National Disaster Risk Management Strategy
For 2010 – 2015
Republic of Tajikistan

President speech

Government of the Republic of Tajikistan
DECREE

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About approval of the National Disaster Risk Management Strategy of the Republic of Tajikistan for 2010-2015

In accordance with the Law #6 of the Republic of Tajikistan "About state perspectives, concepts, strategies and programs of social and economic development of the Republic of Tajikistan", Government of the Republic of Tajikistan decides:

1) To approve National Disaster Risk Management Strategy of the Republic of Tajikistan for 2010-2015 (attached).
2) To appoint Committee on Emergency Situations and Civil Defense under the Government of the Republic of Tajikistan as coordinator of the implementation of the National Disaster Risk Management Strategy of the Republic of Tajikistan for 2010-2015.
3) Relevant ministries and agencies, local executive bodies of the Republic of Tajikistan have to ensure the implementation of the National Disaster Risk Management Strategy of the Republic of Tajikistan for 2010-2015 within funds allocated in the budget of the sector as well as humanitarian and donor funds of the international organizations.
4) Committee on Emergency Situations and Civil Defense under the Government of the Republic of Tajikistan has to submit annual progress reports on implementation of the National Disaster Risk Management Strategy of the Republic of Tajikistan for 2010-2015 to the Government of the Republic of Tajikistan.

Chairman of
the Government of the Republic of Tajikistan Emomali Rahmon

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Introduction

The Republic of Tajikistan is a country prone to natural disasters. Natural disasters that occurred from 1997 to 2009 led to the loss of 933 lives with damages amounting to 1.15 billion somoni.[*] This has negatively affected the lives and welfare of the population and has impeded the development of the country.

To reduce the impact of disasters in the Republic of Tajikistan it is necessary to include disaster risk reduction activities into the development programs for the society and the country in general. This preparation will help to reduce the impact of threats, as well as reducing the social and individual vulnerability to external events.

Major climatic and geological threats have had a permanent effect on the population of the country. As a result of these events, the Republic of Tajikistan needs a reliable, integrated, sustainable foundation for effective prevention, mitigation, warning and response to possible disasters. Every citizen of the Republic of Tajikistan needs to possess the knowledge and skills in this area so as to be able to contribute to effective disaster risk management at the individual level, at the household level, as well as at the regional and national levels.

The perspective that disasters are uncontrollable and a temporary phenomena, which should be managed by means of short-term aid, or that their impact can be reduced through complex technical measures is being replaced by the recognition that the impact of disasters is closely related to the sustainable development of the state and society. With the development of new technologies risks associated with natural hazards are at present is increasingly viewed as controllable processes. This perceived controllability becomes possible with increased risk awareness, improved risk assessment and planning, as well as effective disaster preparedness with the application of disaster risk reduction measures. In aggregate, these measures are in their entirety viewed as “disaster risk management.” The overall goal of this is to prevent, reduce and mitigate the consequences of disaster for the country, society and individuals.

The difficulties of these risks faced by the people in their daily lives requires an integrated and comprehensive solution. This concern was highlighted at the UN World Disaster Reduction Conference, held early 2005 in Kobe, Japan. This conference adopted the **Hyogo Framework for Actions 2005 - 2015**: "Building the Disaster Resilience Capacity of

[*] Data are not corrected in a view of inflation.

Nations and Communities", which includes a focus on priority areas for actions and disaster risk reduction objectives.

The Government of the Republic of Tajikistan makes every effort to implement disaster risk reduction priorities recommended in the Hyogo Framework for Action. Together with NGOs and international partners, the Government works on mitigating disaster consequences within the country.

1. Disasters and hazards typical to Tajikistan

Tajikistan is prone to following hazards:

a) Hydrological and meteorological:

- floods;
- frosts and freezing;
- droughts;
- snowfalls;
- rains;
- hail storms;
- winds;
- avalanches;
- desertification;
- high level of groundwater

b) Geological:

- mudflows;
- landslides;
- earthquakes;
- rock falls.

c) Biological

- epidemics;
- epizootic;
- epiphytotics

d) Technological

- industrial wastes;
- dangerous biological wastes;
- unplanned chemical substance emissions (air, water, soil);
- accidents on hydrological facilities (i.e. dams, irrigation systems etc);
- traffic accidents, including railway, vehicle, air and water transpiration;
- traffic accidents during the transportation of hazardous cargo;
- incidents related to gas, fuel, and heating of the pipelines;
- incidents related to life support systems.

Some of these hazards are common within specific regions (for example: floods). Other hazards are observed throughout the country (for example: drought). All hazards originate either from the environment or have a direct relation to it, and many of these hazards are related to climate.

Disaster risk is based on an understanding of:

- the frequency, magnitude and impact of a hazard, and
- the social and structural vulnerability of the population experiencing this hazard.

Vulnerability assessment is a major challenge for the Republic of Tajikistan. Such assessments are usually based on the comparison of a wide range of socio-economic data and data of the harmful impacts, which were collected over several decades.

Efforts are currently being made to improve the assessment results, looking at the level of vulnerability based upon information submitted by the communities, as well as additional data and analyses.

Currently, the main criteria of vulnerability are:

- The number of casualties in a single emergency; and
- The level of economic damage relating to a single disaster

On the basis of data for 1997-2007, available from CoES, the disaster risk in Tajikistan can be described as follows:

a) Disasters that cause the largest number of casualties:
   - Epidemics (12 deaths in 10 years or the number of deaths per 48 cases);
   - Landslides (46 deaths in 10 years or the number of deaths per 124 cases);
   - Avalanches and mudflows (24 deaths in 10 years or the number of deaths per 1,253 cases).
b) Disasters that cause the most damage:
   - Drought causes the largest amount of economic damage, estimated on the average of 1.7 million US dollars[†] during a 10 year period, per 57 cases;
   - Heavy snowfalls (1.4 million US dollars of damage within a 10 year period, per 17 cases);
   - Earthquake (218 420 US dollars of damage within a 10 year period, per 208 cases);
   - Flood (113.770 U.S. dollars of damage within a 10 year period, per 114 cases).
c) Disasters that already caused the most damage:
   - Avalanches and mudflows (124.3 million U.S. dollars for 1997-2007.)
   - Drought (97.1 million U.S. dollars over 10 years);
   - Earthquake (49.8 million U.S. dollars over 10 years).
d) The most frequent disasters (over 10 years):
   - Avalanches and mudflows (1,253 cases);
   - Earthquake (208 cases) and floods (114 cases).

Tajikistan also faces two significant events of high impact/low frequency: dam breakthroughs and earthquakes, which are not considered in the above disaster risk assessment.

According to the current estimates, the possible breakthrough of the Usoy Dam (created at Sarez Lake) could affect thousands of people in Tajikistan, Afghanistan, Turkmenistan and Uzbekistan. The work on determining the statistical probability of the breakthrough of the Usoy Dam continues. This analysis addresses the assessment of the risk factor for each year, as well as measures to mitigate the consequences of such a breakthrough. The data on the probable breakthrough of the dam or the probable impact of the breakthrough based upon large-scale flooding is not available.

The most frequent disasters faced by the population of Tajikistan are:

[†] Disaster data showed in this section are not corrected based upon inflation.

- Earthquakes; the most serious risk to Tajikistan within the long term, which ends in the next decade;
- Epidemics, avalanches, mudflows, floods and earthquakes pose significant risk in the short term, i.e. on the annual basis;
- Droughts are not frequent, but cause significant damage.

Despite the fact that the above summarized risk assessments cover the most significant disasters faced by the Republic of Tajikistan, it is necessary to continue ongoing data collection and to conduct research in order to ascertain more accurate risk assessment data at the national and local levels.

Almost all the hazards that threaten Tajikistan in the short term are linked with climate and weather conditions. Rainfalls cause avalanches, mudflows, floods, severe winter storms and are very often a key factor in landslide causation.

Tajikistan National Action Plan on Climate Resilience approved by the Resolution of the Government of the Republic of Tajikistan on June 6, 2003 (#259) was prepared in conjunction with climate change projections.. This plan defines how these and other risks can increase the frequency and impact of said risks over the next 40 years (until 2050). Despite the fact that the forecasted changes are only assumptions, the Plan specifies that due to changes in the global and regional cyclones, the scope of disasters will increase and the consequences will even be more devastating.

Tajikistan National Action Plan on Climate Resilience addresses different periods and methods to assess risk impacts. The changes and results within the Plan as compared to the above risk assessment are not quite comparable. However, the conclusions contained in the Plan on Climate Resilience makes vitally important points, which should be included into disaster risk management activities of the Republic of Tajikistan. Thus, the Strategy will create the possibility to adapt to climate change over the next 40 years, especially when the severity and impact of disasters are climate-dependent, differing from those that have occurred in the recent past.

To implement the assessment of disaster risk reduction and disaster risk management with relation to disaster preparedness and responses stipulated in this Strategy and aimed at the current and future security of Tajikistan, it is necessary to allocate budgetary funds of the State, as well as to receive support from NGOs and international partners. The Government of the Republic of Tajikistan needs to carry out measures stipulated by this Strategy. This is in spite of the fact that significant efforts of all stakeholders are needed using the unified and coordinated approach to reduce the possible threat to the lives and welfare of every person in the Republic of Tajikistan.

2. Primary focus of the Strategy

The development and the adoption of this Strategy is the first step of many which must be taken to reduce possible damage caused by natural and man-made disasters, as well as achieving the goals of the Hyogo Framework for Action. The objectives of this Strategy, gradually defining actions to reduce the impact of disasters for the benefit of every person of Tajikistan, would occur through:

- The integration of disaster risk reduction into all development activities of the Republic of Tajikistan;
- The improvement of disaster preparedness and response.

The Strategy requires the implementation of a wide range of measures in several sectors. Successful implementation of the Strategy will enable Tajikistan to develop faster, and to improve the living standards in the country, despite the ongoing natural and man-made challenges that Tajikistan faces on a constant basis.

The Strategy provides a framework for the establishment of the Disaster Risk Reduction National Platform. This structure will be created by the Government together with the authorized disaster response and prevention structures of the Republic of Tajikistan.
The Strategy includes, complements and integrates disaster risk management measures that have been provided in other previous programs and action plans adopted and approved by the Government, including:

- The program on development of the Emergency and Civil Defense System of the Republic of Tajikistan for 2009-2014 (Approved by Decree of the Government of the Republic of Tajikistan on October 31, 2008 (#527));
- The National Action Plan for Environmental Protection (Approved by Government of the Republic of Tajikistan on May 3, 2006 (#191));
- The National Action Plan on Climate Resilience (approved by the Resolution of the Government of the Republic of Tajikistan on June 6, 2003 (#259)).

The Strategy consists of five components. Each component includes goals, objectives and concrete actions to achieve them.

2.1 Components of the Strategy and Action Plan

2.1.1 Component 1: Institutional Mandates and Legal Issues

Strategy Implementation Action Plan

Component 1: Institutional Mandates and Legal Issues

Goal: **Establishment of a regulatory and legal framework for efficient disaster risk management**

Objective: **Improvement of the legal and institutional basis for efficient disaster risk management**

The legislature of the Republic of Tajikistan regulates disaster risk management issues in Tajikistan. The legislation passed determines organizational and legal provisions for the protection of the population, property, land, water and environment, the industrial and social sphere, flora and fauna and other natural resources against disasters.

According to the legislation, disaster risk management activities are managed by the State Commission of Emergency Situations (SCES), chaired by the Chairman of the Government. The State Commission consists of the key ministries and agencies of the Republic of Tajikistan. The State Commission is the primary body that implements disaster response measures. Subsidiary commissions with similar responsibilities and composition exist at the regional and district levels.

The Committee on Emergency Situations and Civil Defense (CoES) is the primary body of executive power responsible for disaster prevention and response actions. Local CoES offices (headquarters) implement disaster management at the regional and district levels. These headquarters:

- Manage emergency operations in the disaster-affected areas;
- Make requests for urgent financial and material support; and
- Coordinate all external aid in the case of a disaster.

An analysis of the disaster response legislation of the Republic of Tajikistan has highlighted the fact that there isn't a clear division of responsibilities amongst the local executive structures, the authorized state body in the field of protection of population and territories against emergencies, as well as relevant ministries and agencies of the Republic of Tajikistan. For example, the laws of the Republic of Tajikistan "On plant quarantine", "On production and safe handling of pesticides and agrochemicals", "On industrial safety of hazardous production facilities", "On the use of atomic energy" do not define the responsibilities of the local structures regulatory structures. It is necessary to clearly separate responsibilities of all the authorized state structures of the Republic of Tajikistan in order to create an efficient disaster response system.

Not all legislation providing for emergencies in Tajikistan provide for CoES responsibilities to respond to these disasters. Therefore, it is necessary to clearly define CoES' role through revision of provisions in the current legislation of the Republic of Tajikistan.

At present, there are several disaster response plans. However these plans do not have a standardized approach to disaster prevention and response measures. They use different formats and soaccess to detailed information is inconsistent. For example, the Pandemic influenza management plan (approved by Decree of the Government of the Republic of Tajikistan, dated October 1, 2009.) consists of more than 140 pages and provides detailed information, while the Plan on prevention of the destruction of Kayrakum dam consists of one page, and the Plan for the prevention of railway accidents is presented as a single chart. Even though each plan has its own strengths, an effective response demands that all plans have to be developed to achieve common goals and have a standard format.

Moreover, the existing disaster risk management plans in the Republic of Tajikistan do not propose specific actions to mitigate or limit the effect of the consequences of disasters. These aspects of disaster risk management should be included into the disaster response plans to ensure the effectiveness of the life saving actions and the reduction of damage.

The current state of disaster risk management structures of the Republic of Tajikistan face the following challenges:

- lack of a clear legal basis for the overall disaster risk management aggravated by the overlapping and contradictory provisions of the current legislation of the Republic of Tajikistan;
- absence of a National Disaster Risk Management Strategy and National Disaster Risk Reduction Platform which would unite all governmental and private sectors;
- absence of a comprehensive national disaster preparedness and response plan and similar plans for ministries and agencies of the republic of Tajikistan;
- absence of a clearly defined role for communities within the disaster risk reduction and disaster response activities.

2.2. Component 2: Disaster Risk Assessment

Strategy Implementation Action Plan

Component 2: Disaster Risk Assessment
Goal: Implementation of disaster risk assessment in Tajikistan
Objective: Determination of hazards, vulnerability and risks for all populated areas of the republic of Tajikistan

Considerable research has been completed on identifying the location and impact zones of hazards in Tajikistan. The geophysical, meteorological and other processes linked with the phenomena of natural hazards have not been studied sufficiently. The current level of awareness of hazards and their impacts is insufficient for the effective disaster risk reduction due to:

- change in land use (e.g., increased residential housing construction within last 10 years);
- degradation of protective structures (e.g., river protection structures);
- obsolete data from research on hazardous zones conducted more than three decades ago;
- lost experience of local population in the field of disasters and mitigation due to migration of specialists; and
- climate change.

These challenges are being addressed on a site-by-site basis (e.g., via community-based disaster risk reduction projects). However these efforts have not, and are not likely to, cover all the settlements of the country which experience hazards in the absence of a national disaster risk assessment policy and program.

Understanding vulnerability at the household level is also critical to risk reduction. Each individual should be able to take action to reduce individual disaster risk. Thus, households become the smallest disaster damage assessment unit, i.e. the starting point for physical and social vulnerability reduction.
The current problems of having an accurate vulnerability assessment in Tajikistan are:

- changes in social and economic systems of the Republic of Tajikistan;
- inaccurate data on the number of households;
- lack of a clear understanding of the linkage between different socio-economic indicators, the damage caused by disasters and the capability of survivors to recover.

Community-based disaster risk reduction efforts have improved the understanding of the socio-economic criteria which define vulnerability and sustainability in Tajikistan. They also have improved the understanding of vulnerability at the national, sub-regional and household levels. However, data received, with the help of communities, has to be refined and explained so that it can be used to generate a uniform understanding of vulnerability across the households and regions of Tajikistan. Therefore, there is a need to develop a standard vulnerability assessment process and to use the information received for the implementation of concrete vulnerability reduction measures as well as reducing the individual and household disaster risk.

The European Union has supported a number of non-governmental organizations (NGO) in developing risk assessment procedures in collaboration with the CoES Information Management and Analytical Center (IMAC). These initiatives included the development of

several community-based risk assessment procedures as well as risk assessment of specific hazards and early warning systems (e.g., in Rasht Valley). The developed risk assessment criteria needs to be consolidated into one standard risk assessment process so that such an assessment tool can be used to compare assessment results across Tajikistan. Ultimately this work will need to occur so as to efficiently reduce risk, considering the resources available.

Understanding hazards and vulnerability impact provides the basis for establishing comparative risk assessment across Tajikistan. Risk assessment that covers all settlements of the country provides the basis for:

- improved disaster response planning,
- efficient allocation of limited funds for disaster risk reduction actions in order to have the highest return; and
- arrangements for disaster preparedness for communities at highest risk.

The risk assessment activities conducted by CoES IMAC need to be expanded so as to develop:

- standard risk assessment procedures;
- a comprehensive database which includes information on hazards and consequences; vulnerability indicators and general risk assessment parameters;
- data on vulnerability and risk by means of maps and geographic information systems (GIS) to appropriate scale, and
- multi-sector structures to oversee and manage various elements of the risk assessment process.

CoES IMAC has to closely work with and rely on data and information from with state agencies of the Republic of Tajikistan such as the State Commission on Emergency Situations, the Committee on Environmental Protection under the Government of the Republic of Tajikistan, the Institute of Seismologic Construction and Seismology under the Academy of Science of the Republic of Tajikistan, the State Hydrometeorology Agency, the main Department of Geology under the Government of the Republic of Tajikistan, as well as several non-governmental structures, including the World Bank, the Asian Development Bank, the European Union, all of whom are involved in disaster risk assessment and reduction in Tajikistan.

2.3. Component 3: Disaster Risk Management and Achievement of Sustainable Development in the Republic of Tajikistan

Strategy Implementation Action Plan

Component 3: Risk Management and Development
Goal: Disaster risk reduction measures are included in the development process of the Republic of Tajikistan
Objective: Establishment of mechanisms to define and include disaster risk reduction and mitigation into development policy, programmes and projects of the Republic of Tajikistan

Integration of disaster risk reduction into the development process of the Republic of

Tajikistan can result in two significant outcomes:

- reduction of the ongoing costs of development projects/programs by decreasing or preventing future disaster damage;
- cost effective utilization of limited funds.

As in many countries, in Tajikistan there is not sufficient information on the risk of disaster and disaster risk reduction mechanisms within construction documents. Some construction standards and requirements include earthquake-proof designs. In Tajikistan, construction is occurring in areas that prone to floods, landslides and other hazards. New road construction is implemented in accordance with established norms and requirements which promote reduction of evident disaster risk (e.g., construction of avalanche-protection galleries on the reconstructed Dushanbe-Aini road). At the same time, other roads are under risk of floods, landslides and dislocation of land masses. Risk assessment processes, noted in Component 2, could significantly contribute to determining districts where disaster risk reduction measures would need to be implemented.

Application of the risk assessment concept noted in Component 2 can provide assistance with coverage in most locations, including assistance to the vulnerable populations (the children, the elderly and the ill) who are at risk. This would mean inclusion of disaster risk reduction measures into local development programs; for example, risk assessment data was integrated into the Penjikent development plan.

Disaster risk reduction measures can easily be integrated into construction projects and the necessary documentation. It is more difficult to include risk reduction measures against natural and technological hazards into projects not related to construction. For example, cotton is an important source of income for the Republic of Tajikistan and cotton production can be affected by drought. Mitigating the risk of drought for cotton or other crops is beyond the control of irrigation systems. It requires solutions tied to social and financial concerns which contribute to the risk of crop failure, mitigation and sustainability efforts.
Expanding the consideration of the consequences of disaster and disaster risk management should be integrated into the process of determining, designing and implementing projects aimed at developing of the society and the state. In addition, risk management efforts should not create new problems or aggravate existing problems. It is necessary to make every effort to reduce the overall risk and to create adaptive capacities in the society to manage such frequent disasters as floods, long-term climate change and social and economic conditions.

Current best practice is that all pilot projects should include assessment of natural hazard risks, as well as mechanisms to address these risks. The Republic of Tajikistan can also take advantage of a number of new risk management methods including financial mechanisms. Insurance is the basic financial tool for risk management. Recently a number of other risk coping mechanisms have been developed. Risk coping mechanisms related to the issuance of bonds in case of accidents, and damage related insurance caused by weather change are of particular interest. These mechanisms can be used for the common climate caused hazards (e.g., impact of drought on crops), and for longer term hazards such as earthquakes. Income from the bonds can be used to fund disaster risk reduction activities.

Disaster risk reduction should also be integrated both into development programs of the Republic of Tajikistan and into post disaster recovery and rehabilitation. This integration is particularly important for shelter, water supply, sanitation, and rehabilitation of infrastructure and livelihoods. In many cases, recovery-focused risk reduction efforts can

be identified and planned prior to a disaster. This could lead to faster recovery and lower risk of future disasters.

Finally, there is a limited institutional capacity in Tajikistan to conduct research and to determine how risk reduction measures can be effectively integrated into the development and recovery programs. Despite the presence of a number of relevant institutions, their technical resources and current staffing does not allow implementation of practical research aimed at receiving policy and technical guidance to determine the most cost-effective risk reduction methods. This gap can be addressed by establishing an intersectoral institute to determine research needs, and identify sources of funding for such research and resources within and outside of Tajikistan.

Integration of disaster risk management into the development process must take into account future changes in the context of development, including the impact of climate on Tajikistan.

2.4 Component 4: Disaster Preparedness and Response

Strategy Implementation Action Plan

Component 4: Preparedness and Response
Goal: Reduction of casualties and material damage due to disasters
Objective: Building of disaster preparedness and response capacity at the national, regional, district and household levels (including the development of early warning systems) as well as disaster risk reduction capacity building.

Tajikistan has a long history of establishment and introduction of the disaster preparedness and response system before obtaining independence, including plans developed by each governmental body and disaster response capacity within governmental bodies and society of Tajikistan. At present, Tajikistan has a state system of authorized bodies responsible for disaster preparedness and response, although this system needs further improvement.

Political and social changes that are taking place in the Republic of Tajikistan after the independence require creation of the new conditions for disaster preparedness and planning. In this light disaster preparedness and planning need to:

- be more decentralized and based on the clear distribution of responsibilities with preparedness and response across all segments of the society;
- define effective and efficient ways to reach preparedness and response goals.

At present there is a wide range of sectoral (branch-wise) and organizational disaster response plans in Tajikistan. However, the absence of the uniform national, regional and local comprehensive disaster preparedness and response program means the lack of coordination between these organizations and possible incompliance of individual plans with current effective response and preparedness standards.

The improved planning of disaster response measures will contribute to disaster reduction impact in Tajikistan. Nevertheless, there is a clear need to improve disaster response capacities across all directions. Community-based disaster preparedness and response measures should be continuous. They have to be integrated into overall disaster prevention planning activities.

Specific disaster response capacities of governmental and non-governmental actors need to be significantly improved. For instance, CoES has a search and rescue team that conducts search and rescue activities after disaster. However this team is too small to effectively respond to major disasters. It is necessary to develop training of new search and rescue specialists. Measures aimed at the expansion of the real capacities and skills in provision of aid to disaster-affected populations and in case to render first aid need to be developed across all sectors and managerial levels.

At present, formal operational coordination of disaster response operations is conducted without consideration of the available experience. There is absence of centralized control of operations which promotes operative and efficient implementation of tasks. Existing practice of establishment of emergency commission to respond to each disaster under senior leadership is logical but:

- it carries out only part of the needed coordination to effectively reduce the impact of the disaster;
- it does not promote operative and effective response and logistical support.

As a result, effectiveness of disaster response and rehabilitation is not adequate.

The abovementioned shows that Tajikistan also lacks the consolidation of coordination centers to control and coordinate response to disaster threatening country. CoES has moderate coordination authorities. Regional and district CoES offices have similar adaptation mechanisms. Yet, there is no designated body which would arrange comprehensive warning, planning and coordination of disaster response. Such absence of the centralized coordination actors and capacities is quite remarkable in comparison with other countries that have similar levels of disaster risk.

Besides the need in centralized coordination mechanism, there is a need to improve disaster warning capacities. Although there are separate warning systems in the country, but there is no unified disaster warning system which could ensure timely provision of information to those who is involved in disaster response. It should be mentioned that provision of the community-based disaster preparedness led to improvement of local warning systems in some districts.

One of the problems of improvement of the warning system is the limited technical capacities within the country. At present, this capacity is presented as a small group of experts. Data collection for warning and risk assessment is also a limiting factor. Analytical capacity in exact and humanitarian sciences also needs considerable improvement.

Tajikistan can expect foreign assistance in response to most disasters affecting the country. Rapid Emergency Assessment and Coordination Team (REACT) already acts as a coordination body between CoES and non-governmental organizations, donors, and international organizations regarding the provision of foreign aid. Currently, REACT's role extends beyond simple provision of aid, it also includes disaster preparedness, planning and disaster risk reduction.

The link with REACT as the focal point for foreign disaster-related assistance and Governmental aid, disaster preparedness and disaster risk reduction need to be strengthened to ensure effectiveness of the foreign assistance in response to specific disasters and overall disaster risk reduction in Tajikistan.

In addition, Government of the Republic of Tajikistan needs to develop plans for attraction of significant foreign technical and material assistance in case of major disasters, especially major earthquake.

2.5 Component 5: Knowledge Management: Education, Training and Public Awareness

Component 5: Knowledge Management: Education, Training and Public Awareness

Goal: Disaster reduction through improved knowledge sharing and education
Objective: Creation of a national infrastructure to increase awareness of disaster risk reduction methods and opportunities through information sharing, education and training.

Current awareness by the population of the Republic of Tajikistan about disaster risk reduction methods and possibilities is not sufficient to have an impact. Knowledge about disaster hazards at the institutional and social level is needed for the rational use of the limited resources to prevent or avoid disasters. Every person is responsible for disaster management and every person has to have specific knowledge and take reasonable measures to reduce disaster risk at the individual and family level.

In Tajikistan the government makes considerable effort to improve the knowledge about disasters risk reduction and disaster risk management. These efforts are represented by community-based awareness programs for the population, training programs in schools as well as public awareness campaigns. Knowledge about disaster risk management is integrated into training curriculums for civil servants as well as being integrated into the education system. Furthermore, knowledge about disasters and disaster management is being specifically developed so as to build professional capacity for disaster forecasting and warning.

The following areas of disaster risk management knowledge needs further improvement in Tajikistan:

- an expansion of education in the field of early warning and initial disaster response in cooperation with the mass media, non-governmental organizations and private sectors to cover all quarters of society and focusing on the most critical risks;
- capacity building of communities in order to enhance disaster prevention, mitigation and coping skills, taking into account gender, age and social differences;
- dissemination of improved and understandable information on disaster risk and protection mechanisms especially to the populations in the high risk zones;
- inclusion of disaster risk management training into the curriculum of all schools, starting from primary school and going up to post-graduate study;
- expansion of learning programmes on disaster risk reduction to target specific sectors (e.g., rescuers, development planners, national emergency managers, local executive structures, technical specialists, etc.)
- provision of specific technical training and certification of volunteers involved in disaster risk management;
- development and dissemination for general use of methodologies, models and methods to assess vulnerability, hazard and risk, starting at the community level and going up to the national level, with consideration of the multi-risk context,
- development and utilization of risk-based socio-economic cost–benefit analysis;
- creation of permanent structures to establish dialogue and collaboration between the scientific community, government and non-governmental counterparts involved in disaster risk management and improvement of knowledge on disaster risk management and practical application of this knowledge;
- strengthening of ties and collaboration between experts, managers and sector/region planners to improve disaster risk management;
- further expansion of utilization of advanced disaster risk management technologies as well as specific disaster risk management opportunities within the country.

Institutional capacity of the Republic of Tajikistan to conduct research and identify efficient disaster response methods within the public and private sectors is limited. Although there are a number of institutions, their technical capacity and available human resources do not allow them to conduct practical research aimed at establishing procedures and technical instructions for implementing economic risk reduction methodologies. This problem can be

corrected by building institutional capacity, determining research needs and identifying possible funding mechanisms and resources within and outside of Tajikistan.

This Strategy provides a broad approach to disaster risk management. This approach combines the efforts to reduce and mitigate the impact of disasters on society and the individual, through the inclusion of disaster preparedness and response measures, rapid restoration of sustainability and integration of risk reduction into development programs. Disaster risk management includes the concept of sustainable development and disaster risk reduction. It should neither increase the risk of disasters in the future, nor limit access to necessary resources. It has to ensure an adequate existence for future generations.

3. Goals and objectives

The main goal of this Strategy is to reduce preventable damage caused by natural and technological disasters, so as to improve the lives of the citizens and the welfare of the Republic of Tajikistan.

The main goal will be achieved by meeting the challenges stipulated under the five components of the Strategy.

Component 1: Institutional Mandates and Legal Issues

Goal: Establishment of a regulatory and legal framework for effective disaster risk management
Objective: Improving the legal and institutional basis for effective disaster risk management

Expected Outcomes:

- Disaster risk management legislation is improved;
- National Disaster Preparedness and Response Plan is developed;
- Disaster preparedness and response plans for ministries and agencies is prepared;
- Authority of the local executive structures in the field of disaster preparedness and response is improved;
- Authority (competences) of the relevant line ministries and agencies is defined;
- Community-based measures defined and recognized as essential components of disaster risk reduction efforts.

Component 2: Disaster Risk Assessment

Goal: Implementation of disaster risk assessment in Tajikistan
Objective: Determination of hazards, vulnerability and risks for all populated areas of the Republic of Tajikistan

Expected Outcomes:

- Flood risk models for major rivers are developed and used to reduce the risk of floods;
- Flood risk maps, with appropriate scales are developed;
- River basins and locations which are highly prone to floods are determined;
- Maps for dam breakthrough flooding zones are developed;
- Maps of zones, with appropriate scales, prone to droughts, strong winds and erosion, are developed and made available for to allow for decision making in the field of disaster risk reduction;
- Information on seismic risk zones is available to all stakeholders;
- Maps of risk zones, with appropriate scale, prone to landslides, mudslides and avalanches are developed;
- Disaster risk atlas is developed and used as a guideline for decision-making;

- The database on large transport and industrial accidents is developed and periodically updated;
- Comprehensive risk assessment system for areas with high vulnerability is developed;
- Plans to attract significant foreign technical and material assistance in case of major disasters (especially major earthquake) are developed.

Component 3: Disaster Risk Management and Development

Goal: Disaster risk reduction measures are included in the development process of the Republic of Tajikistan

Objective: Mechanisms are established to define and include disaster risk reduction and mitigation into development policy, programmes and projects of the Republic of Tajikistan

Expected Outcomes:

- Disaster risk reduction measures are integrated into recovery and development programmes of the Republic of Tajikistan;
- Potential impacts of disaster risk within Tajikistan development projects are determined and addressed;
- Disaster risk management issues are integrated into the process of developing the national policy and decision-making related to land and land use planning;
- Safer construction methodologies are used to reduce disaster risk;
- Financial tools are introduced to reduce disaster risk consequences;
- Disaster risk reduction plans are developed and updated on a regular basis and implemented at all levels;
- Scientific basis for disaster risk management is established.

Component 4: Disaster Preparedness and Response

Goal: Reduction of casualties and material damage due to disasters

Objective: Building of disaster preparedness and response capacity at the national, regional, district and household levels (including the development of early warning systems) as well as disaster risk reduction capacity building.

Expected Outcomes:

- A uniform national disaster preparedness and response plan is introduced;
- Disaster preparedness and response capacity is strengthened;
- International aid to disaster preparedness and response is ensured;
- Timely response and coordination of disaster management capacity is provided at the national and regional levels;
- Early warning by rescue services and public is established.

Component 5: Knowledge Management: Education, Training and Public Awareness

Goal: Disaster reduction through improved knowledge sharing and education

Objective: Creation of a national infrastructure to increase awareness of disaster risk reduction methods and opportunities, through information sharing, education and training.

Expected Outcomes

- A national public awareness programme to create a culture of safety, in the event of natural disasters based on multiple hazards, on the basis of prevention and eradication of multiple hazards;
- Schoolchildren's awareness about disaster risk reduction is improved;
- University graduates' awareness of disaster risk management is improved;
- Civil servants' awareness of disaster prevention and mitigation is improved;
- University lecturers capacity in terms of knowledge, technology and skills of disaster risk management is improved.

4. Financing of the Strategy

Financing this Strategy is funded through grants by international organizations and through the annual budgetary funds allocated to relevant ministries and agencies.

Forty three million five hundred and sixty thousand somoni (43,560,000 TJ SOM) and ten million US dollars (10,000,000 USD) in international investments have been allocated for the financing of the implementation of the "Programme of Development of Emergency Situations and the Civil Defence System of the Republic of Tajikistan for 2009-2014". This program is approved by Decree of the Government of the Republic of Tajikistan dated October 31, 2008 (# 527).

Furthermore, funds of ministries and departments that systematically use operational and specialized information will also be included. Funds of international organizations and donors in the amount of Twenty-five million six hundred thousand U.S. dollars (25,600,000 USD) are planned to be accessed without being in conflict with the legislation of the Republic of Tajikistan.

5. Strategy Implementation Action plan

Current strategy implementation action plan is focused on implementation of the following five components:

Component 1: Institutional Mandates and Legal Issues

Goal: **Establishment of the regulatory and legal framework for efficient disaster risk management**

Objective: **Improvement of the legal and institutional basis for efficient disaster risk management**

Final Outcome	Results	Activities	Timeline	Budget (TJS, USD)	Implementing Agency
1. National disaster risk management policy and legislation					
A unified national disaster risk management (DRM) policy is developed and approved in accordance with legislation procedures of Tajikistan. A legal framework for implementation of Strategy is developed.	1. Amendments and additions to DRM legislation of the Republic of Tajikistan Approved are approved and implementation is launched. 2. A national disaster preparedness and response plan is developed 3. National DRR Platform is established	• Analysis of the existing legislation of the Republic of Tajikistan; • Identification and elimination of discrepancies, drawbacks and duplication of provisions of the DRM legislation of the Republic of Tajikistan; • Determination of the structure and functioning of the unified state disaster prevention and liquidation system[3] • Preparation of the disaster preparedness and plans at the national, regional and district levels • Establishment of the National DRR Platform	2010-2011 2010 2010	1741,5 intl funds 8836,5 intl funds 128819,4 intl funds 100774,8 intl funds 19466,1 intl funds	CoES CoES CoES, MoE CoES, MoE

[3] "Programme of Development of Emergency Situations and Civil Defence System of the Republic of Tajikistan for 2009-2014." This program was approved by Decree of the Government of the Republic of Tajikistan dated October 31, 2008 (# 527).

2. Powers of local executive bodies, ministries and agencies of the Republic of Tajikistan					
Legal powers of local executive bodies in the field of disaster preparedness and response are improved and drawbacks are eliminated	Drawbacks are eliminated and Legal powers of local administration bodies in disaster preparedness and response are improved.	Analysis of the existing legal acts of the Republic of Tajikistan in the field of disaster response in order to reveal drawbacks in powers of local executive bodies, ministries and departments of the Republic of Tajikistan. Development of drafts of appropriate legal acts on providing of additional powers in the field of disaster preparedness and response to local executive bodies, line ministries and departments of the Republic of Tajikistan	2010-2011 2010-2011	2322,0 Intl funds 32649,9 Intl funds	CoES under leadership of SConES
Legal powers of line ministries in disaster preparedness and response are improved Amendments and additions to provisions that regulate legal status of CoES, ministries, agencies and local executive bodies are adopted and separate powers of these bodies in the field of disaster preparedness and response.	Legal powers of line ministries in disaster preparedness and response are improved Amendments and additions to provisions that regulate legal status of CoES, ministries, agencies and local executive bodies are adopted and separate powers of these bodies in the field of disaster preparedness and response.	▪ To bring in compliance and strictly separate responsibilities of local executive bodies, CoES offices. To determine CoES status within SCES structure[4]	2010-2011	Own funds	CoES with relevant line ministries and agencies
Community-level activities are	Community-based measures promote DRR	▪ To develop drafts of legal acts that provide for community-based DRR measures;	2010	5450,2 Intl funds	CoES with relevant local

[*] "Programme of development of Emergency Situations and Civil Defence of the Republic of Tajikistan for 2009-2014." This program is approved by Decree of the Government of the Republic of Tajikistan dated October 31, 2008 (# 527).

determined and recognized as essential component of the disaster risk reduction	and local (village) level	▪ To determine responsibilities of communities in development and implementation of the DRR plans using government and non-governmental financial resources; ▪ To develop community-based disaster risk management models and methodologies; ▪ To develop coordination mechanism between CoES and NGOs in promotion of community-based DRM measures		37564,8 Intl funds 13054,8 Intl funds	executive bodies and NGOs

Component 2: Disaster Risk Assessment
Goal: Implementation of the disaster risk assessment in Tajikistan
Objective: Determination of hazards, vulnerability and risks for all inhabited areas of the republic of Tajikistan

Final Outcome	Activity Results	Activity	Timeline	Budget (TJS, USD)	Implementing Agency
1. Assessment of risk of floods and dam safety					
Flood risk models for major rivers (Panj, Vaksh and Syrdarya) are developed and used to reduce risk of floods in basin of biggest rivers Flood risk maps of appropriate scales are developed River basins and locations highly prone to floods are determined Dam breakthrough flooding zones maps are developed	1. Digital flood risk maps for major rivers are prepared 2. Flood zone maps for dam breakthrough are developed 3. Flood protection measures of the population are developed	• Data collection and development of GIS digital flood models • Development of digital models of dynamics and changing of the river bed morphology • Collection of chronological data on precipitations • Analysis of precipitation data • Improvement of quality of forecast and early warning system • Development of digital models for the most vulnerable areas • Assessment of the existing protection facilities	2010-2013 2010-2011 2010-2013 2010-2011	273144,6 Intl funds 221544,6 Intl funds 2322,0 Intl funds 12642,0 Intl funds 155477,3 Intl funds 319416, Intl funds 39693,3 Intl funds	SAonH CoES MLRWR SAonH, CoES MLRWR SAonH CoES, MoE&I CoES

		• Determination of water reservoirs with high risk of flooding where breakthrough can have a significant impact • Modeling of dam failure consequences • Development of flood-affected zone maps as a result of dam failure			

2. Assessment of drought and wind erosion risks					
Maps of territories prone to droughts, maps of wind span and wind erosion of the appropriate scale are developed and accessible for all governmental bodies and stakeholders as decision-making tool	1. Micro-climatic maps are developed 2. Drought exposure maps are developed 3. Maps of wind span and wind erosion are developed	• Analysis of the chronological data on precipitation, the amount of the surface flows, land use patterns, types of soils, population density and forms of water consumption • Classification of territories prone to drought and wind erosion • Mapping of territories prone droughts • Risk assessment of possible impact of drought	2010-2012 2010-2014	26122,5 Annual funds 97769,1 Annual funds 339669,9 Intl funds 26509,5 Intl funds	SAonH MoAgr SAonH MoAgr MoAgr
3. Seismic risk zone maps					
Information on potentially hazardous seismic zones is available for all national stakeholders	Seismic zoning maps are developed (general, detailed, micro-zoning)	• Improvement of seismic zoning maps (overall, detailed and micro-zoning) • Seismic monitoring system and data collection capacity is adjusted in	2010-2012	728088,9 Intl funds 244564,7 Intl	ISC&S of ASRT

		accordance with international standards • Introduction of 5 digital broadband seismic stations with satellite channels	2011	funds	

4. Mapping of zones at risk of landslides, mudslides and avalanches					
Maps of risk zones under hazard if landslides, mudslides and avalanches of appropriate scale are developed and available to all stakeholders	1. Detailed maps of hazards of landslides, mudslides and avalanches for urban areas are developed 2. Detailed maps of hazards of landslides, mudslides and avalanches for rural areas are developed	• Establishment of the unified monitoring system of hazardous geological processes* • Establishment of the standing commission to determine hazardous zones, conducting of engineering & geological research and monitoring of hazardous zones* • Mapping of the territories and collection of relevant landslides data • Mapping of the territories and collection of relevant mudslides data • Development of maps of vulnerable areas using satellite data • Development of the relevant database • Development of the program on adequate protection of the population and territories against mudslides and avalanches	2010-2011 2010	500,000 TJS (state budget) 100,000 TJS (state budget) $35,000 external funds 291069,2 Intl funds	CoES, SAonH CoES, SAonH MGD SAonH
5. Disaster risk atlas					
Disaster risk atlas is developed and used as a guideline for decision-making for all stakeholders	Disaster risk atlas of Tajikistan is developed, including : a) general maps 1:2500,000 resolution scale	• Development of maps of population density, land use, zones with hazardous geological processes;	2010-2014	206167,8 Intl funds 25993,5 Intl	SCES CoES SAonH

	b) Regional maps 1:500,000 resolution scale	• Collection and editing of Disaster risk maps; • Detection and identification of vulnerability level of districts and Jamoats; • Development of the detailed database on the most significant disasters.		79915,5 Intl funds 47136,6 Intl funds	
6. Major transport and industrial accidents					
The database on large transport and industrial accidents, dangerous industrial facilities, dangerous materials and substances is developed and periodically updated and available for stakeholders	• A database on hazardous industrial facilities is created; • A database on hazardous materials and substances is developed • A database on transport accidents is created	• To determine risk levels: collection of chronological data, risk analysis (railway, mains) • To develop the list of enterprises, workshops, locations and areas where hazardous materials and substances are produced, stored, transported and liquidated • To develop a list of hazardous materials and industries	2010	25342,05 Intl funds 9862,05 Intl funds 18143,85 Intl funds	CoES, MT&C MoE&I State Technical Inspection ME&I
7. Comprehensive assessment of epidemiological, epizootic and epiphytotic risks					
Comprehensive risk assessment system for areas with high vulnerability is developed	1. The system of surveillance and supervision of epidemiological, epizootic and epiphytotic situations is improved	• Collection and analysis of data on human, animal and plant infectious diseases; • Implementation of the retrospective analysis of risk data • Development of the relevant database on dangerous infectious human, animal and plant diseases	2010-2011	15409,05 Intl funds 8624,05 Intl funds 23561,85 Intl funds	MoH, MoAgr MoH MoH
Component 3: Risk Management and Development Goal: Disaster risk reduction measures are included into the development process of the Republic of Tajikistan Objective: Establishment of mechanisms to define and include disaster risk reduction and alleviation into development policy, programmes and projects					

of the Republic of Tajikistan					
Final Outcome	**Activity Results**	**Activity**	**Timeline**	**Budget (TJS USD)**	**Implementing Agency**
1. Integration of risk reduction into recovery and development programmes					
Disaster risk reduction measures are integrated into recovery and development programmes	Policy and mechanisms are developed to integrate disaster risk reduction measures into recovery and development programs at the national and local levels	• Development of database with the information on risks, hazards, vulnerability, past disasters. Zoning of emergencies and other relevant on natural disasters on the basis of GIS technology within CoES; • Review and analysis of the policy, process and procedures of planning for recovery and development measures to potentially integrate disaster risk reduction; • Development of guidelines on integration of disaster risk reduction concepts and practices into recovery and development policy; to determine means the order of its integration; • Determination of the legal and regulatory frameworks for integration of disaster risk reduction into development programs • Distribution of guidelines on disaster risk reduction per development sectors; • Conducting of trainings and consultations on integration of disaster risk management into recovery and development programs at the national and local levels;	2010-2015 2010-2011 2010-2011 2010-2011 2010-2011 2010-2013	34533,3 Intl funds 23252,25 Intl funds 31179,3 Intl funds 6030,75 Intl funds 117802,8 Intl funds 117802,8 Intl funds 464980,5 Intl funds	CoES, ASRT SAonH CoES, MEDT CoES MEDT CoES MEDT, MoE CoES, MEDT MoE

		• Increase of public awareness at all levels and in all sectors regarding the integration of disaster risk reduction into recovery and development programs.			
2. Disaster Impact Assessment (DIA) in development projects					
Potential disaster consequences are determined and considered in development projects	1. Legal acts and regulations that provide for DIA and regulate DIA inclusion in development projects are developed and enacted 2. DIA implementation mechanisms and procedure for development projects are developed 3. Guidelines for project categorization that need implementation and inclusion of DIA are developed 4. Personnel is trained to implement DIA for development projects 5. The mechanism for voluntary and obligatory insurance from different disasters is developed.	<u>Phase 1</u> • Determination of the legal basis and needs for DRR integration into development projects; • Development of guidelines for DRR integration into planning and approval of development projects; • Development of guidelines for DRR integration into planning and approval of development projects as per the category/type and level; • Development of guideline/instructions for DRR implementation. <u>Phase 2</u> • Development and introduction of the approval procedures for development projects with DRR component; • Staff capacity building to implement DRR measures and supervise review and approval processes; • Inclusion of CoES into the list of organizations that have to provide their approval for the allocation of land plots for construction; * • Development of the recommendations on voluntary and obligatory insurance from different disasters.	2010-2011 (phase1) 2010-2013 (phase 2)	16641,0 Intl funds 14630,75 Intl funds 14630,75 Intl funds 14630,75 Intl funds 30569,78 Intl funds 30569,78 Intl funds Own funds	CoES, MoED CoES MoED MoED, CoES, CoIMSP CoES, MoED CoES CoES, Tajinsurance
3. Integration of disaster risk management into the process of development of the national land use and land planning policy					
Disaster risk management issues	1. DRM integration principles are used in	<u>Phase 1</u>	2010-2011	27277,05 Intl funds	

are integrated into the process of development of the national policy and decision-making related to land use and land planning;	development and implementation of the national land use and land planning policy 2. DRM integration principles are used in development and implementation of land use policy and its planning for cities and towns of the country	• Consultations and agreements with state agencies engaged in DRM integration into the planning and implementation of the national land use policy; • Review and analysis of the options of DRM integration in course of implementation of the national land use policy; • Review and analysis of the regulatory and legal basis for DRM integration into the land use process and is planning. <u>Phase 2</u> • Development of guidelines on DRM integration into land use plans for urban and rural areas of the country; • Production of maps (appropriate resolution scales) of districts prone to disaster risks in order to stimulate adequate land use and planning • Training of staff of the ministries and agencies engaged in DRM integration in order to develop skills on design of appropriate land use plans in towns and districts	(phase1) 2010-2013 (phase 2)	13899,75 Intl funds 8739,75 Intl funds 26632,05 Intl funds 124033,5 Intl funds 94557,0 Intl funds	SCLM with relevant ministries and agencies SCLM, local executive bodies SCLM, local executive bodies, CoES , SAonH
4. Integration of risk reduction into the Building Code (BC)					
Disaster risks is reduced based on safer construction	1. BC and regulations are revised and amended (DRR inclusion) 2. Special BC is developed for the construction of health, education, industrial and tourism facilities	• Review of existing BCs to reveal the application of provisions related to natural and technological hazards of the Republic of Tajikistan; • Determination and amendment of BCs as per the revealed hazards for all type of construction;	2010-2011	12996,75 Intl funds 62139,3 Intl funds 62139,3 Intl funds	CoES, AC&A CoES, AC&A CoES, AC&A

	3. Contractors' level of awareness on new BC is improved	• Development of special rules and regulations for buildings and premises in high risk zones for all development sectors; • Revision and amendment of the provisions rules and regulations of road construction, taking into account the impact of the revealed hazards and risks • Training of the specialists and relevant state organizations supervising construction according to new BC		12996,75 Intl funds 94557,0 Intl funds	MT&C, local executive bodies AC&A
5. Disaster risk management based on application of financial mechanisms					
Reduction of disaster impact by means of introduction of financial tools to overcome risks	Financial tools to overcome risk are developed	▪ Conducting capacity evaluation of insurance and bank sectors to introduce financial tools for risk transfer; ▪ Conducting the evaluation of the capacity of the micro-credit organizations to establish appropriate financial tools for risk transfer; ▪ Review of legal provisions for bank and insurance sectors and determination of the needed amendments to insure risks in financial sector; ▪ Development of the standard insurance schemes to overcome risks in insurance and bank sectors, including the micro-credit sector ; ▪ Professional development, organizing seminars and study tours for the financial and insurance sectors and micro-credit organizations to increase awareness on the insurance mechanism in the financial sector, as	2010-2013	123414,3 Intl funds 30534,3 Intl funds 26058,0 Intl funds 111507,6 Intl funds 32959,5 Intl funds 3870000 Intl funds	MoF, Tajinsurance NB, AMFOT T MoF, NB MoF, NB WB, Taj insurance WB, Taj insurance

		well as development and introduction of this scheme in the country; ▪ Attracting funding sources for initial investments into the financial sector mechanisms based on insurance of overcoming risk (for instance, insurance or assurance of investments in risks insurance)			
6. Action plans for disaster impact mitigation					
Disaster impact alleviation plans are developed and regularly updated at all levels	1. Prioritized measures under disaster impact alleviation action plans are developed to mitigate disaster consequences at the national, regional and district levels; 2. Implementation of disaster impact alleviation action plans is funded; 3. A special programme to mitigate disaster consequences is financed and implemented; 4. Disaster preparedness and response plans for ministries and agencies are prepared.	• Monitoring and management of disaster hazard alleviation within Disaster Risk Reduction National Platform is conducted in accordance with Action plan; • Preparation of the prioritized disaster impact alleviation measures on the basis of risk assessment; • Development of the sector-specific action plans on prioritized disaster impact alleviation measures; • Selection of the special disaster reduction measures on the basis of the risk assessment and available funds for the inclusion into the Special Risk Reduction Programme; • Inclusion of the special financing item into the national and regional budgets in order to implement prioritized	2010-2014 2010-2011 2010-2011 2010-2011 2010 2011 2010 2014 2010-2014	22510,5 Intl funds 26154,75 Intl funds 40 mln TJS from	SCES, CoES, regional and district Hukumats CoES CoES, international organizations CoES CoES, MoF CoES, MoF

* "Programme of development of Emergency Situations and Civil Defence of the Republic of Tajikistan for 2009-2014." This program is approved by Decree of the Government of the Republic of Tajikistan dated October 31, 2008 (# 527).

		disaster impact alleviation measures; • Searching of the external sources of funding to complement budgetary financing of the disaster impact alleviation measures; • Rehabilitation of systems, design and construction of the anti-mudflow, avalanche-protection structures and implementation of anti-landslide measures; • Development of the programme for the protection of the population and territories against mudslides and avalanches* • Development of the program and rehabilitation of the anti-mudslide systems, design and construction of anti-mudslide and avalanche-protection structures; implementation of anti-landslide measures *		budget 6453483,0 Intl funds 10287,75 Intl funds	 CoES, MMWM CoES CoES
7. Development of and conducting disaster risk management researches					
Scientific basis for disaster risk management is established	1. An Inter-sectoral Disaster Risk Management Coordination Research Council on is established 2. Scientific and research disaster risk management programme is developed 3. Regular funding of DRM research is provided 4. Prioritized scientific	• Establishment of the Inter-sectoral Disaster Risk Management Coordination Research Council for planning and supervision of research works; • Implementation of inter-agency capacity assessment to explore significant hazards, as well as risk assessment, risk reduction from the technical and social perspective; • Development of research plan to define	2010 2010-2011 2010-2011 2012	 56489,1 Intl funds 31785,6 Intl funds 35887,8 Intl funds	MoE ASRT CoES, ASRT MoE,ASRT, CoES, SAonH, AoS, CoES, SAonH

	research projects are implemented 5. Researches are implemented on the basis of cooperation between local and external experts	the most significant prioritized risks in Tajikistan. (Significant risks are determined in Component 2); • Capacity assessment on conducting of disaster-related scientific research in Tajikistan; • Identifying external sources for professional development, sharing of experiences and knowledge which can strengthening scientific research capacity; • Determine source of financing from national and external sources to implement research plan • Implementation of the research plan under the leadership of the Inter-sectoral Disaster Risk Management Coordination Research Council • Preparation of the critical scientific research topics within CoES programme • Organization of seminars, conferences and public events to familiarize with the research results in disaster risk management in Tajikistan, including international experience	2012 2012 2015 2012 2012-2015	12545,25 Intl funds 11868,0 Intl funds 645000 Intl funds 239340,2 Intl funds	CoES, MoE, ASRT CoES, MoE, ASRT MoE, ASRT, CoES CoES, MoE, ASRT CoES, international funds REACT
Component 4: Preparedness and Response Goal: Reduction of casualties and material damage due to disasters Objective: Building of disaster preparedness and response capacity at the national, regional, district and household levels (including the development of early warning systems) as well as disaster risk reduction capacity building.					

Final Outcome	Activity Results	Activity	Timeline	Budget (TJS, USD)	Implementing Agency
1. Preparedness and response plans at the national, regional and district levels					
National Disaster Preparedness and Response Framework Plan is introduced	1. Following has to be developed on the basis of the framework plan: a) disaster preparedness and response plans, b) regional disaster preparedness and response plans c) district disaster preparedness and response plans; 2. Training is provided plans are implemented and specific disaster preparedness and response mechanisms are in place; 3. Disaster preparedness and response capacity strengthening projects are determined in accordance with National framework plan and disaster preparedness and response other preparedness	• Review of the international practices on development and execution of the disaster preparedness and response plans; • Establishment of the inter-sectoral working group to review the ongoing planning process of the disaster preparedness and response measures in Tajikistan and determination of areas that need to be improved; • Determination of the requirements to the National Disaster Preparedness and Response Framework Plan in Tajikistan in accordance with the legislation of Tajikistan and best international practices. (These requirements should cover disaster planning and response at all levels); • Development of the national framework plan involving consultants and working groups; • Utilization of the National Framework Plan as a model to develop regional and district plans; • Providing of consultations to raise awareness and conducting of seminars, workshops and information meetings regarding the plan development;	2010 2010 2010 2011 2011 2012 2012 2013	20640,0 Intl funds 17286,0 Intl funds 21478,5 Intl funds 35668,5 Intl funds 28896,0 Intl funds 13725,6 Intl funds 21665,55 Intl funds 20053,05 Intl funds	CoES CoES CoES, MoE CoES, Intl organizations CoES, Intl organizations CoES, UNDP CoES, local executive bodies CoES CoES CoES

		• Analysis of needs of international aid to ensure disaster preparedness and response; submission of the information to international community in order to ensure the implementation of the international disaster preparedness and response plan; • Conducting of the review of the National Disaster Preparedness and Response Framework Plan by non-governmental and private sectors; • Approbation of the draft plans at the national, regional and district levels • Approval of the National Disaster Preparedness Response Framework Plan by the Government of the Republic of Tajikistan; • Development of the training materials on utilization of the national, regional and district plans; • Training of trainers and training to develop and update plans; • Annual updating of plans through the elaboration and use of analytical methods • Managing the development, revision and approbation of the disaster preparedness plan in all sectors	2012 2012 2012 2011-2015 2010-2015	47659,05 Intl funds 580,85 Intl funds 1225,5 Intl funds 11868,0 Intl funds 9167,6 Intl funds 9167,6 Intl funds 9167,6 Intl funds	CoES CoES CoES CoES, stakeholders

		through CoES. • Development of the specific projects aimed at improvement of the disaster preparedness and response according to Framework plan			
2. Specific disaster response plans					
Specific disaster preparedness and response capacity is improved	Following specific disaster response plans are developed at the national, regional and district levels: • Floods • Landslides, mudslides • Avalanches • Drought • Harsh weather conditions, including frosts, hail, strong winds and heavy showers • Earthquake • Epidemics • Dam breakthrough • Industrial accidents	• Development of the specific disaster preparedness and response plans (floods, landslides, mudflows, avalanches, droughts, severe weather, including frost, hail, strong winds and torrential rains, earthquakes, epidemics, dam breakthrough, industrial accidents) on the basis of the assessment risk, vulnerability and hazards; • Training of professionals in the field of planning to reduce the impact of disasters in accordance with the specific disaster preparedness and response plans; • The development of schedules for preparation of the specific disaster preparedness and response plans; • Determination of the additional training and resources necessary to implement specific disaster preparedness and response plans; • Review specific disaster preparedness and response plans by non-governmental and private sectors of the Republic of Tajikistan; • Bringing to the attention of public authorities the need to update specific disaster preparedness and response plans in accordance with local	2010-2012 2012 2012 2013 2013 2013 2015	47755,8 Intl funds 38661,3 Intl funds 7288,5 Intl funds 7318,6 Intl funds 7318,6 Intl funds 7318,6 Intl funds	CoES, Intl organizations CoES, local executive bodies CoES CoES, local executive bodies

		conditions; • Field testing and annual review of the specific disaster preparedness and response plans			
3. Rapid Emergency Assessment and Coordination Team (REACT)					
International assistance to disaster preparedness and response provided timely, promptly and effectively	1. REACT is recognized as the coordination structure of the international aid provided for disaster preparedness and response by the Government of Tajikistan; 2. REACT functions in compliance with the established procedures and mechanisms; 3. REACT coordinates external aid provided for disaster preparedness and response	• Assessment of the current REACT capacities and needs for efficient coordination of disaster risk management measures in Tajikistan; • Determination of the structural and procedural improvements needed by REACT; • Establishment of the Steering Group within REACT to define mechanisms of improvements of REACT activities; • Development and signing of the agreement between REACT and Government of Tajikistan on determination of relevant roles and responsibilities; • Ensure agreement of the Government f Tajikistan on granting REACT the status of a body which coordinates international aid and assistance to Tajikistan in the field of disaster preparedness and response; • Strengthening of the REACT structure to ensure coordination of disaster preparedness & response measures in various districts of the country.	2010-2011	10990,8 Intl funds 5450,25 Intl funds 3270,15 Intl funds 10494,15 Intl funds 10610,25 Intl funds	CoES, Intl organizations
4. Crisis Control Centers (CCC)					
Timely activation of disaster response services and	1. Crisis Control Centers (CCC) operate in 7/24 mode in Dushanbe and in each region of the	• Construction of building for CCC; • Set up of the Working Group including	2010-2013	6008820,0 Intl funds	CoES

coordination of disaster management at the national and regional levels	country; 2. Team approach (system) is applied for CCCs in a course of disaster management.	CoES, key ministries and agencies to develop and establish CCC structure; • Develop the relevant normative and legal framework for CCCs at the national and regional levels; • Development of the CCC technical assignments that define CCC competencies at the national and regional levels; • Development of the technical requirements for CCC; • Development of the CCC staff list, staff scope of responsibilities; • Development of the CCC standard operating procedures; • To ensure approval of the CCC concept and identification of source of funding of staff and development of these structures; • Review the structure of the team system in case of emergencies and adaptation of the system to conditions of Tajikistan; • Review of the training of the system of teams staff in case of disaster management, as well as CCC human resource development; • Arrangement of semiannual and annual CCC exercises	2010 2013-2014	11958,3 Intl funds 200,000 (TJS) Budget 414,000 (USD) 12835,5 Intl funds 8765,55 Intl funds 19375,8 Intl funds 25567,8 Intl funds Own funds	CoES, UNDP CoES, UNDP CoES, Intl organizations
5. Development of early warning systems					

Prompt warning of the relevant disaster response services and public about potential disasters	1. Early warning system is created and functions; 2. Warning protocols for following natural disasters are developed: • Floods, • Landslides, mudslides, rockfalls, • Avalanches, • Drought, • Harsh climatic conditions, including frosts, hail, strong winds and heavy showers, • Earthquakes, • Epidemics, • Dam breakthrough, • Industrial accidents; 3. Timely dissemination of the disaster information	• Assessment of the existing early warning systems; • Introduction of the systemic standardized process of selection, analysis and shared use of data, maps, hazard trends and vulnerability factors including: ○ determination of key national state bodies involved in hazards and vulnerability assessment; clarification of their roles and responsibilities; ○ assigning of the responsibility for coordination of determination of hazards, vulnerability and risk assessment; ○ acceptance of the legal acts that oblige all communities to take measures on preparation of disaster zone maps and vulnerable area maps; ○ development of the comprehensive map of hazardous zones to assess the combined impact of several disasters. • Development of the monitoring systems to: ○ Conclude agreements and inter-agency protocols in order to ensure the uniformity of warnings language and communication channels when various agencies deal with different hazards; ○ adopt response plan all hazards in order to achieve mutual efficiency and effectiveness of various warning	2010-2011 2010 2013 2010-2011 2010-2011 2012 2011-2013 2011-2013 2011-2013 2012 2014 2014 2014	10610,25 Intl funds 35823,3 Intl funds 199975,8 Intl funds 5450,25 Intl funds 18672,75 Intl funds	CoES CoES CoES CoES CoES, SCLM, SAonH CoES, intl organizations, ministries & agencies CoES CoES CoES, MoF

		systems; ○ conclude and enact agreements on ties with international and regional organizations; ○ ensure availability of measurement parameters and technical characteristics of each hazard; ○ develop plans and documents for monitoring networks to be agreed with experts and relevant bodies. • Needs assessment of early warning system in compliance with requirements of the National Disaster Preparedness and Response Plan and specific disaster response plans; • Determination of needs in training and establishment of the early warning capacity; • Determination of funding from national and external sources to upgrade and enhance early warning capacity; • Improvement of the existing early warning systems and development of the new systems in line with provisions of the National Plan and specific disaster response plans; • Determination of the technical and operating procedures of the National Crisis Control Center on numerous hazards\risks of disasters; • Determination of the information dissemination mechanisms through	2014 2015 2012 2011	6127,5 Intl funds 208025,4 Intl funds 15247,8 Intl funds	CoES CoES CoES, MoF CoES, MT&C

		mass media and telecommunication systems (for instance, mobile phones) within formal information frameworks.			

Component 5: Knowledge Management: Education, Training and Public Awareness

Goal: Disaster reduction through the improved knowledge sharing and education

Objective: Establishment of the nationwide infrastructure to increase awareness of disaster risk reduction methods and possibilities through the information sharing, education and training.

Final Outcome	Activity Results	Activity	Timeline	Budget (TJS, USD)	Implementing Agency
1. National public awareness programme					
A national public awareness programme aimed at shaping of the culture of safety against natural disasters based on multiple hazards prevention and response scenario is being implemented	National Public Awareness Programme on in Disaster Preparedness, Alleviation and Response is developed	• Conducting of the assessment of existing knowledge of disasters, hazards, risks and related issues applicable to Tajikistan; • Development of the long-term and multipurpose public information campaign to raise public awareness about disaster risk reduction in Tajikistan, emphasizing on disaster of high risk. Specific component of the campaign should be targeted on children and measures through the system of education and social activities; • Determination of needs of funding of the campaigns out of internal and external sources (private and public).	2011 2010-2013 2010-2013	26986,8 Intl funds 42466,8 Intl funds 6417,75 Intl funds	CoES, MoE, ConYST CoES, CTB, MoE CoES
2. Awareness through schools and school curricula					
Awareness of schoolchildren about disaster risk reduction is improved	Disaster risk reduction is included into the school curricula	• Establishment of the Working Group on education in disaster risk management; • Analysis of the content of the current training programmes and materials on	2010 2013	13416,0 Intl funds	CoES, MoE

		disaster risk management; • Further improvements of the existing materials and training programmes and development of the suggestion on new materials; • Comparison of the existing printed and video materials provided by local and international governmental and non-governmental organizations engaged in disaster risk management and analysis of these materials in order to be used at schools; • Re-training of teachers on disaster risk management subjects; • Development of criteria to implement Disaster response plans in all educational establishments; • Development of criteria to set up school clubs on disaster preparedness within extracurricular activities.	2011-2013 2010-2012 2012 2012 2012	40177,05 Intl funds 19537,05 Intl funds 23181,3 Intl funds 14867,25 Intl funds 26019,3 Intl funds	MoE, CoES MoE MoE, CoES, CTB MoE, CoES CoES, MoE, MoE
3. Awareness raising through the system and programme of continuous education in higher education establishments					
Awareness of university graduates on disaster risk management is improved	Special subject within university and postgraduate studies, including subjects/topics of disaster risk management in various disciplines (urban planning, civil and industrial construction, geography, geology, medicine, law, economics and mathematics) is introduced	<u>Phase 1</u> • Discussion of the integration of disaster risk management into the current university training programmes with top officials of the Ministry of Education and universities; • Development of the programmes for short-term courses or integration of disaster risk management into the current training programmes; • Provision of the resources and additional training for application of the modified training and instruction materials.	2010-2013 (phase1) 2010 2010-2013 2010-2014 (phase 2 2010 2012	 1090,05 Intl funds 55231,35 Intl funds 521160,0 Intl funds 76516,35 Intl funds	CoES, MoE CoES, MoE CoES, MoE CoES, MoE MoE, ASRT

		Phase 2 • Development and integration disaster risk management into post-graduate training (post-graduate studies, doctorate studies), giving special attention to disaster preparedness, GIS technology, elimination of disaster consequences, vulnerability and risk assessment; • Development of information and advocacy measures where research can be applied locally (field research, educational events and summer camps)		534092,3 Intl funds	MoE, CoES international organisations
4. Training of civil servants					
Awareness of governmental servants on disaster prevention and liquidation is improved	Civil servants are trained on disaster preparedness and response programmes	Phase 1 • Transformation of the Emergencies and Civil Defense courses in regions and zones and in Dushanbe into Training and methodological centers and categorize them according to scope of their activities* • Development and introduction of the disaster risk management modules to train civil servants without dropping work Phase 2 • Development of the partnerships with regional organizations engaged in disaster management and training of trainers (ToT);	2010-2013 (phase 1) 2010-2011 2010-2011 2010-2015 (phase 2) 2010-2011 2011-2013 2011-2014	15189,75 Intl funds 50716,35 Intl funds 128903,3 Intl funds 50406,75 Intl funds 76671,15 Intl funds	CoES CoES, Civil servants Institute , NGOs CoES CoES

* Tajikistan Programme of Emergency Situations and Civil Defence Development System for 2009-2014. Decree of Tajikistan Government No. 527 dated October 31, 2008.

		• Adaptation of foreign training materials to local conditions; • Development of the new training modules to meet additional needs.			CoES, MoE
5. Strengthening training capacity					
Capacity of university lecturers in terms of knowledge, technology and skills of disaster risk management is improved	Capacity strengthening of the existing professional training institutions	• Discussion of the potential expansion of the training with international organizations involved in training and capacity building; • Development of the scholarship granting scheme for the professional development of faculty (trainers/instructors); • Increase in funding of training and professional capacity building; • Development of the materials and conducting of conferences, seminars and trainings disaster impact mitigation.	2011 2012-2014 2012-2014	6411,3 Intl funds 13029,0 Intl funds 304440,0 Intl funds 264366,2 Intl funds	CoES, MoE CoES, MoE CoES, MoE CoES, MoE, local executive bodies