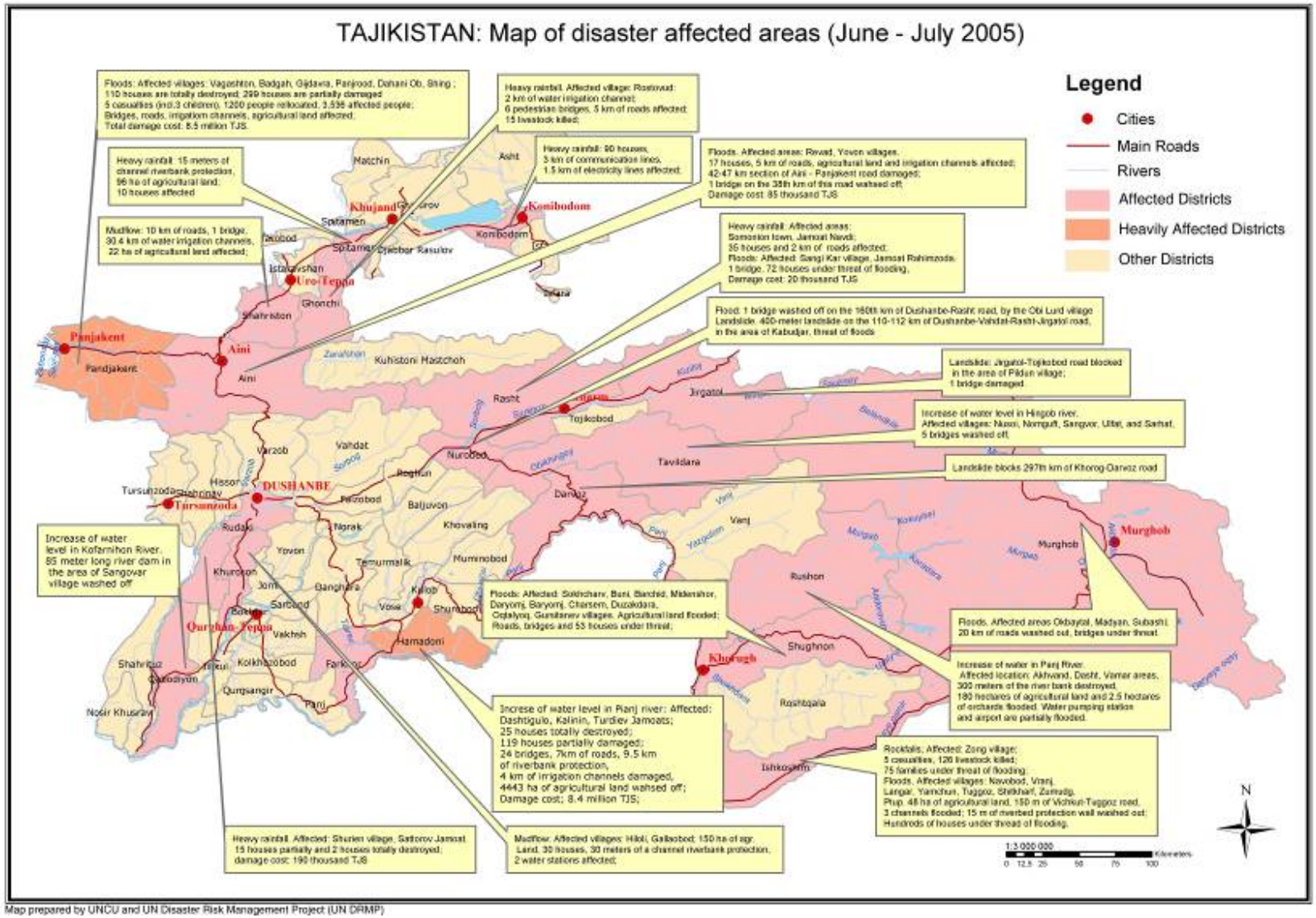
Heavy rainfall followed by rapid warming of temperature, caused severe flooding and mudflows around the country. Beginning of June 2005 floods caused considerable damage to the infrastructure and livelihoods of Penjikent District of Sughd Oblast, located in the northern part. Total of 110 houses were totally destroyed and 299 houses were partially damaged in 5 villages of Shing and Rudaki Jamoats of Penjikent District. 3,500 people were reported affected. Total of five casualties (including 3 children) were reported in the area.

Affected household in Penjikent District

Due to rapid warming of temperature and melting of snow, water level in Pianj River had significantly increased, damaging the riverbank protection facilities in the district of Mir Said Alii Hamadoni (former Moskovskiy district) of Khatlon Oblast.

A total of 4, 111 households (35,000) people were affected in Hamadoni district and about 11,000 people were evacuated to a temporary camp.

Destroyed bridge in Hamadoni



Map prepared by UNCU and UN Disaster Risk Management Project (UN DRMP)

Source: ADRC country report

Heavy snowfall – February 2005

Tajikistan was hit by heavy snowfall starting 1 February 2005, which continued for several days. In Tavildara district of Rasht Valley 2 metres of snow had fallen in the first two days. In Rasht Valley, an important areas surrounded by steep slopes, over a hundred major avalanches had come down into populated areas. Hundreds of vehicles were trapped in the snow in Rasht Valley, alone. The heavy snow had caused roofs to collapse on hospitals, schools and private homes. In mountainous Tajikistan, key inhabitated valleys of the country were completely cut off from the rest of the country. For such areas, all roads were blocked, and all communication lines were down. Within these regions, numerous whole villages were completely isolated from each other. Helicopters could fly to the affected areas due to snowfall for several days.

Affected house in Rasht Valley

Level of snow in Tavildara District

An avalanche in Degdonak village of Mujikharf Jamoat in Rasht valley killed 9 people and 3 were seriously injured. This avalanche buried 15 houses under the snow.

In GBAO a total of 375 avalanches had been registered.

More details about this disaster and information on response activities can be found at here.

Floods and landslides of July 2004

Floods and landslides set off by the unusual heavy rains, starting on 12 July 2004 caused considerable damage to infrastructure and livelihoods throughout Tajikistan. The water supply system to the capital city, Dushanbe, was damaged and 60% of the city population was left without drinking water. The only road connecting the capital with the northern city of Khujand was disconnected. The government initially estimated the damages to amount to about US$ 12 mln.

Damaged road in Varzob District

Damaged bridge in Varzob District

Heavy rains caused damage to infrastructure, mainly roads, bridges, water and electricity supply systems. Badly hit area was Varzob District. All relevant ministries and government departments had been mobilized to deal with the effects of the disaster. Some villages had to find alternative sources for drinking water as the Varzob river was muddy and polluted. IFRC/Red Crescent Society of Tajikistan established a first aid tent to service flood victims, travelers walking down from blocked parts of the road and the Khoja Obi Garm sanatorium. The Centrospas (the specialized rescue team of MoES) were also mobilized involved in much of the rescue and recovery work.

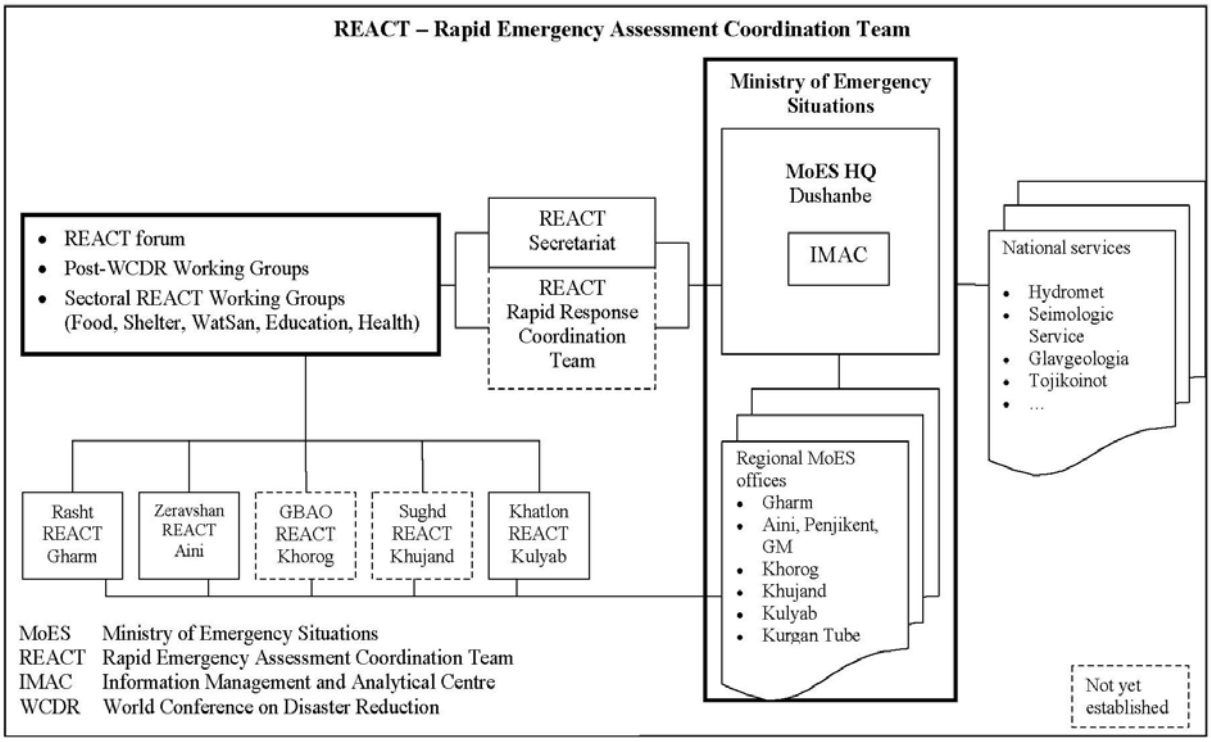
More details about this disaster and information on response activities can be found at here.

Source: ADRC country report

Response Activities – REACT Partnership

During any emergency, uncoordinated assistance can be a disaster in itself. In Tajikistan, since 2000, the Ministry of Emergency Situations and Civil Defense has been leading a disaster management coordination group known as the Rapid Emergency Assessment and Coordination Team (REACT). In an even of any disaster, REACT is activated by the Ministry of Emergency Situations to organize a coordinated response.

With the main coordination group based in the capital Dushanbe, regional REACT groups have been established in Rasht and Zerafshan Valleys as well as in Kulyab in order to facilitate better disaster management coordination at the field level. REACT has played an important role in meeting the acute needs of affected population in time. The chart below describes the current disaster management structure with the relations to REACT:



Disaster Management Partnership – REACT structure

REACT has proved invaluable in mitigating, preparing and responding to recent disasters nationwide. REACT has also become the national Disaster Management Partnership, whose activities have expanded over the past 2 years to include coordination efforts in broader disaster management areas, including community-based mitigation, hazard mapping and GIS. Presently REACT is constituted by 65 different organisations: 16 Government agencies, 7 donor organisations, 9 UN agencies, 28 International NGOs, and 5 local NGOs.

Source: ADRC country report

(2) Activities for recovery and reconstruction after major disasters

Government plays an important role in recovery and reconstruction after disasters. People who lose their houses receive financial and material compensation and other means of assistance from the government, in order for them to build new houses and restore livelihood.

New school built by government in Penjikent for relocated people

The REACT partnership is also involved in recovery and reconstruction after disaster, in order to ensure coordination. Within the REACT Parnership, 5 sectoral groups have been established to deal with: 1- Food Aid, 2- Non-food items, including shelter, 3- Health, 4- Water and Sanitation, and 5- Education. These sectoral groups are working towards developing strategies for effective preparedness, response and recovery in their specific areas. Their work feeds into updating of the Inter-Agency Contingency Plan for Tajikistan. A Rapid Response Coordination Group has been established within the partnership to reassure efficient disaster response. All information on all aspects of disaster management is shared on www.untj.org, where interested people or organizations can find up-to-date information on the overall situation in the country as well as recent disasters.

Reconstruction of new houses in Penjikent district

Source: ADRC country report

II. Disaster Management system

2.1 Administrative system

Conventional long form: Republic of Tajikistan
Conventional short form: Tajikistan
Government type: republic
Capital: Dushanbe
Administrative Divisions: 3 provinces (viloyatho, singular - viloyat) and 1 autonomous province* (viloyati mukhtor);

2.2 Legal system, legal framework

There are several national laws and decrees, which govern the disaster management field in Tajikistan:

Government of the Republic of Tajikistan Decree #400 "**On the establishment of the Committee for Emergency Situations and Civil Defense**" (17 August 1994), is the first legal provision in the field of protecting the population and territories from natural and manmade emergency situations.

The Law of the Republic of Tajikistan "**On Civil Defense**" (November 1995) is aimed at the implementation of security tasks in wartime. This Law was reconsidered in 2004; its peculiarity was reduced to the regulation and provision of safety in peacetime.

The Law of the Republic of Tajikistan "**On protection of population and territories from natural and manmade emergency situations**" (2004) stipulates organizational and legal provisions in protecting the people, national territories, natural wealth of Tajikistan.

The Law "**On emergency rescue services and the status of rescuers**" defines the organizational, legal and ecological conditions for application of capacities and tools to prevent and mitigate emergency situations. It also regulates relations among the authorities, institutions and citizens, and determines rights and duties of rescuers in the country.

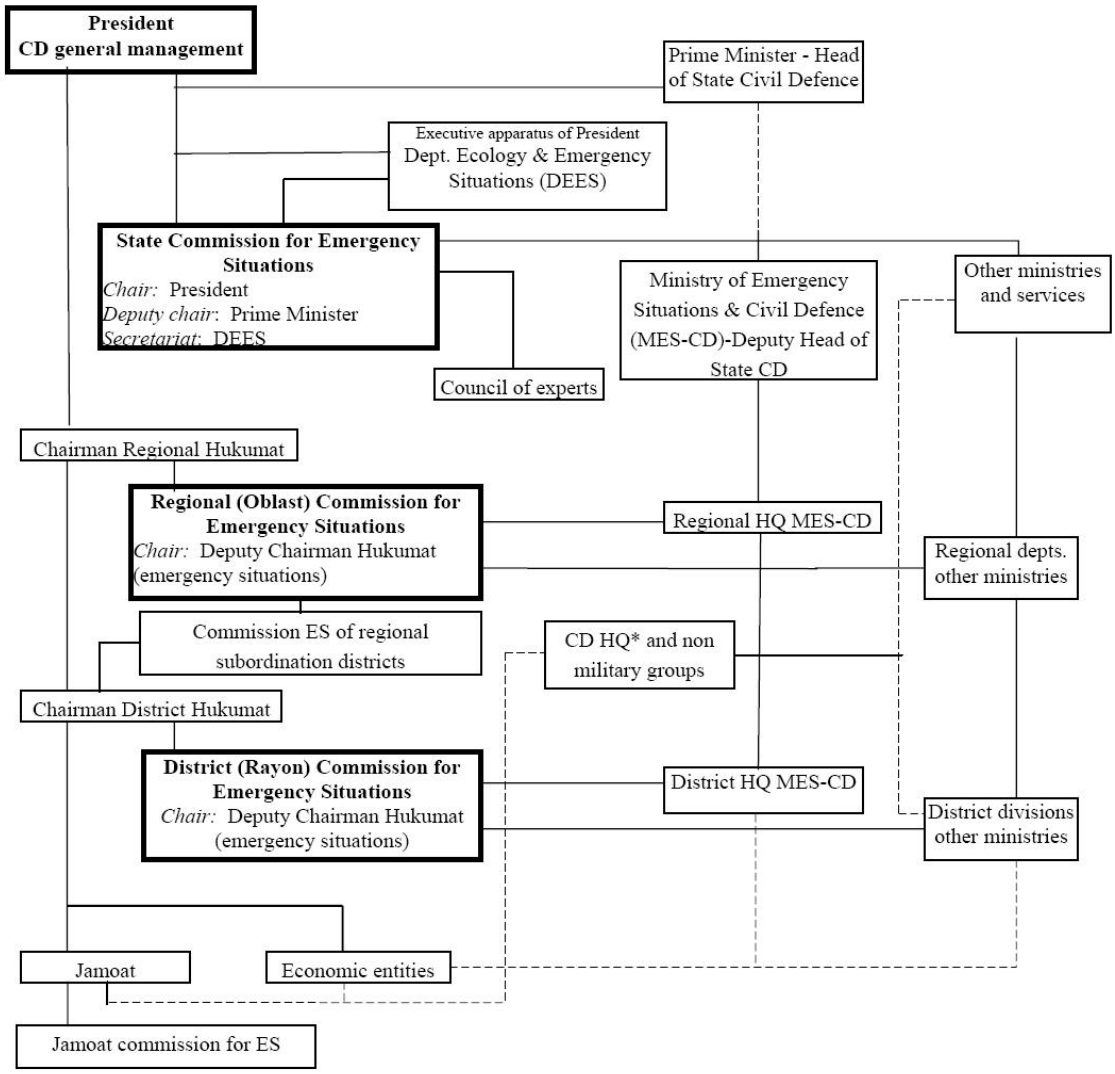
The Law "**On the Fund for mitigation of emergency situations**" (27 December 1993), allocated the fund for mitigation and rehabilitation activities. The fund comes from 10 percent of depreciation amounts paid by business enterprises on the territory of Tajikistan.

2.3 Structure of disaster management

The establishment of the **State Commission on Emergency Situations** under the Government of the Republic of Tajikistan has become an important step

in the enhancement of the system of management in emergency situations. This Commission has obtained a status of a national coordinating body in emergency situations.

Structures for Disaster Preparedness and Response in Tajikistan



* CD HQ – according to the "Law of RT on CD" all ministries, institutions, organisations and their local subdivisions (oblast, districts, jamoats) should organise Civil Defense HQ.

The **Ministry of Emergency Situations and Civil Defense (MoES)** was established to settle issues of protection of the population and territories of the country. MoES has the following functions:

- Implement a common State policy in disaster prevention and mitigation;
- Implement programs on disaster management;
- Maintain preparedness of disaster management units, communication and warning systems, forces and tools acting in emergency situations,

implementation of mitigation and rehabilitation activities, forecasting and assessment of socio-economic impact from emergency situations;
- Implement international cooperation for disaster reduction efforts;
- Stock piling and delivery of relief aid to the affected population.

MoES is also tasked to protect the population and national territories from hazards of military actions such as terrorist threats.

2.4 Priority on disaster risk management

- Enhancement of disaster management and information maintenance

  - establishment of a more efficient structure of management;
  - gradual integration of a common system of response to emergency situations and systems of civil defense in the integrated State system
  - establishment of early warning and forecasting systems

- Building and strengthening international cooperation in the sphere of prevention and mitigation of emergency situations

  - establishment of an international system of response to emergency situations;
  - enhancement of management of international forces in areas affected by disasters;
  - development of coordinated scientific studies on disaster prevention and mitigation

III. Disaster management plan

There is no specific Disaster Management Plan in Tajikistan yet. The Ministry of Emergency Situations and Civil Defense is working closely with the international community, in order to consolidate all the various sectors of disaster management into a Disaster Preparedness plan.
Currently, disaster management is part of the Civil Defense Plan of the country.

IV. Budget size on national level

In order to implement various activities for disaster management, the central government, as well as the regional and district authorities, and the local communities allocate special funds from their budgets.
Government allocates approximately USD 5-6 mln. annually for disaster response and recovery activities.

Law of the Republic of Tajikistan "On the Fund for mitigation of emergency situations" (27 December 1993) mandates government to allocate a fund for mitigation and rehabilitation activities.

V. Progress and situations of the Hyogo Framework for Action (HFA)

The Republic of Tajikistan has undertaken the following actions in response to HFA.

With the help of the representation of ISDR in Central Asia, two consultative meetings have been held as a follow up to HFA between Central Asian Countries.
The first regional consultative meeting on disaster risk reduction in Central Asia was held in Dushanbe, Tajikistan, 1-2 of December 2004. The meeting was jointly organized by the Government of Tajikistan, UN Disaster Risk Management Project in Tajikistan and UN/ISDR Outreach Office in Central Asia. Governmental officials from Kazakhstan, Kyrgyzstan, Tajikistan and Uzbekistan, and representatives from Directorate- General for Humanitarian Aid (ECHO), Swiss Development Cooperation (SDC), Asian Development Bank (ADB) and United Nations Development Programme (UNDP) participated.

The objectives of this regional consultative meeting were to:

- Promote regional cooperation and collaboration in the field of disaster risk reduction;
- Integrate disaster risk reduction into development planning, policies and implementation, as part of the Central Asian preparatory process for the World Conference on Disaster Reduction and the outcomes from this conference;
- Discuss measures urgently needed in order to create sustainable development planning and programmes;
- Create a regional platform for disaster risk reduction, especially integrating disaster risk reduction into public policies, promotion of disaster emergency response and disaster risk reduction at the community level and professional capacity building;
- Consult with participants from Central Asian governments; aim to set regional priorities, and to create a fundament for a regional strategy for disaster risk reduction.

The participants came up with following key points;

- Work must be harmonize, taken into consideration that major threats like earthquakes can also lead to secondary effect and create human made hazards, example leakage chemical industry can become a consequence of poor building structure.
- Hydro technological facilities (HEPS) – are a major threat. Need to improve monitoring of these facilities.
- Need for disasters database for Central Asia in order to increase prevention.
- Improved early warning and monitoring.

Source: ADRC country report

- Major cities in Central Asia all prone to earthquake- legislation for private construction practices, a need for sustainable urban development, common problems
- Harmonization of legislations
- Earthquake is a common threat to all the countries of Central Asia. The group will focus on two concrete actions with donors' support:
  A) Legislation for disaster risk reduction should be harmonized, starting with earthquake legislations- building codes for private constructions. Tajikistan will take a leading role to draft the legislation and then share and discuss with other countries. Countries were recommended to organize two meetings to consult with national institutions for finalisation of the legislations.
  B) Seismic hazard mapping should be unified for Central Asia through the joint work of technical scientific research institutions.
- Information and knowledge sharing should be harmonized and enhanced among the countries through the regional website based in Iran, and extend the competence centre on disaster risk management based in Dushanbe (education and educational materials). A data bank on disaster risk reduction should be developed.
- Donor cooperation at regional level should be harmonized in the domain of disaster risk reduction.
- Assistance should be provided in improving monitoring and early warning systems in the most vulnerable constructions (large dams and reservoirs) of Central Asia. Assistance should also include assessment, prioritisation and community awareness and training, supply and installation.

The second consultative meeting was held in Almaty, Kazakhstan 24-25 May 2005, which was a follow up to the first consultative meeting. One of the concrete outcomes of the second meeting was a joint agreement on reviewing the draft Low on Earthquakes, which will be adopted and approved by each government.

Disaster risk mitigation is a national priority. Measures on risk mitigation taken by the government of the Republic of Tajikistan.

The Government of Tajikistan under the support of regional and international organizations develops multilevel and multisectoral cooperation for risk mitigation, widely applying legal and other relevant risk reduction and preventive measures, some of which are included in the country development plans.

The central government, as well as the regional and district authorities, and the local communities allocated special funds from their budgets national for disaster prevention activities.

In August 2004, the government organized a national workshop on risk management in emergency situations, which resulted in the development of a country strategy and a set of priorities on disaster reduction. The workshop

helped further enhance national policy in the field of risk management. It also accelerated the implementation of activities by legal and executive authorities, local governments, enterprises, communities and citizens of Tajikistan.

Risk management and preventive measures remain the key priorities for the Government. Currently, the Government has strategic stockpiles of food and non-food commodities, and undertakes measures on the enhancement of national and regional capacities and reserves needed for risk management.

Priority activities in the country include among others, the development of a logical legal basis, mobilization of the State prevention and mitigation forces and tools, management and coordination of the State structural units, the introduction of global risk prevention and mitigation experiences, all based on the framework of the International Decade for Disaster Risk Reduction.

Several laws were enacted as mentioned above. In addition, the State Commission on Emergency Situations was created. This Commission serves as a national coordinating body for emergency situations.

The Ministry of Emergency Situations and Civil Defense of the Republic of Tajikistan was established for the settling of issues of protection of the population and territories in natural and industrial emergency situations.

Identification, assessment and monitoring of risks in emergency situations

Currently, within the Information-Analytical Center, the Ministry develops a sustainable scientific technological infrastructure at the national and local levels. This infrastructure is needed for research, monitoring, analysis, mapping, forecasting of natural disasters, development of a relevant data base, testing of innovation, scientific and technical methodologies, distant surveys, systems of geographical data, systems of disaster modeling, forecasting of weather and climate conditional, systems of risk assessment and early warning.

To prevent flood hazards, the government is constructing a diversion tunnel along the left opposite bank of the river, which will be passing the waters of Vakhsh in case of activation of the Baipaza landslide, and perform the function of an emergency spillway.

For landslides, the implementation of the international project (LSRMP) modern early warning and monitoring systems were installed at the Usoi dam; the awareness of the residents along the riverbed was enhanced, and enable them to timely evacuate in case of the breakthrough of the lake.

Application of knowledge, innovations and education in formation of safe behavior and disaster management capacities on all levels

Local data bases, information bulletins on advanced practices, feasible and accessible risk reduction technologies and lessons learned from policies, plans and loss reduction measures are being developed within the local networks of State authorities.

The Scientific Research Center under the Ministry on Emergency Situations and Civil Defense has developed a system of training and tutorials on disaster mitigation management for local governments, decision-makers, regional branches of the Ministry involved in disaster management, vulnerable communities, business enterprises and the common population of the country.

The Government of the Republic of Tajikistan considered the issue of inclusion of special risk reduction subjects in the educational curriculum for 2006-2007, and in the relevant educational programs within the systems of school, pre-school, secondary, special and higher education.

In addition, local authorities establish information services with the purpose to inform the population about perspective development planning in cities and districts, construction planning of new industrial and civil objects, activities on land reclamation and land use.

Reduction of the basic risk factors

The level of poverty is still high in Tajikistan, and the difficult conditions of living weaken the prevention and risk reduction capacities. Despite this, some activities were undertaken to address concerns on nuclear threats such as: studies on nuclear radiation due to the extraction of uranium deposits in the country.
Currently, the activities on physical reinforcement of the national radioactive waste disposal unit are under intent control of the International Atomic Energy Agency (IAEA). Tajikistan became a member of this organization since 2001.

In addition, the Ministry of Emergency Situations has been implementing activities to assess users of radioactive sources aimed at preventing of radioactive accidents, and inventory of radioactive sources at industrial enterprise of the country.

Enhancement of disaster preparedness for effective actions

In Tajikistan, it is recognized that the development and periodical updating of plans of preparedness to natural and industrial hazards establishes a legal bases for actions in emergency situations. However, at present the Government is sourcing support from the international community to formulate a comprehensive disaster risk management plan.

International cooperation

An efficient system of coordination, interaction and cooperation between the Government, UN agencies and international humanitarian organizations has been established in the sphere of risk reduction in emergency situations.

Currently, 13 UN agencies working in Tajikistan implementing the concept "Moving the Mountains", which represents a common strategy of actions aimed at the achievement of positive outcomes in the sphere of access of the population to basic social services, assistance in mitigation activities, and hazards related with mountainous landscape, support of communities and households in strengthening of democratic values. The significant inputs of donors, which amounted to $380 million in 2003 and 2004, indicate the commitment of the international community.

Another significant achievement is the establishment of the REACT group in 2001. It comprises of a number of key international and national organizations that work in the sector of disaster preparedness and mitigation, and have capacities for prompt provision of skills and resources for immediate assessment of needs. This organization consists of the Ministry of Emergency Situations and Civil Defense of Tajikistan, Swiss Agency for Development and Cooperation, National Red Crescent Society of Tajikistan, Focus Humanitarian Assistance, Global Partners, International Federation of Red Cross and Red Crescent Societies, Merilin, MSF Holland, UNICEF, UNHCR, WFP and WHO.

Project implementation with UN agencies at present aimed at developing an efficient risk reduction policy, strengthening of coordination mechanisms, application of new technologies in assessment and monitoring, which significantly enhances forecasting and decreases time limits for response, improves public awareness on the issues of risk, vulnerability and mitigation of emergencies, and enhances partnership on local, national and international levels.

VI. Projects on disaster reduction headed by your Ministry

There are several programmes and initiatives covering the field of disaster reduction in Tajikistan.

European Commission Humanitarian Office has been running a Disaster Preparedness Programme in Central Asia since 2003. Most of the projects are

implemented in Tajikistan, The projects are implemented jointly by international organizations and MoES.

The Swiss Agency for Development and Cooperation had started a Disaster Reduction Program for Central Asian countries, mainly in Tajikistan.

The UN is running a joint project with MoES called UN Disaster Risk Reduction Project. This project is co-funded by UNDP and SDC. The main goal of the project is to build the capacity of the MoES.

VII. ADRC Counterpart

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