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

Tajikistan is prone to natural disasters. Natural disasters that occurred from 1997 to 2009 led to the loss of 933 lives and damages amounting to 1.15 billion somoni.¹ This negatively affected lives and welfare of the population and slowed down the development of the country.

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

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

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

The problem of risks faced by the people in their daily lives requires integrated and comprehensive solution. This problem 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 Nations and Communities", which includes priority areas for actions and disaster risk reduction objectives.

¹ Data are not corrected in a view of inflation.

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, Government works on mitigation of disaster consequences in 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;
- epiphytotic

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 particular to specific areas (for example: floods). Other hazards are observed throughout the country (for example: drought). All hazards originate either from the environment or have direct relation to it, and many of them are related to climate.

Disaster risk is based on an understanding of:

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

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

Efforts are currently being taken to improve the assessment results, level of vulnerability based on information submitted by the communities, as well as other data and analysis. Currently, the main criteria of vulnerability are:

- The number of casualties in a single emergency; and
- The level of economic damage per one emergency situation.

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:
 - Epidemic (12 deaths in 10 years or per 48 cases);
 - Landslides (46 deaths in 10 years or per 124 cases);
 - Avalanches and mudflows (24 deaths in 10 years or per 1,253 cases).
- b) Disasters that cause the biggest damage:
 - Drought causes the biggest economic damage, the amount of which is estimated at the average of 1.7 million US dollars² for 10 years per 57 cases;
 - Heavy snowfalls (1.4 million US dollars of damage in 10 years per 17 cases);
 - Earthquake (218 420 US dollars of damage in 10 years per 208 cases);
 - Flood (113.770 U.S. dollars of damage in 10 years per 114 cases).
- c) Disasters that already caused the biggest 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 faces two significant events of high impact/low frequency: breakthrough of dams and earthquakes, which are not considered in the above disaster risk assessment.

According to current estimates, the breakthrough of Usoy Dam (created at Sarez Lake) can affect thousands of people in Tajikistan, Afghanistan, Turkmenistan and Uzbekistan. The work on determination of the statistical probability for breakthrough of Usoy Dam continues. This determination allows assessing the risk factor for each year, as well as measures to mitigate the consequences of this breakthrough. The data on probable breakthrough of the dam or the impact of the breakthrough due to the large-scale floods are not available.

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

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

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

² Disaster data showed in this section are not corrected in a view of inflation.

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

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 connection with the projections on climate change. This plan defines how these and other risks can increase the frequency and impact over the next 40 years (until 2050). Despite the fact that the forecasted changes are only assumptions, Plan specifies that due to changes in the global and regional cyclones, the scope of disasters will increase and the consequences will be even more devastating.

Tajikistan National Action Plan on Climate Resilience uses different periods and methods to assess risk impacts. Changes and results compared to the above risk assessment are not quite comparable. However, the conclusions contained in the Plan on Climate Resilience are one of the most important points that should be included into disaster risk management activities in the Republic of Tajikistan. Thus, 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 and may differ from those that occurred in the recent past.

To implement the assessment of the disaster risk reduction and disaster risk management in relation to disaster preparedness and response stipulated in this Strategy and aimed at the current and future security of Tajikistan, it is necessary to attract budgetary funds of the State, as well as support from NGOs and international partners. The Government of the Republic of Tajikistan has to carry out measures stipulated by this Strategy, despite 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. Main focuses of the Strategy

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

Strategy provides framework for the establishment of the Disaster Risk Reduction National Platform. This structure will be determined by the Government together with the authorized disaster response and prevention bodies of the Republic of Tajikistan.

Strategy includes, complements and integrates disaster risk management measures that are also provided in some 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));
- National Action Plan for Environmental Protection (Approved by Government of the Republic of Tajikistan on May 3, 2006 (#191));
- National Action P on Climate Resilience (approved by the Resolution of the Government of the Republic of Tajikistan on June 6, 2003 (#259)).

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

Component 1: Institutional Mandates and Legal Issues

The legislation of the Republic of Tajikistan regulates disaster risk management issues in Tajikistan. This legislation determines organizational and legal provisions for the protection of the population, property, land, water and environment, industry 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. State Commission consists of the key ministries and agencies of the Republic of Tajikistan. State Commission is the main body that implements disaster response measures. Subsidiary commissions with similar responsibilities and composition exist at the regional and district levels.

Committee on Emergency Situations and Civil Defense (CoES) is the central 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;
- Request urgent financial and material support; and
- Coordinate all external aid in case of disaster.

Analysis of the disaster response legislation of the Republic of Tajikistan has shown that there is no clear division of responsibilities between local executive bodies, a specially 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, 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 provide responsibilities of local executive bodies. It is necessary to clearly separate responsibilities of all authorized state bodies of the Republic of Tajikistan to create efficient disaster response system.

Not all legislation providing for emergencies in Tajikistan provide for CoES responsibilities to respond to disasters. Therefore, it is necessary to clearly define CoES

role by means of revision of certain provisions in the current legislation of the Republic of Tajikistan.

At present, there are various disaster response plans. However these plans do not have a standardized approach to disaster prevention and liquidation of their consequences, using different formats and ensuring access to the detailed information at all levels. For example, 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 Plan for the prevention of railway accidents is presented as a single chart. Along with the fact that each plan has its own strengths, effective response demands that all plans have to be developed to achieve common goals and have standard format.

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

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

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

Component 2: Disaster Risk Assessment

Considerable research has been done on identification of the location and impact zones of hazards in Tajikistan. The geophysical, metrological and other physical processes linked with the hazardous natural phenomena are insufficiently studied. 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 the 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

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cover all the settlements of the country that experience hazards in the absence of the national disaster risk assessment policy and program.

Understanding of the vulnerability at the household level is critical to risk reduction. Each individual should be able to take actions to reduce individual disaster risk. Thus, household becomes the smallest disaster damage assessment unit, i.e. the starting point for physical and social vulnerability reduction.

The current problems of 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 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 understanding of vulnerability at the national, sub-regional and household levels. However, data received with the help of communities have to be refined and explained so that they can be used to generate a uniform understanding of vulnerability across the households and regions of Tajikistan. Therefore, there is a need to develop standard vulnerability assessment process and utilize the information received for the implementation of the concrete vulnerability reduction measures as well as reduction of the individual and household disaster risk.

European Union has supported a number of non-governmental organizations (NGO) in development of 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., Rasht Valley). The developed risk assessment criteria need to be consolidated into one standard risk assessment process so that assessment which can be used for the comparison of assessment results across Tajikistan. Ultimately this work will have to done to efficiently reduce risk with consideration of the resources available.

Understanding of hazard and vulnerability impact provides the basis for establishment of the comparative risk assessment across Tajikistan. Risk assessment that covers all settlements of the country provides 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 to develop:

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

CoES IMAC has to rely on data and information and closely interact with state bodies of the Republic of Tajikistan such as, State Commission on Emergency Situations,

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Committee on Environmental Protection under the Government of the Republic of Tajikistan, Institute of Seismologic Construction and Seismology under the Academy of Science of the Republic of Tajikistan, State Hydrometeorology Agency, Main Department of Geology under the Government of the Republic of Tajikistan, as well as non-governmental structures, including World Bank, Asian Development Bank, European Union that are involved in disaster risk assessment and reduction in Tajikistan.

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

Integration of the disaster risk reduction into the development process of the Republic of Tajikistan can result in two significant outcomes:

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

As in many countries, in Tajikistan there is not enough information on disaster risks and disaster risk reduction mechanisms in the building documents. Some building norms and requirements include design of earthquake-proof structures. In Tajikistan, construction is taking place in areas that prone to floods, landslides and other hazards. Construction of new roads is implemented in accordance with established norms and requirements that promote reduction of the 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 process discussed in the Component 2 can significantly contribute to determination of the districts where disaster risk reduction measures would need to be implemented.

Application of the risk assessment discussed in the component 2 can assist to cover most of locations and vulnerable layers of population (children, old and sick people) that are under the risk. This would mean the inclusion of the disaster risk reduction measures into local development programs; for example, risk assessment data were integrated into the Penjikent development plan.

Disaster risk reduction measures can be easily integrated into the construction projects and documentation. It is more difficult to include risk reduction measures against natural and technological hazards into the projects that are not related to construction. For example, cotton is an important source of income for the Republic of Tajikistan. Cotton production may be affected by the drought. Mitigation of risk of drought for cotton or other crops is beyond the control of irrigation systems. It requires solution of the social and financial issues that contribute to the risk of crop failure, mitigation and sustainability efforts.

Such expanded consideration of the disaster consequences and disaster risk management should be integrated into the process of determination, design and implementation of the projects aimed at development of the society and state. In addition, risk management efforts should not create new problems or aggravate existing problems. It is necessary to make every effort in order 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 include assessment of natural hazard risks, as well as mechanisms to address these risks. Republic of Tajikistan can also take

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advantage of a number of new risk management methods including the 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 the longer term hazards such as earthquakes. Income from the bonds can be used to fund disaster risk reduction activities.

Disaster risk reduction should 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, rehabilitation of infrastructure and livelihoods. In many cases, recovery-focused risk reduction efforts can be identified and planned before 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 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 of policy and technical guidance to determine the most cost-effective risk reduction methods. This gap can be addressed by establishment of the intersectoral institute to determine research needs, and identify sources of funding of these researches 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 the object of development, including the impact of climate on Tajikistan.

Component 4: Disaster Preparedness and Response

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 incoherence of individual plans with current effective response and preparedness standards.

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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.

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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.

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

Current awareness of the population of the Republic of Tajikistan about disaster risk reduction methods and possibilities is insufficient to reduce impact. Knowledge about disaster hazards at the institutional and social levels is needed for the rational use of the limited resources to prevent or avoid disasters. Every person carries the responsibility for disaster management. Every person has to have specific knowledge and take reasonable measures to reduce disaster risk at the individual and family level.

Tajikistan makes considerable efforts to improve the knowledge about disasters risk reduction and disaster risk management. These efforts are represented by community-based awareness programs for population, training program in schools as well as public awareness campaigns. Knowledge about disaster risk management is integrated into curriculum for the training of governmental servants as well as into the education system. Further, knowledge about disasters and disaster management is developed on the basis of specific efforts to build professional capacities for disaster forecasting and warning.

Following areas need further improvement of disaster risk management knowledge in Tajikistan:

- expansion of the 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 layers 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 the improved and understandable information on disaster risk and protection mechanisms especially to population in the zones with high risk;
- inclusion of disaster risk management training into curriculum of all types of schools, starting from primary school and up to post-graduate study;
- expansion of the learning programmes on disaster risk reduction to target specific sectors (e.g., rescuers, development planners, national emergency managers, local executive bodies, technical specialists, etc.)
- provision of the 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 from community level and 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 the permanent structure 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 these knowledge;

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- strengthening of ties and collaboration between experts, managers and sector/region planners to improve disaster risk management;
- further expansion of utilization of the advanced disaster risk management technologies as well as specific disaster risk management opportunities of the country.

Institutional capacity of the Republic of Tajikistan to conduct research and identify efficient disaster response methods in public and private sectors are limited. Although there is a number of institutions, their technical condition and available human resources do not allow conducting of practical research aimed at establishment of procedures and technical instructions for implementation of economical risk reduction methods. This problem can be corrected by building institutional capacity, determining research needs and identifying possible funding 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 the 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 adequate life for future generations.

3. Goals and objectives

The main goal of this Strategy is reduction of preventable damage caused by natural and technological disasters, in order to improve lives and welfare of the Republic of Tajikistan. The main goal will be achieved by solving tasks of five components of the Strategy.

Component 1: Institutional Mandates and Legal Issues

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

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

Expected Outcomes:

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

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

Expected Outcomes:

- Flood risk models for major rivers are developed and used to reduce risk of floods;
- Flooding risk maps of appropriate scales are developed;

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- River basins and locations highly prone to floods are determined;
- Maps for dam breakthrough flooding zones are developed;
- Maps of zones prone to droughts, strong winds and erosion of the appropriate scales are developed and available for to make decisions in the field of disaster risk reduction;
- Information on seismic risk zones is available to all stakeholders;
- Maps of risk zones prone to landslides, mudslides and avalanches of appropriate scale 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 for attraction of significant foreign technical and material assistance in case of major disasters (especially major earthquake) are develop.

Component 3: Disaster 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

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 development of the national policy and decision-making related to land use and land planning;
- Safer construction methodologies s 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 of rescue services and public is established.

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

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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.

Expected Outcomes

- A national public awareness programme to create safety culture in case of natural disasters based on multiple hazards on the basis of prevention and liquidation of multiple hazards;
- Awareness of schoolchildren about disaster risk reduction is improved;
- Awareness of university graduates on disaster risk management is improved;
- Awareness of governmental servants on disaster prevention and liquidation is improved;
- Capacity of university lecturers in terms of knowledge, technology and skills of disaster risk management is improved.

4. Financing of the Strategy

Financing of this Strategy is carried out through the grants of international organizations and through the annual budgetary funds allocated to relevant ministries and agencies.

43 million 560 thousand somoni and 10 million US dollars in international investments have been allocated for the financing of implementation of the “Programme of development of Emergency Situations and 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).

In addition, funds of ministries and departments that systematically use operational and specialized information will be attracted, too. Besides, funds of international organizations and donors in the amount of 25.6 million U.S. dollars are planned to be attracted without violation of 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					
<u>Goal:</u> Establishment of the regulatory and legal framework for efficient disaster risk management					
<u>Objective:</u> 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.	1. Amendments and additions to DRM legislation of the Republic of Tajikistan Approved are approved and implementation is launched.	<ul style="list-style-type: none"> 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; 	2010-2011	1741,5 intl funds 8836,5 intl funds	CoES
A legal framework for implementation of Strategy is developed.	2. A national disaster preparedness and response plan is developed	<ul style="list-style-type: none"> Determination of the structure and functioning of the unified state disaster prevention and liquidation system³ 	2010	128819,4 intl funds	CoES
	3. National DRR Platform is established	<ul style="list-style-type: none"> Preparation of the disaster preparedness and plans at the national, regional and district levels 		100774,8 intl funds	CoES, MoE
		<ul style="list-style-type: none"> Establishment of the National DRR Platform 	2010	19466,1 intl funds	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).

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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.	2010-2011	2322,0 Intl funds	CoES under leadership of SConES
		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	32649,9 Intl funds	
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.	<ul style="list-style-type: none"> ▪ To bring in compliance and strictly separate responsibilities of local executive bodies, CoES offices. To determine CoES status within SCES structure⁴ 	2010-2011	Own funds	CoES with relevant line ministries and agencies
Community-level activities are determined and recognized as essential component of the disaster risk reduction	Community-based measures promote DRR and local (village) level	<ul style="list-style-type: none"> ▪ To develop drafts of legal acts that provide for community-based DRR measures; ▪ 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 	2010	5450,2 Intl funds 37564,8 Intl funds 13054,8 Intl funds	CoES with relevant local executive bodies and NGOs

* "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).

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					
<p>Flood risk models for major rivers (Panj, Vaksh and Syrdarya) are developed and used to reduce risk of floods in basin of biggest rivers</p> <p>Flood risk maps of appropriate scales are developed</p> <p>River basins and locations highly prone to floods are determined</p> <p>Dam breakthrough flooding zones maps are developed</p>	1. Digital flood risk maps for major rivers are prepared	<ul style="list-style-type: none"> Data collection and development of GIS digital flood models Development of digital models of dynamics and changing of the river bed morphology 	2010-2013	273144,6 Intl funds	SAonH CoES
	2. Flood zone maps for dam breakthrough are developed	<ul style="list-style-type: none"> Collection of chronological data on precipitations 	2010-2011	221544,6 Intl funds	MLRWR
	3. Flood protection measures of the population are developed	<ul style="list-style-type: none"> 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	2322,0 Intl funds	SAonH, CoES MLRWR
		<ul style="list-style-type: none"> Determination of water reservoirs with high risk of flooding where breakthrough can have a significant impact 	2010-2011	12642,0 Intl funds	SAonH
		<ul style="list-style-type: none"> Modeling of dam failure consequences Development of flood-affected zone maps as a result of dam failure 		155477,3 Intl funds	CoES, MoE&I
				319416, Intl funds	
				39693,3 Intl funds	CoES

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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	2010-2012	26122,5 Annual funds	SAonH MoAgr
		• Classification of territories prone to drought and wind erosion	2010-2014	97769,1 Annual funds	SAonH MoAgr
		• Mapping of territories prone droughts		339669,9 Intl funds	MoAgr
		• Risk assessment of possible impact of drought		26509,5 Intl funds	
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)	2010-2012	728088,9 Intl funds	ISC&S of ASRT
		• Seismic monitoring system and data collection capacity is adjusted in accordance with international standards	2011	244564,7 Intl funds	
		• Introduction of 5 digital broadband seismic stations with satellite channels			

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	<ul style="list-style-type: none"> 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		CoES, SAonH
			2010	500,000 TJS (state budget) 100,000 TJS (state budget) \$35,000 external funds 291069,2 Intl funds	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 b) Regional maps 1:500,000 resolution scale	<ul style="list-style-type: none"> Development of maps of population density, land use, zones with hazardous geological processes; 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. 	2010-2014	206167,8 Intl funds 25993,5 Intl 79915,5 Intl funds 47136,6 Intl funds	SCES CoES SAonH
6. Major transport and industrial accidents					
The database on large transport and industrial accidents, dangerous industrial facilities,	<ul style="list-style-type: none"> A database on hazardous industrial facilities is created; A database on hazardous materials and substances is 	<ul style="list-style-type: none"> 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 	2010	25342,05 Intl funds 9862,05 Intl funds	CoES, MT&C MoE&I State Technical

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dangerous materials and substances is developed and periodically updated and available for stakeholders	developed <ul style="list-style-type: none"> A database on transport accidents is created 	produced, stored, transported and liquidated <ul style="list-style-type: none"> To develop a list of hazardous materials and industries 		18143,85 Intl funds	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	<ul style="list-style-type: none"> 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	MoH, MoAgr
				8624,05 Intl funds	MoH
				23561,85 Intl funds	MoH
Component 3: Risk Management and Development					
<u>Goal:</u> Disaster risk reduction measures are included into the development process of the Republic of Tajikistan					
<u>Objective:</u> 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	<ul style="list-style-type: none"> 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; 	2010-2015	34533,3 Intl funds	CoES, ASRT SAonH
			2010-2011	23252,25 Intl funds	CoES, MEDT
				31179,3 Intl funds	CoES MEDT
			2010-2011	6030,75 Intl funds	CoES MEDT, MoE
		2010-2011	117802,8 Intl funds	CoES, MEDT MoE	

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		<ul style="list-style-type: none"> • Conducting of trainings and consultations on integration of disaster risk management into recovery and development programs at the national and local levels; • Increase of public awareness at all levels and in all sectors regarding the integration of disaster risk reduction into recovery and development programs. 	<p>2011</p> <p>2010-2013</p>	<p>117802,8 Intl funds</p> <p>464980,5 Intl funds</p>	
2. Disaster Impact Assessment (DIA) in development projects					
<p>Potential disaster consequences are determined and considered in development projects</p>	<p>1. Legal acts and regulations that provide for DIA and regulate DIA inclusion in development projects are developed and enacted</p>	<p><u>Phase 1</u></p> <ul style="list-style-type: none"> • 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. 	<p>2010-2011 (phase1)</p>	<p>16641,0 Intl funds</p> <p>14630,75 Intl funds</p> <p>14630,75 Intl funds</p> <p>14630,75 Intl funds</p>	<p>CoES, MoED</p> <p>CoES MoED</p> <p>MoED, CoES, CoIMSP</p> <p>CoES, MoED</p>
	<p>2. DIA implementation mechanisms and procedure for development projects are developed</p>	<p><u>Phase 2</u></p> <ul style="list-style-type: none"> • 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. 		<p>2010-2013 (phase 2)</p>	<p>30569,78 Intl funds</p> <p>30569,78 Intl funds</p> <p>Own funds</p>
3. Integration of disaster risk management into the process of development of the national land use and land planning policy					
<p>Disaster risk management issues are integrated into the process of development of the national policy and decision-making related to land use and land planning;</p>	<p>1. DRM integration principles are used in development and implementation of the national land use and land planning policy</p> <p>2. DRM integration principles are used in development and implementation of land use policy and its planning</p>	<p><u>Phase 1</u></p> <ul style="list-style-type: none"> • 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. 	<p>2010-2011 (phase1)</p>	<p>27277,05 Intl funds</p> <p>13899,75 Intl funds</p> <p>8739,75 Intl funds</p>	<p>SCLM with relevant ministries and agencies</p>

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	for cities and towns of the country	<p><u>Phase 2</u></p> <ul style="list-style-type: none"> • 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 	2010-2011 (phase 2)	26632,05 Intl funds 124033,5 Intl funds 94557,0 Intl funds	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	<ol style="list-style-type: none"> 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 3. Contractors' level of awareness on new BC is improved 	<ul style="list-style-type: none"> • 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; • 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 	2010-2011	12996,75 Intl funds 62139,3 Intl funds 62139,3 Intl funds 12996,75 Intl funds 94557,0 Intl funds	CoES, AC&A CoES, AC&A CoES, AC&A 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	<ul style="list-style-type: none"> ▪ 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 	2010-2013	123414,3 Intl funds 30534,3 Intl funds 26058,0 Intl funds 111507,6 Intl funds	MoF, Tajinsurance NB, AMFOT T MoF, NB MoF, NB WB, Taj insurance

		<p>tours for the financial and insurance sectors and micro-credit organizations to increase awareness on the insurance mechanism in the financial sector, as well as development and introduction of this scheme in the country;</p> <ul style="list-style-type: none"> ▪ 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) 		<p>32959,5 Intl funds</p> <p>3870000 Intl funds</p>	<p>WB, Taj insurance</p>
6. Action plans for disaster impact mitigation					
<p>Disaster impact alleviation plans are developed and regularly updated at all levels</p>	<ol style="list-style-type: none"> 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. 	<ul style="list-style-type: none"> • 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 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* 	2010-2014		SCES, CoES, regional and district Hukumats
			2010-2011	22510,5 Intl funds	CoES
			2010-2011	26154,75 Intl funds	CoES, international organizations
			2010-2011		CoES
			2010		CoES, MoF
			2011		CoES, MoF
			2010-2014	40 mln TJS from budget 6453483,0 Intl funds	CoES, MMWM
			2010-2014	10287,75 Intl funds	CoES

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		<ul style="list-style-type: none"> 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 * 			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	<ul style="list-style-type: none"> Establishment of the Inter-sectoral Disaster Risk Management Coordination Research Council for planning and supervision of research works; 	2010		MoE ASRT
	2. Scientific and research disaster risk management programme is developed	<ul style="list-style-type: none"> Implementation of inter-agency capacity assessment to explore significant hazards, as well as risk assessment, risk reduction from the technical and social perspective; 	2010-2011	56489,1 Intl funds	CoES, ASRT
	3. Regular funding of DRM research is provided	<ul style="list-style-type: none"> Development of research plan to define the most significant prioritized risks in Tajikistan. (Significant risks are determined in Component 2); 	2010-2011	31785,6 Intl funds	MoE,ASRT, CoES, SAonH,
	4. Prioritized scientific research projects are implemented	<ul style="list-style-type: none"> Capacity assessment on conducting of disaster-related scientific research in Tajikistan; 	2012	35887,8 Intl funds	AoS, CoES, SAonH
	5. Researches are implemented on the basis of cooperation between local and external experts	<ul style="list-style-type: none"> Identifying external sources for professional development, sharing of experiences and knowledge which can strengthening scientific research capacity; 	2012	12545,25 Intl funds	CoES, MoE, ASRT
		<ul style="list-style-type: none"> Determine source of financing from national and external sources to implement research plan 	2012	11868,0 Intl funds	CoES, MoE, ASRT
		<ul style="list-style-type: none"> Implementation of the research plan under the leadership of the Inter-sectoral Disaster Risk Management Coordination Research Council 	2015	645000 Intl funds	MoE, ASRT, CoES
		<ul style="list-style-type: none"> Preparation of the critical scientific research topics within CoES programme 	2015	239340,2 Intl funds	CoES, MoE, ASRT
		<ul style="list-style-type: none"> Organization of seminars, conferences and public events to familiarize with the research results in disaster risk management in Tajikistan, including international experience 	2012		CoES, international funds REACT
				2012-2015	

* "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).

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Component 4: Preparedness and Response <u>Goal:</u> Reduction of casualties and material damage due to disasters <u>Objective:</u> 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	<ul style="list-style-type: none"> Review of the international practices on development and execution of the disaster preparedness and response plans; 	2010	20640,0 Intl funds	CoES
		<ul style="list-style-type: none"> 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; 	2010	17286,0 Intl funds	CoES
		<ul style="list-style-type: none"> 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); 	2010	21478,5 Intl funds	CoES, MoE
		<ul style="list-style-type: none"> Development of the national framework plan involving consultants and working groups; 	2011	35668,5 Intl funds	CoES, Intl organizations
		<ul style="list-style-type: none"> Utilization of the National Framework Plan as a model to develop regional and district plans; 	2011	28896,0 Intl funds	CoES, Intl organizations
		<ul style="list-style-type: none"> Providing of consultations to raise awareness and conducting of seminars, workshops and information meetings regarding the plan development; 	2012	13725,6 Intl funds	CoES, UNDP
		<ul style="list-style-type: none"> 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; 	2012	21665,55 Intl funds	CoES, local executive bodies CoES CoES

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		<ul style="list-style-type: none"> • 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 through CoES. • Development of the specific projects aimed at improvement of the disaster preparedness and response according to Framework plan 	2013	20053,05 Intl funds	CoES
			2012	47659,05 Intl funds	CoES
			2012	580,85 Intl funds	CoES
			2012	1225,5 Intl funds	CoES
			2011-2015	11868,0 Intl funds	CoES, stakeholders
			2010-2015	9167,6 Intl funds	
				9167,6 Intl funds	
				9167,6 Intl funds	
2. Specific disaster response plans					
Specific disaster preparedness and response capacity is improved	<p>Following specific disaster response plans are developed at the national, regional and district levels:</p> <ul style="list-style-type: none"> • Floods • Landslides, mudslides • Avalanches • Drought • Harsh weather conditions, including frosts, hail, strong winds and heavy showers • Earthquake • Epidemics • Dam breakthrough 	<ul style="list-style-type: none"> • 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; 	2010-2012	47755,8 Intl funds	CoES, Intl organizations
			2012	38661,3 Intl funds	CoES, local executive bodies
			2012		CoES
			2013	7288,5 Intl funds	

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	<ul style="list-style-type: none"> Industrial accidents 	<ul style="list-style-type: none"> 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 conditions; Field testing and annual review of the specific disaster preparedness and response plans 	2013 2013 2015	7318,6 Intl funds 7318,6 Intl funds 7318,6 Intl funds	CoES, local executive bodies
3. Rapid Emergency Assessment and Coordination Team (REACT)					
International assistance to disaster preparedness and response provided timely, promptly and effectively	<ol style="list-style-type: none"> REACT is recognized as the coordination structure of the international aid provided for disaster preparedness and response by the Government of Tajikistan; REACT functions in compliance with the established procedures and mechanisms; REACT coordinates external aid provided for disaster preparedness and response 	<ul style="list-style-type: none"> 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 of 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 coordination of disaster management at the national and regional levels	<ol style="list-style-type: none"> Crisis Control Centers (CCC) operate in 7/24 mode in Dushanbe and in each region of the country; Team approach (system) is applied for CCCs in a course of disaster management. 	<ul style="list-style-type: none"> Construction of building for CCC; Set up of the Working Group including 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; 	2010-2013 2010 2013-2014	6008820,0 Intl funds 11958,3 Intl funds 200,000 (TJS) Budget	CoES CoES, UNDP CoES, UNDP CoES, Intl organizations

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		<ul style="list-style-type: none"> • 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 		<p>414,000 (USD) 12835,5 Intl funds</p> <p>8765,55 Intl funds</p> <p>19375,8 Intl funds</p> <p>25567,8 Intl funds</p> <p>Own funds</p>	
5. Development of early warning systems					
Prompt warning of the relevant disaster response services and public about potential disasters	<ol style="list-style-type: none"> 1. Early warning system is created and functions; 2. Warning protocols for following natural disasters are developed: <ul style="list-style-type: none"> • 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 	<ul style="list-style-type: none"> • 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: <ul style="list-style-type: none"> ○ 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: <ul style="list-style-type: none"> ○ Conclude agreements and inter-agency protocols in order to ensure the uniformity of warnings language and communication channels when various agencies deal with 	<p>2010-2011</p> <p>2010-2013</p> <p>2010-2011</p> <p>2010-2011</p> <p>2012</p> <p>2011-2013</p>	<p>10610,25 Intl funds</p> <p>35823,3 Intl funds</p> <p>199975,8 Intl funds</p>	<p>CoES</p> <p>CoES</p> <p>CoES</p> <p>CoES</p> <p>CoES, SCLM, SAonH</p> <p>CoES, intl organizations,</p>

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		<ul style="list-style-type: none"> different hazards; o adopt response plan all hazards in order to achieve mutual efficiency and effectiveness of various warning systems; o conclude and enact agreements on ties with international and regional organizations; o ensure availability of measurement parameters and technical characteristics of each hazard; o develop plans and documents for monitoring networks to be agreed with experts and relevant bodies. 	2011-2013		ministries & agencies
			2011-2013		
			2012-2014		CoES
		<ul style="list-style-type: none"> • Needs assessment of early warning system in compliance with requirements of the National Disaster Preparedness and Response Plan and specific disaster response plans; 	2014	5450,25 Intl funds	CoES
		<ul style="list-style-type: none"> • Determination of needs in training and establishment of the early warning capacity; 	2014	18672,75 Intl funds	CoES, MoF
		<ul style="list-style-type: none"> • Determination of funding from national and external sources to upgrade and enhance early warning capacity; 	2014	6127,5 Intl funds	CoES
		<ul style="list-style-type: none"> • 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; 	2015	208025,4 Intl funds	CoES CoES, MoF
		<ul style="list-style-type: none"> • Determination of the technical and operating procedures of the National Crisis Control Center on numerous hazards\risks of disasters; 	2012		CoES, MT&C
		<ul style="list-style-type: none"> • Determination of the information dissemination mechanisms through mass media and telecommunication systems (for instance, mobile phones) within formal information frameworks. 	2011	15247,8 Intl funds	

Component 5: Knowledge Management: Education, Training and Public Awareness					
<u>Goal:</u> Disaster reduction through the improved knowledge sharing and education					
<u>Objective:</u> 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	<ul style="list-style-type: none"> Conducting of the assessment of existing knowledge of disasters, hazards, risks and related issues applicable to Tajikistan; 	2011	26986,8 Intl funds	CoES, MoE, ConYST
		<ul style="list-style-type: none"> 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; 	2010-2013	42466,8 Intl funds	CoES, CTB, MoE
		<ul style="list-style-type: none"> Determination of needs of funding of the campaigns out of internal and external sources (private and public). 	2010-2013	6417,75 Intl funds	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	<ul style="list-style-type: none"> Establishment of the Working Group on education in disaster risk management; 	2010	13416,0 Intl funds	CoES, MoE
		<ul style="list-style-type: none"> Analysis of the content of the current training programmes and materials on disaster risk management; 	2013		
		<ul style="list-style-type: none"> Further improvements of the existing materials and training programmes and development of the suggestion on new materials; 	2011-2013	40177,05 Intl funds	MoE, CoES
		<ul style="list-style-type: none"> 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; 	2010-2012	19537,05 Intl funds	MoE MoE, CoES, CTB
		<ul style="list-style-type: none"> Re-training of teachers on disaster risk management subjects; 	2012	23181,3 Intl funds	MoE, CoES
		<ul style="list-style-type: none"> Development of criteria to implement Disaster response plans in all educational establishments; 	2012	14867,25 Intl funds	CoES, MoE,
		<ul style="list-style-type: none"> Development of criteria to set up school clubs on disaster 	2012	26019,3	MoE

		preparedness within extracurricular activities.		Intl funds	
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>	2010-2013 (phase 1)	1090,05 Intl funds	CoES, MoE
		<ul style="list-style-type: none"> • 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		CoES, MoE
			2010-2013	55231,35 Intl funds	CoES, MoE
			2010-2014 (phase 2)	521160,0 Intl funds	CoES, MoE
			2010	76516,35 Intl funds	MoE, ASRT
			2012	534092,3 Intl funds	MoE, CoES
<u>Phase 2</u>				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	<u>Phase 1</u>	2010-2013 (phase 1)	15189,75 Intl funds	CoES
		<ul style="list-style-type: none"> • 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 	2010-2011	50716,35 Intl funds	CoES, Civil servants Institute , NGOs
			2010-2011		

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

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		<p>work</p> <p><u>Phase 2</u></p> <ul style="list-style-type: none"> • Development of the partnerships with regional organizations engaged in disaster management and training of trainers (ToT); • Adaptation of foreign training materials to local conditions; • Development of the new training modules to meet additional needs. 	<p>2010-2015 (phase 2)</p> <p>2010-2011</p> <p>2011-2013</p> <p>2011-2014</p>	<p>128903,3 Intl funds</p> <p>50406,75 Intl funds</p> <p>76671,15 Intl funds</p>	<p>CoES</p> <p>CoES</p> <p>CoES, MoE</p>
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	<ul style="list-style-type: none"> • 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. 	<p>2011</p> <p>2012-2014</p> <p>2012-2014</p>	<p>6411,3 Intl funds</p> <p>13029,0 Intl funds</p> <p>304440,0 Intl funds</p> <p>264366,2 Intl funds</p>	<p>CoES, MoE</p> <p>CoES, MoE</p> <p>CoES, MoE</p> <p>CoES, MoE, local executive bodies</p>

ABBREVIATIONS

AMFOT	Association of microfinance organizations of Tajikistan
ASRT	Academy of Sciences of the Republic of Tajikistan
AC&A	Agency for Construction and Architecture under the Government of the Republic of Tajikistan
SCLM	State Committee on Land Management and Geodesy of the Republic of Tajikistan
WB	World Bank
SCES	State Commission on Emergency Situations of the Government of the Republic of Tajikistan
MGD	Main Geology Department under the Government of the Republic of Tajikistan
State technical inspection	Main Department for Supervision of safety in industry and mining under the Government of the Republic of Tajikistan
SAonH	State Agency on Hydrometeorology
CSI	In-service training of civil servants under the President of the Republic of Tajikistan
ISC&S	Institute of seismic construction and seismology of the Academy of Sciences of the republic of Tajikistan
ConYST	Committee on Youth, Sport and Tourism under the Government of the Republic of Tajikistan
CoICPM	Committee on Investments and State Property Management under the Government of the republic of Tajikistan
CEP	Committee on Environmental Protection under the Government of the Republic of Tajikistan
CTB	Committee on Television and Broadcasting under the Government of the Republic of Tajikistan
CoES CD	Committee on Emergency Situations and Civil Defense under the Government of the Republic of Tajikistan
MIA	Ministry of Internal Affairs of the Republic of Tajikistan
MoH	Ministry of Health of the Republic of Tajikistan
MLRWR	Ministry of Land Reclamation and Water Resources of the Republic of Tajikistan
MoE	Ministry of Education of the Republic of Tajikistan
ISDR	International Strategy for Disaster Reduction
MiAgr	Ministry of Agriculture of the Republic of Tajikistan
MT&C	Ministry of Transport and Communications of the Republic of Tajikistan
MoF	Ministry of Finance of the Republic of Tajikistan
ME&I	Ministry of Energy and Industry of the Republic of Tajikistan
MEDT	Ministry Of Economic Development and Trade of the Republic of Tajikistan
MoJ	Ministry of Justice of the Republic of Tajikistan
NGO	Non-governmental organization
UNDP	United Nations Development Programme
Tajinsurance	Tajik Insurance
DRR	Disaster Risk Reduction