



Georgia

National progress report on the implementation of the Hyogo Framework for Action (2011-2013)

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Section 1: Outcomes 2011-2013

Strategic Outcome For Goal 1

Outcome Statement:

Development and strengthening of institutions, mechanisms and capacities;

More effective integration of disaster risk consideration into development policies, planning and programming;

Strategic Outcome For Goal 2

Outcome Statement:

Strengthened environmental and disaster policy framework, increased awareness on DRR of relevant stakeholders;

Strategic Outcome For Goal 3

Outcome Statement:

Enhanced capacity to monitor and respond to potential disaster;

Section 2: Strategic goals

Strategic Goal Area 1

The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

Strategic Goal Statement:

Georgia is no stranger to the consequences of disasters: annual flooding, earthquakes, erosion, improper land management practices, food security and inadequate construction practices have highlighted the necessity to not only react expeditiously to disasters, but to implement proactive mechanisms to prevent disasters and mitigate their consequences when they do occur.

Georgia has made substantial progress in the last years but more work is needed to create effective and sustainable systems, platforms and mechanisms to reduce disaster risk and disaster losses in lives and the social, economic, and environmental assets of the country and its communities. Georgia committed to the Hyogo Framework for Action (HFA) 2005-2015: Building the Resilience of Nations and Communities to Disasters, and its accompanying priorities for action that States and other stakeholders should take into consideration in their approach to Disaster Risk Reduction (DRR). It encourages, and provides guidance for, the development and implementation of measures to strengthen capacity development in the most vulnerable regions, to address the social, economic and environmental factors that increase vulnerability, and to develop measures that will enable them to prepare for and cope with disasters, including those associated with earthquakes and extreme weather events.

The United Nation Development Assistant Framework (UNDAF) therefore utilizes the recommendations of the HFA to inform and guide DRR in Georgia through a strong partnership among the UN agencies, with the civil society and other stakeholders. The key outcomes and planned activities closely follow the HFA.

Strategic Goal Area 2

The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.

Strategic Goal Statement:

Disaster risk reduction, environmental and natural resource management go hand-in-hand. Environmental and natural factors or processes, such as climate change, can increase the susceptibility of a country or community to the impact of hazards. The Government of Georgia has recognised that its national security depends inter alia on policies that address the sustainable protection of the environment and management of its natural resources. This is reflected in the UN system action plans in the UNDAF: only through a comprehensive approach committed to sustainable development through poverty reduction, good governance issues addressed in the first two UNDAF thematic areas as well as environmental and natural resource management and protection, can disaster losses be

prevented or significantly mitigated.

Strategic Goal Area 3

The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

Strategic Goal Statement:

National Development Priorities:

- Prevent and mitigate disaster risks;
- Effectively prepare for and respond to mitigate the damage and loss caused by emergency situations through unified management;
- Work towards the full implementation of the United Nations Hyogo Framework for Action 2005-2015;
- Implement sustainable measures to manage and prevent the substantial depletion of natural resources and environmental pollution.

Section 3: Priority for action 1

Ensure that disaster risk reduction is a national and a local priority with a strong institutional basis for implementation.

Priority for action 1: Core indicator 1

National policy and legal framework for disaster risk reduction exists with decentralised responsibilities and capacities at all levels.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Is disaster risk taken into account in public investment and planning decisions?
Yes

National development plan	Yes
Sector strategies and plans	Yes
Climate change policy and strategy	Yes
Poverty reduction strategy papers	Yes
CCA/ UNDAF (Common Country Assessment/ UN Development Assistance Framework)	Yes
Civil defence policy, strategy and contingency planning	Yes

Have legislative and/or regulatory provisions been made for managing disaster risk? Yes

Description:

Given the existence of post-conflict zones in Georgia and that the country is a mountainous, seismically dangerous region, where natural calamities are quite frequent, great importance is assigned to natural, technological and other man-made risks in the Economic Development and Poverty Reduction Programme (EDPRP) - Poverty Reduction Strategy

(PRS) of Georgia, adopted in 2003. It defines the long-term development goals up until 2015. While the Government recognizes the EDPRP as an important reference, it does not consider it the primary framework guiding policy-making.

“Basic Data and Directions” (BDD) outlines the medium term reform program of Georgia and in essence represents the mid-term national development plan. BDD provides the mid-term macro-economic framework, including the fiscal resource envelope and allocations, and includes detailed descriptions of the individual sectoral strategies for achieving these objectives. The latest revision of BDD (“Basic Data and Directions for 2013-2016”) sets the following priority directions in disaster risk management sphere: establishment of disaster forecast and early warning system; establishment of mechanisms for sustainable use of land resources to reduce erosion and prevent desertification; protection and restoration of the Black Sea coast and river banks; mandatory integration of environmental issues into urban development and building process. According to the BDD 2013-2016 environment protection is one of the priority areas of the government, which is reflected in augmented allocation of funds from the state budget for monitoring, forecast and prevention measures in the sphere of environmental management.

In January 2012 the Government of Georgia adopted National Environmental Action Plan 2012-2016 (NEAP-2) as required by Georgian legislation for every 5 years period. This plan represents in essence the National Environmental Action Programme 2 for 2012- 2016. It sets long-term goals, short-term targets and provides respective activities for 2012-2016 for eleven themes: Disasters (covers natural and man-made disasters, industrial accidents), Climate Change, Waste and chemical substances, Nuclear and Radiation Safety, Water Resources, Ambient Air, Black Sea, Biodiversity and Protected Areas, Land Resources, Forestry, Mineral Resources. NEAP-2 also presents several cross-cutting issues and concludes with an explanation of the importance of policy coordination within the national government, between the national and the municipal levels. NEAP-2 followed recommendations from the National Environmental Performance Review (2010) and results of the State of Environment Report for 2007-2009.

Disaster Risk Reduction is identified as an upcoming priority from 2013 for the Ministry of Environment Protection and Natural Resources. It is as well reflected in the structural reorganization of the ministry and establishment of the Natural and Technological Hazards Service.

Adaptation to Climate Change was acknowledged as a priority in the National Climate Change Policy in 2009 based on the results of researches conducted under Georgia’s Second National Communication to the UNFCCC. National Adaptation Plan is under development and will be consolidated with the Adaptation Strategy under the Third National Communication to the UNFCCC (undergoing since 2011).

On 25 June 2010, the Government of Georgia adopted State Strategy on Regional Development for 2010-2017, which states improvement of disaster risk management as one of the key priorities of the government policy.

“Agricultural Development Strategy of Georgia” (2012-2022) provides for main directions of agricultural development and incorporates aspects of Disaster Risk Reduction.

The National Security Concept of Georgia (2011) was elaborated under the guidance and coordination of the Office of the National Security Council of Georgia with the participation of all relevant governmental agencies.

It is noteworthy that disaster risk reduction is one of the three priorities of the United Nations Development Assistance Framework (UNDAF) in Georgia for 2011-2015. The aforementioned document includes measures to be implemented in disaster risk reduction with stakeholder participation and closely follows the Hyogo Framework for Action.

By the decree of the Prime Minister an interagency working group on elaboration of the Chemical, Biological, Radiological and Nuclear National Strategy has been recently established.

Disaster-related issues are regulated by the Constitution of Georgia, numerous laws and by-laws adopted in the period of 1993-2012, such as: Presidential Decree on Approval of the National Plan for Responding to Natural and Man-made Emergencies, Law on the State of Emergency, Law on Environment Protection, Statute of the National Environmental Agency, Statute of the Ministry of Environment Protection, Law on Licenses and Permits and etc. Law on Protecting the Population and Territory from Natural and Man-made Emergency Situations (08.06.2007) creates the main legal basis for DRR system in Georgia. At the moment there are four levels dealing with disaster-related issues: National, Regional, Autonomous and Local. The 1997 Law on the State of Emergency represents the framework for regulating the aftermath of natural disasters.

In regards to the recent developments, the formalization of the Fire Fighter and Rescuer education should be mentioned. Education of the Fire Fighter and Rescuer was formalized by the special decree # 987 (17 December 2012) of the Ministry of Internal Affairs based on the Law on Vocational Education. This certified two months training will contribute to the improved effectiveness of the practical response activities in the field.

Context & Constraints:

Sensitization of decision-makers is crucial. In the previous years commitment of politicians to disaster risk reduction was perceived as low, which currently has the potential to change. Regulation of issues such as reduction of negative anthropogenic impacts on the environment and creation of the framework for disaster risk reduction are of particular importance. It should be highlighted that one of the major shortcomings represents the absence of the unified National Strategy and comprehensive approach to Disaster Risk Reduction in Georgia. Challenges remain in mainstreaming DRR in sectorial strategies in plans. Mainstreaming of DRR and CCA in policies is not systemized and takes place on ad hoc basis. Comprehensive DRR Strategy and Action Plan, ensuring mainstreaming of DRR in sectorial strategies and action plans could be instrumental.

Certain shortcomings were revealed in the implementation of the legislation. Review of institutional set-up, legal framework as well as review of compliance and implementation of legislation at all levels is further required. There are ongoing efforts to improve the country's legal framework in disaster preparedness and disaster management policies, bring legislation in compliance with international standards and norms. Law on Protecting the Population and Territory from Natural and Man-made Emergency Situations is envisaged to be revised under the current Twinning project "Support the Emergency Management Department in development of emergency services in Georgia".

Particular attention should be paid to delineating lines of responsibility and fostering cooperation between the institutions of observation, study, risk assessment, emergency services and local government bodies. The lack of financial resources for disaster reduction complicates this cooperation.

Notwithstanding the fact that DRR is identified as one of the three pillars of UNDAF, currently in Georgia there is insufficient funding for implementation of UNDAF. Further mobilization of resources and donor community is required.

The key conceptual challenge remains to shift from focus on response and preparedness to prevention and mitigation as well as broaden the civil defense management approach. Elimination of overlapping responsibilities, enhanced capacity at the national and local level, promotion of public-private partnerships, the boost of the effectiveness of scarce funding, requiring an in-depth review of current legislation and policies, establishment of priority based actions and funding are some of the main measures advised for the development of the comprehensive disaster risk reduction agenda.

Related Attachments:

Priority for action 1: Core indicator 2

Dedicated and adequate resources are available to implement disaster risk reduction plans and activities at all administrative levels

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

What is the ratio of the budget allocation to risk reduction versus disaster relief and reconstruction?

	Risk reduction / prevention (%)	Relief and reconstruction (%)
National budget		

Decentralised / sub-national budget

USD allocated to hazard proofing sectoral development investments (e.g transport, agriculture, infrastructure)

Description:

According to the Governmental Resolution #19 (26.1.2006), all ministries are required to prepare and annually update a four-year Mid-Term Expenditure Framework (MTEF) identifying priority directions, measures and budget indications for different sectors. Disaster Prevention is stated as one of the priorities of the MTEF for 2013-2016 in the Environment Sector.

National Environmental Action Plan-2 provides financial estimates for the implementation of necessary disaster reduction measures (partially from state budget and partially from donors).

In regards to Disaster Risk Reduction, State Budget is financing hydro-meteorological observation (24 hrs), monitoring of geological hazards (twice per year) over the territory of Georgia, provided by the main forecasting and assessment body, National Environmental Agency of the Ministry of Environment Protection and Natural Resources. In case of activation of hazardous processes National Environmental Agency (NEA) prepares and disseminates warnings to respective local decision makers and informs the Emergency

Management Department of the Ministry of Internal Affairs. Equally NEA prepares recommendation and necessary palliative measures for disaster risk management and damage reduction.

NEA is being financed through the State Budget, special purpose budget funds (Special Funds) and through revenues received from carried out works under contracts and other sources specified by the legislation of Georgia. The Ministry of Environment Protection and Natural Resources of Georgia carries out supervision and state control over legality, expediency, efficiency, financial and economic activities of NEA.

Regular Budget for Prevention Works exists within the Ministry of Regional Development and Infrastructure.

Resources are allocated in Central and Autonomous Republics budgets, State Trustee Governors administration for funding Emergency Response Forces. The central budget, as well as budgets of autonomous republics, has the Reserve Fund from which dedicated resources for elimination of disaster consequences are allocated ("The law of Georgia on protection of the population and the territory from emergency situations of natural and man-made origin").

In the central and administrative region's budgets financial resources are allocated for assessment, recovery and response.

Context & Constraints:

Obtaining detailed information regarding financial expenditures incurred for prevention measures, segregation of Disaster Risk Reduction costs remains a challenge. There is a challenge in release (bulletin) and collection of financial data (CBA) in regards to Disaster Risk Reduction.

Even though there is frequently stated among the stakeholders at all levels that DRR needs to be addressed, the major challenge regarding Disaster Management is that DRR is under-financed and as a consequence responsible agencies lack expertise and technical know-how to carry out necessary work studies properly.

Contingency plans on the local and regional level are not efficient.

In general, there is a lack of awareness and risk perception is considerably low particularly at the local level. As noted in the Second National Environmental Performance review (2010) budgetary funds are generally streamed in other sectors, which remain higher priority to the government such as social security, economic development and law enforcement. Extra-budgetary funds likewise are scarce and are usually allocated for disaster response and recovery rather than for prevention and mitigation, including resettlement.

Priority for action 1: Core indicator 3

Community Participation and decentralisation is ensured through the delegation of authority and resources to local levels

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Do local governments have legal responsibility and regular / systematic budget allocations for DRR? Yes

Legislation (Is there a specific legislation for local governments with a mandate for DRR?)	Yes
Regular budget allocations for DRR to local government	Yes
Estimated % of local budget allocation assigned to DRR	0

Description:

Presidential Decree on Approval of the National Plan for Responding to Natural and Man-made Emergencies (2008) and the Law of Georgia on Protection of the Population and the Territory from Emergency Situations of Natural and Man-made origin (2007) define responsibilities of local governments as well as the Autonomous republics of Abkhazia (the government-in-exile) and Adjara. At the same time, the mentioned above normative acts are focused on issues related to disaster response with limited attention given to disaster risk reduction.

According to the Article 21, Chapter VI, of the Law of Georgia on protection of the population and the territory from emergency situations of natural and man-made origin “the bodies of state governance of Georgia, Autonomous Republics of Adjara and Abkhazia and local self-governance authorized to solve the issues of protection of the population and the territory from emergency situations shall be funded from the state budget of Georgia, budgets of the Autonomous Republics of Adjara and Abkhazia and local budgets accordingly”.

Law of Georgia on Local Self-Government (Chapter 8) provides local government with the exclusive right to independently define areas and directions for budget allocations. The state authorities are obliged to create all the necessary financial-economic, organizational and legal conditions envisaged by the law to ensure exercising the rights of local self-government bodies. Paragraph 6 of the article 50 of the same organic law states: “Special transfers to the budget of self-governing unit shall be used to fund the expenditures for the liquidation of the results of ecological and other kinds of calamities, specific capital and other necessary expenditures.”

Law on Protection of Population and Territories from Natural and Technological Emergency Situations defines responsibilities of local authorities in regards to disaster management and emergency situations. There are budget allocations at the local level. Under the mentioned above law respective bodies should ensure public awareness and involvement in the process.

In case of activation of Geological Hazardous processes information between the local municipal bodies and the National Environmental Agency is shared by phone, fax, correspondence and in case it is required geologists carry out field study and elaborate relevant recommendations.

To involve the disaster prone communities in disaster risk reduction activities National Environmental Agency is carrying out the cooperation with local authorities and communities.

Cooperation is established through the implemented and ongoing international projects, especially in the rv. Rioni basin: “Canadian International Development Agency Grant for Europe and Central Asia Climate Change Risk Mitigation Measures” the pilot project in Racha - disaster prone region, 2006-2009; Adaptation Fund financed project "Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia", 2012-2015;

Within the frames of the second phase of the Disaster Risk Reduction Programme - DIPECHO of the European Commission there are several projects for 2012-2013 to increase resilience and reduce vulnerability of local communities and relevant national institutions: Supporting Community Resilience in the South Caucasus implemented by Oxfam, Regional Programme (Georgia and Armenia) for Building Safer Local Communities in the South Caucasus implemented by DRC and Georgian Red Cross Society and “Supporting community resilience to natural disasters in Abkhazia and Samegrelo-Zemo Svaneti, Georgia” implemented by ACF-ESP. ACF supports seven communities in Zemo Svaneti and 4 communities in Abkhazia who face various natural hazards and hold additionally vulnerability due to economic, geographic and political marginalization, and undeveloped infrastructure.

The Swiss Agency for Development and Cooperation (SDC) conducted a project supporting the prevention and preparedness efforts of the regional (Governor’s offices) and municipal authorities in Racha Lechkhumi-Lower Svaneti and Samegrelo-Upper Svaneti regions of Georgia.

Context & Constraints:

Budget allocations for prevention/mitigation works need to be considerably increased. Generally, the budget allocated for DRR/prevention at local level is insufficient. Access of funds from central and regional levels for prevention works is perceived as the significant challenge by the local authorities. Procedures for requesting funding for Disaster Risk Reduction are perceived unclear by the local government.

The central government makes substantial efforts in implementing preventive measures against river erosions and floods. However, focus remains on main rivers, main roads, and infrastructure. Allocations from the Central Fund (which remain insufficient) are focused on big projects. In this regards the majority of projects are not DRR but infrastructure oriented. DRR is considered as a sub-component for big infrastructure projects.

Concrete preventive measures by Central Authorities are tendered without feasibility studies. Natural hazards, above all, floods, landslides, mudflows and avalanches occur consistently and cause excessive damage to infrastructure, households and livelihoods. The damage exceeds the local budget allocation for DRR interventions.

Natural disasters affect mainly vulnerable groups of the society (poor, women and children especially in remote mountain areas). Remote mountainous areas with limited communication infrastructure have a slow development process in comparison with the rest of the country, considerable poverty rate and still underlay the continuous process of rural exodus.

Local authorities lack specific knowledge, capacity and resources on how to address DRR locally. They are not aware of their responsibilities in natural disaster prevention and mitigation.

Communication and coordination between the local authorities and agencies on central level needs to be improved. It remains difficult for local authorities to advocate and lobby local concerns to the regional and central levels.

At-risk community representatives are provided with the opportunity to get involved in the planning of preventive actions by participating in the review of the annual municipal budget. Nevertheless, public participation in the state decision-making processes remains limited.

Overall, local communities and community organizations affected by natural disasters do not possess information and skills, as well lack effective mechanisms of participation in decision making processes related to risk management for a sustainable rural development at the local level. One of the challenges in planning prevention measures is the absence of technical expertise at the local level. Lack of awareness and knowledge on the possible hazards and potential prevention/mitigation measures, lack of skills of effective participation and decision-making limits efficiency of the participation. Awareness raising campaign, improved communication, training for municipalities and bottom up approach would be instrumental in improving the situation in this regard. Municipalities at large are unaware of the services and risk assessment data provided by the National Environmental Agency. There is also an observed tendency of municipalities to expect solutions from the Central Government.

All municipalities have response plan templates, which they are using for response planning. These plans include a separate attachment describing preventive measures. This practice was introduced during the last 2 years and so far the quality of response plans exceedingly varies from region to region. At the same time, in the majority of municipalities both local self-governance and population express little awareness of these documents.

Disaster Management Plans should be developed on community and municipal levels to utilize the information received from the comprehensive hazard and risk maps. Good examples of hazard mapping application are the Telavi Town storm flood and flash flood hazards Map in GIS and the Telavi municipality (villages within Telavi municipality) flash flood and mudflow risk zoning and mapping in GIS. They were developed by the National Environmental Agency experts with the support of UNDP, following UNDP/World Bank 2012 commissioned Post-disaster Needs Assessment (PDNA) and recovery framework. It was subsequent to the July 2012 devastating hailstorm combined with strong winds and heavy rainfall, which caused heavy damages in three regions of Georgia.

Comprehensive hazard and risk maps for the municipalities would be highly valuable once utilized in the process of preparation of disaster management plans, urban planning and rural land-use.

Limited progress on the local level is interlinked with the low awareness, absence of training models for municipalities, employee turnover on the local government level and as such lack of sustainability. The majority of the trainings are conducted by international organizations and NGOs.

Priority for action 1: Core indicator 4

A national multi sectoral platform for disaster risk reduction is functioning.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Are civil society organizations, national finance and planning institutions, key economic and development sector organizations represented in the national platform? -- not complete --

Civil society members (specify absolute number)	0
-------------------------------------------------	---

National finance and planning institutions (specify absolute number)	0
Sectoral organisations (specify absolute number)	0
Private sector (specify absolute number)	0
Science and academic institutions (specify absolute number)	0
Women's organisations participating in national platform (specify absolute number)	0
Other (please specify)	

Where is the coordinating lead institution for disaster risk reduction located?

In the Prime Minister's/President's Office	No
In a central planning and/or coordinating unit	No
In a civil protection department	No
In an environmental planning ministry	No
In the Ministry of Finance	No
Other (Please specify)	

Description:

As it is known the disaster management cycle includes four core phases: preparedness, prevention/mitigation, response and recovery. It is high-lightened in the Second Environmental Performance review (2010) that although there are various governmental and non-governmental organizations, institutions which participate in different phases of Disaster Management cycle, yet none is involved in the whole cycle. Institutional efforts for the moment remain scattered among various Governmental agencies. Various legal acts regulate different phases of disaster management circle.

National Security Council of Georgia has been designated to act as a top-level strategic-political body to manage all types of crises situations threatening the national interest of Georgia. Due to the ongoing institutional reforms the budget of the National Security Council for 2013 was reduced by around 90%.

To ensure respective preparedness and effective response to emergency situations at the national and regional level the key role is played by the Emergency Management Department along with the unified system of ministries, their subordinate bodies and legal

entities of Public Law. Key tasks of the Department are as follows: identification of necessary means and assets for the emergency situations management; search and rescue and other urgent activities; and provision of methodical guidance to the agencies which fall under the united system of emergency situations. In addition, one of its competencies is the establishment of Emergency Situations Expert Consultative Council. Concurrently, as underlined in the Second Environmental Performance Review, EMD is not involved in the whole disaster management cycle, including disaster prevention and mitigation activities. Ministry of Environment Protection and Natural Resources through its legal entity of public law, namely National Environmental Agency, according to its activities (monitoring and forecasting hydro-meteorological and geological hazards, timely warning of relevant decision-makers, elaboration of DRR measures) is one of the key development players around the national DRR agenda and adoption of DRR measures. The National Environmental Agency also implements soil, surface water and atmospheric air, chemical pollutants monitoring. The Department of Ecological Expertise and Inspection of the Ministry of Environment Protection and Natural Resources along with the other tasks, is in charge of law enforcement and control over implementation of the Environmental Impact Permit conditions by enterprises. Disaster Risk Reduction is the upcoming priority for the Ministry of Environment Protection and Natural Resources, which is reflected in the structural reorganization of the ministry. In case of receiving warnings on expected or occurring natural and anthropogenic disasters, Ministries of Regional Development and Infrastructure, Agriculture, and Energy as well as local municipalities also participate within its competencies in prevention and mitigation works in order to avoid human and economic losses. The Ministry of Regional Development and Infrastructure of Georgia implements riverbank fortification works, coordinates works to ensure safety of roads that are of state importance, whereas rehabilitation of local infrastructure is within the competence of local self-governing bodies.

In addition to the National Environmental Agency, research and assessments of natural disasters are carried out by relevant scientific-research institutes of the Ministry of Education and Science of Georgia and non-governmental organizations.

The Ministry of Internally Displaced Persons from the Occupied Territories, Accommodation and Refugees of Georgia is in charge of maintaining the database on population affected by disasters. This state organization is responsible for identifying the damage category and making a decision on resettlement.

In order to increase awareness, the Ministry of Education and Science of Georgia coordinates integration of disaster risk related issues in the curricula of the secondary schools as well as in the vocational and high schools.

In order to facilitate better multi-sectoral and inter-agency collaboration, and support the implementation of DRR activities, UNDP established an inter-agency think-tank on DRR in 2009. This think-tank aims at actively involving government institutions, international agencies, non-government organizations and the scientific community in the promotion of DRR according to the Hyogo Framework for Action.

The group of participants includes approximately 60 people with permanent representation from practically all key players involved in disaster risk management in the country. Key agencies include: • Government: Ministry of Environment Protection and Natural Resources /National Environmental Agency, Ministry of Internal Affairs/Emergency Management Department, Ministry of Regional Development and Infrastructure, and the National Security Council • UN: IOM, UNFPA, UNICEF, WFP, WHO and UNDP • International organizations: ECHO, IFRC, SDC and USAID • Scientific institutions: Institute of Geophysics, Institute of Water Management, Institute of Hydrometeorology and etc. • International and local NGOs: RDFG DRR Center, ACF, CARE, CENN, Danish Refugee Council, Georgian Red Cross Society, IRC, Mercy Corps, OXFAM, Salvation Army, Save the Children and World Vision etc. The meetings are held regularly once in three months. Each meeting attracts more than 30 participants, depending on the agenda and timing with variety of themes, either suggested

by stakeholders or by UNDP, with active participation from all stakeholders. Think-tank meetings on DRR organized by UNDP are ending in 2013. Thenceforward, the newly established under the reorganization of the Ministry of Environment Protection and Natural Resources of Georgia, Natural and Technological Hazards Service will take up the function.

The Ministry of Environment Protection and Natural Resources also has the ownership and provides overall management of the web-based database of "Who does What Where in Disaster Risk Reduction in Georgia" (www.3w.org.ge). The web-based database was developed during the 2nd phase of the UNDP project "Strengthening of the Disaster Risk Reduction System in Georgia" with the financial support from Swiss Development Cooperation. This website is based on information received from partner agencies / organizations and requires continuous review and updating in order to provide an accurate picture of the disaster risk reduction scenario in Georgia.

Context & Constraints:

National Platform for Disaster Risk Reduction has not been established yet. Nevertheless, currently there is an ongoing reform process of institutional set-up in Georgia that might be envisaged as a good opportunity for creating respective environment for the DRR National Platform establishment. Further sensitization of decision-makers is necessary in Georgia. As mentioned above despite the consensus on the urgent need for better coordination, among various governmental and non-governmental organizations, institutions which participate in different phases of Disaster Management cycle, none is involved in the whole process, covering preparedness, prevention, mitigation, response and recovery. There is a need for cooperation between non-state actors, governmental and international organizations to exchange practices and innovations. Clear distribution of roles and responsibilities of institutions avoiding overlapping and duplications should be furthered on the agenda for evolved and interested stakeholders. In such circumstances, it is expected this process will lead to the successful establishment of the DRR National Platform.

Section 4: Priority for action 2

Identify, assess and monitor disaster risks and enhance early warning

Priority for action 2: Core indicator 1

National and local risk assessments based on hazard data and vulnerability information are available and include risk assessments for key sectors.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Is there a national multi-hazard risk assessment with a common methodology available to inform planning and development decisions? Yes

Multi-hazard risk assessment	Yes
% of schools and hospitals assessed	0
Schools not safe from disasters (specify absolute number)	0
Gender disaggregated vulnerability and capacity assessments	No
Agreed national standards for multi hazard risk assessments	Yes
Risk assessment held by a central repository (lead institution)	Yes
Common format for risk assessment	No
Risk assessment format customised by user	Yes
Is future/probable risk assessed?	Yes
Please list the sectors that have already used disaster risk assessment as a precondition for sectoral development planning and programming.	-- not complete --

Description:

Due to the complicated landscape and specific geographical location of Georgia, natural disasters are characterized by high extensiveness, frequency and risk level. With the magnitude of potential negative impacts associated with these natural disasters, Georgia is one of the most sensitive countries to natural disasters among mountainous regions of the world.

During recent decades, a significant increase in the frequency and intensity of hydrological, meteorological and geological natural disasters has been recorded in Georgia due to anthropogenic environmental impacts (especially mining, construction of hydropower facilities, illegal logging, overgrazing, unsystematic urbanization, illegal industrial activities in river beds, negligence of climate and hydrological standards during construction, and industrial land use without relevant preliminary studies) coupled with phenomena attributed to global climate change. Major natural hazards (floods, flash floods, landslides, mudflows, snow avalanches, hail, heavy rains, storm winds, droughts, etc.), severely affect the national economy, with significant damage to agricultural lands, buildings, roads, other infrastructure, human health and the environment.

The negative impacts of natural disasters are caused by numerous factors, including lack of a modern early warning system, insufficiency in mitigation and hydro-engineered bank fortification works in flood and flash flood prone areas, shortage of mitigation works in the geological hazard areas, the suspense of artificial influence over certain hydro-meteorological events and low awareness of the population regarding preparedness for anticipated disasters.

During the period of 1967-2009, approximately 70% of the territory of Georgia experienced natural hazards of hydro-meteorological and geological origin. The disaster risk zones encompassed more than 3,000 settlements. More than 400,000 houses and facilities, 1.5 million ha of agricultural lands and 550 kilometers of roads were damaged and/or destroyed. Approximately 60,000 households were resettled to other areas.

Economic losses from the above mentioned calamities exceeded 14 billion USD, with more than 1,000 human casualties, including 600 people since 1987

Approved by the Presidential Order No.707, the Georgia's Threat Assessment Document for 2010-2013 identified natural and technological disasters as one of the five foremost possible threats facing national security of Georgia.

The 2010-2013 Threats Assessment Document of Georgia was prepared as a result of inter-agency work carried out under the umbrella of the Office of the National Security Council and is based on the broad understanding of security. Adopted by the Presidential decree, besides military and political threats it evaluates socio-economic, terrorist threats as well as disasters caused by natural and technological hazards. The document consists of 5 parts: Military Threats, Foreign Political Threats, Transnational Threats, Socio-Economic Threats and Natural and Industrial Threats and Risks.

National Environmental Agency of the Ministry of Environment Protection and Natural Resources has prepared special zoning maps of the territory of Georgia in accordance with frequency and reiteration of diverse hydro-meteorological and hazardous geological processes: 1. Populated area and Urban Territories of Georgia, located in the Geological Hazardous Risk Region; 2. Landslide risk zones in Georgia and damage area; 3. Mudslide risk zones in Georgia and damaged area; 4. Areas at Risk of Flooding in Georgia; 5. Drought Prone Regions in Georgia; 6. Areas with High Wind Speeds in Georgia; 7. Risk of Avalanches in Georgia; 8. Areas with Intensive Hail in Georgia; 9. Engineering Protection Master Plan of Black Sea Coastline (2004); and etc.

In 2012 the paper and web-based Atlas of Natural Hazards and Risks in Georgia was developed (<http://drm.cenn.org/index.php/en/background-information/paper-atlas>). The main goal of the Atlas is to provide national and local governments, businesses and the local

population with information about existing and potential natural hazards, risks and socio-economic vulnerability. This Atlas is unique for the region. The atlas is dedicated to assist the governmental institutions in strengthening disaster risk reduction management in the country. The maps included in the atlas (e.g. nine different natural hazards and their overlap with eight elements at risk, such as population, buildings, and GDP, etc.) have been developed on the bases of modern, international and national research and assessment methods. The Atlas was developed in the framework of the project “Institutional Building for Natural Disaster Risk Reduction (DRR) in Georgia“ implemented jointly by CENN, and the Faculty of Geo-Information Science and Earth Observation (ITC) at the University of Twente. The principal partners of the project were the National Environmental Agency of the Ministry of Environment Protection and Natural Resources of Georgia, the Emergency Management Department of the Ministry of Internal Affairs of Georgia, and the Institute of Earth Sciences at Ilia State University.

In this regard, attention also deserves the National Geographic Atlas of Georgia published by the Department of Geography of Iv. Javakhhishvili Tbilisi State University in 2012.

Results of multiple risk assessments, Tbilisi seismic risk assessment (1:25 000 scale), pipeline seismic risk assessment conducted by M. Nodia Institute of Geophysics were given to the Emergency Management Department of the Ministry of Internal Affairs, Tbilisi City Hall, BP and are used as a preliminary plan for risk management strategy. Detailed investigation of seismic hazards for critical facilities in Georgia was conducted.

M. Nodia Institute of Geophysics carried out the investigations aimed at disaster risks reduction in the frame of the International projects:

- i. Earthquake Model of the Middle East region (EMME) – part of Global Earthquake Model (GEM): The seismic catalog of Georgia has been refined, the new catalogs of historical earthquakes and of active faults and the corresponding maps have been compiled, the ground acceleration equations have been adopted, the seismic scenario for Tbilisi city was compiled for two possible seismic sources. International workshop with participation of 10 countries of Middle East region has been organized in Tbilisi.
- ii. Seismic Hazard and Risk Assessment for South-Caucasus Northern-Turkey Energy corridors. NATO SFP, 2009-2011. The seismicity parameters along South-Caucasus Northern-Turkey Energy corridors were refined, the seismic hazard and ground amplification (site effects) along corridors was assessed using geological and seismic prospecting data.
- iii. Balkan, Black Sea, Caucasus, Caspian NETWORK for Complex Research of Earthquake’s Forecasting Possibilities, Seismicity and Climate Change Correlations – BlackSeaHazNet, FP7 Marie Curie Actions, 2011-2013. Thirteen Balkan and Caucasian countries as well as Turkey developed long-term cooperation in the field of earthquakes and climate change. The network of magnetic observations is organized for prediction of seismic events, several expeditions and International workshop in Tbilisi were organized.
- iv. Investigation of Submarine Groundwater Discharge (SGD) for preventing pollution and eutrophication of the coastal sea” FP7, BS-ERA.NET, 2011-2013 The expedition to Black Sea cost is under preparation.
- v. STCU project #5016. 2010-2012. The real-time telemetric monitoring system (DAMWATH) is developed and implemented at the Enguri Dam International Test Area for monitoring of the dam state and early warning in case of anomalous behavior.

Common Tools Working Group was established by Oxfam with involvement of governmental agencies and non state actors. Common Tools Vulnerability Analysis (CTVA) pack is being developed within the DIPECHO-2 phase to assess risks and rank communities in rural areas of Georgia. It is envisaged that data collected by various government agencies and civil society organizations will be available on a website and a training package will be developed so that regions can be compared in terms of their level of vulnerability.

Context & Constraints:

Strategies for Disaster Risk Reduction have to be based on the long-term forecast that will encompass both geological and hydro-meteorological hazards. Long-term forecast of hazardous natural processes is instrumental for elaboration of Long-Term Strategy for national sustainable development, assurance of population and facilities safety and overall environment protection.

The geological risks in Georgia are assessed for 1-year period. Geological long-term forecasts/risk assessments (20-year period) were not conducted since 2000. Earlier, during the Soviet period Georgia has been renown for its best practices in this field. It is estimated that the costs of the elaboration of the long-term forecast would amount up to 300 000 USD. Maps for landslides, mudflows, and erosion in Georgia were prepared in the 20th century and are outdated. The methodology of assessment requires their update for every 5-year period.

The regime of stationary geological monitoring was stopped in the 90s and since then it is absent. Stationary geological monitoring is necessary for elaboration of mitigation and prevention measures in this regard.

In the past geological monitoring in Georgia was made on a monthly basis. Currently it is done twice a year and covers only populated areas. Nevertheless, at the same time geological hazards can present risks to populated areas from the territories, which are not being monitored. Geological monitoring on the territory of Georgia has to be improved and the geological maps updated.

Satellite information is important since Georgia is a mountainous country. Currently, satellite information is not being available for NEA specialists for assessment purposes.

The existing Atlas of Natural Hazards and Risks in Georgia cannot be used to make decisions on parts of communities or for specific sites. For these areas a more detailed scale, greater accuracy of data and a higher resolution of data should be used, alongside a more advanced method for the hazards and risks assessment.

It should be high lightened that risk maps remain rare in the country. Most of the applied maps are hazard maps. Risk maps (hazard, vulnerability) in Georgia have to be developed and updated continuously by the relevant institutions; respective agencies should carry out research aimed towards the further improvement and development of the hazard and risk maps for Georgia.

It is recommended that non-governmental organizations should continue to be actively involved in the development of community-based and owned surveys of hazard, vulnerability, capacity and risk assessment for effective implementation of risk reduction measures (CCA/DRR adaptation measures) at the community level, in such a way that the people living in these communities can be defined as key-actors.

Risk assessment plays a crucial role and is required for the responsible institutions in order to recognize, prevent and mitigate disasters in advance. It should be followed by response and disaster risk reduction plans, contributing to overall disaster management plans. Particular vulnerability of preschool children as well as children with special needs in special/inclusive schools have to be included and emphasized during any risk assessment undertaken in the education sector.

Almost 80 % of territory of Georgia is prone to seismic shaking of intensity 8-9. This highlights the importance of updating seismic hazard and risk maps and ensure enforcement of compliance with building codes.

Priority for action 2: Core indicator 2

Systems are in place to monitor, archive and disseminate data on key hazards and vulnerabilities

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Are disaster losses and hazards systematically reported, monitored and analyzed? Yes

Disaster loss databases exist and are regularly updated	Yes
Reports generated and used in planning by finance, planning and sectoral line ministries (from the disaster databases/ information systems)	Yes
Hazards are consistently monitored across localities and territorial boundaries	Yes

Description:

National Environmental Agency (NEA) of the Ministry of Environment Protection and Natural Resources through the national hydro-meteorological network is carrying out the observations of the adverse hydro-metrological events, determines its extension and participates in estimation of the caused losses and damage (economic damage, human losses), as well as visual monitoring of geological hazards, determines its extension and estimates the caused losses and damage (economic damages, human losses). The Ministry of Environment Protection and Natural Resources conducts monitoring and control over environmental pollution conditions: conducts assessment of air pollution and surface waters, ionizing radiation background, publishes state of environment reports. Upon request from individuals conduct electromagnetic background assessment. National Environment Agency of the Ministry of Environment Protection and Natural Resources publishes annual information bulletins on the impact of the development of geologic processes and forecasts. Georgian legislation obliges local governments to collect and process information concerning protection of people and territories from disasters.

Emergency Management Department provides recording of all natural and anthropological emergency situations.

National Environmental Agency alone has compiled a large amount of information. Useful information has also been collected by institutions working in the seismic risk reduction, such as M. Nodia Institute of Geophysics.

Information concerning natural hazards, disasters, forecasts and responsibilities of National Environmental Agency is available on the webpage: www.meteo.gov.ge

Statistics of emergency situations by EMD is available on the following website: <http://www.police.ge/index.php?m=277>

Web-based Atlas of Natural Hazards and Risks was developed as a risk communication tool (<http://drm.cenn.org>)

Information concerning current seismic situation is available on the website of the Seismic Monitoring Center of Ilia State University (<http://seismo.iliauni.edu.ge/eqs/eqs.php>)

Context & Constraints:

Geological monitoring is conducted but does not cover all territory of Georgia. Stationary geological observations on the most vulnerable/hazard prone areas were stopped in the 90s and since then were not conducted to assess short-term risks. It is necessary to address this gap in regards to stationary geological monitoring regime on the most vulnerable areas. Currently, there is no common methodology applied by different governmental institutions for the assessment of economic losses. Economic losses/economic damage estimate reports are not comprehensive. It should be underlined that overall the assessment of damage and the statistical data are incomplete. It is important to adopt advanced methodologies and procedures to assess damage and losses. Advanced training of personnel of the National Environmental Agency in the field, adoption of cutting-edge methodologies and procedures to assess damage and losses are of high importance.

Implementation of the recommendations provided in the Annual Bulletin on geological hazards and disasters of the National Environmental Agency should be enhanced. Local scientific potential is not used to its full extent.

The database on adverse hydro-meteorological hazardous processes, extension of the disasters is incomplete due to the insufficient distribution of national hydro-metrological network on the territory of Georgia, among them lack of expensive modern observation systems: weather radars and high resolution satellite images. Local scale disaster risk forecasting should be implemented in high-resolution numerical weather models.

Overall, the funding for DRR remains scarce and non-systematic.

It is difficult to implement hazard/vulnerability assessment and mapping due to data scarcity and other limitations. Historical data on natural hazard events that have caused damage in the past, the saturation of the resulting historical database is still largely incomplete. It is challenging to effectively persuade the various national organizations to digitize their own historical archives, a large part of which are still paper based.

The web-based Atlas of Natural Hazards and Risks (portal) could be envisaged as a valuable source in case of their regular maintenance. It is recommended to be handed to NEA or EMD (depending on their capacity).

Priority for action 2: Core indicator 3

Early warning systems are in place for all major hazards, with outreach to communities.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Do risk prone communities receive timely and understandable warnings of impending hazard events? Yes

Early warnings acted on effectively	No
Local level preparedness	No
Communication systems and protocols used and applied	Yes
Active involvement of media in early warning dissemination	No

Description:

The Hydro-meteorological Department of the National Environment Agency of the Ministry of Environment Protection and Natural Resources is responsible for forecasting hydro-meteorological hazardous events and delivery of warnings. Responsibilities of the department include operation and maintenance of the hydro-meteorological observation program, preparation and dissemination of short and long-term weather forecasts and warnings, assessment of avalanches, floods, riverbed and other types of hydro-meteorological processes in the country; zoning of the intensity of hydro-meteorological processes for the country and artificial influence over hydro-meteorological events - avalanches and hail, risk assessments, vulnerability assessments, participation in response planning and planning of respective preventive measures.

The departments of Geological Hazards and Geological Environment Management of National Environmental Agency are carrying out studies and assessments of man-made influence on environment and geological hazards, population and engineering objects. The Ministry of Environment Protection and Natural Resources also conducts monitoring and control over environmental pollution conditions: conducts assessment of air pollution and surface waters, ionizing radiation background, publishes state of environment reports. Upon request from individuals conduct electromagnetic background assessment. The mentioned above factors substantially influence health condition of the population.

Some progress for achieving the incremental rehabilitation and development of an early warning system for hydro-meteorological hazards has been achieved in the last several years. Specifically, the expansion and automation of the hydro-meteorological observation network and introduction of modern techniques for collecting and sharing observational data at national and international levels, receiving synoptic products from world forecast centers and visualizations have been completed with the funds allocated from the state budget, support of international organizations and donor countries. Weather and hydrological models have been introduced for selected territories in an effort to increase staff qualifications. As a result, the weather forecasts and hydrological prognoses have been improved.

In more detail the state and international funds have helped Georgia achieve the following results: 37 automatic hydro-meteorological observation points were installed (7 meteorological stations, 19 meteorological posts, 11 hydrological stations); Tool was created to collect and disseminate data gathered by hydro-meteorological observation at the national and international levels; Tool was created to receive the synoptic products from the weather

centers around the world and their visualization; Validation of short-medium range forecast as well as the warnings about hydro-meteorological hazardous events; Digitalization of paper-based hydro-meteorological data (the process is ongoing); Introduction of GIS for hydro-meteorological information.

There are several ongoing projects to expand the hydro-meteorological observation network. The information is disseminating to state and regional governmental bodies – Ministries, Emergency Management Department of the Ministry of Internal Affairs, regional and local authorities, media and other interested end-users.

Because of uncoordinated measures of corresponding competencies there are challenges in delineating lines of responsibility and especially in promoting cooperation and communication/response planning, particular incorporation of community.

Context & Constraints:

According to the checklist based on Four Elements of People-centered Early Warning Systems developed by the Third International Conference on Early Warning, currently, there is no fully functioning efficient early warning system for expected natural hazards operational in Georgia.

However, to achieve the above-mentioned criteria Georgia's hydro-meteorological system is in the process of being modernized and requires further actions to achieve maximum effectiveness. There are currently projects from the Czech Republic and Finland to strengthen and automate the hydro-meteorological observation network as well as a project from USAID/OFDA to install a Flash Flood Guidance system. However, additional partnerships and initiatives will be necessary to ensure Georgia has an adequate quantity of the points of terrestrial observation; radars and atmosphere vertical sensing systems; and high-resolution models for weather and hydrological forecasts.

Adaptation Fund financed project "Developing Climate Resilient Flood and Flash Flood Management Practices to Protect Vulnerable Communities of Georgia", 2012-2015 should be particularly mentioned. The ongoing project will assist the governments and the population of the target region of Rioni Basin to develop adaptive capacity and embark on climate resilient economic development. The project is comprised of three main components: 1. Floodplain development policy introduced to incentivize long-term resilience to flood / flash flood risks; 2. Climate resilient practices of flood management developed and implemented to reduce vulnerability of highly exposed communities; 3. Early warning system in place to improve preparedness and adaptive capacity of population.

It is highly important to have proper early warning system and forecast in high mountainous regions of Georgia due to the location in high risk zones.

Availability of modernized forecasting system does not mean effective early warning system if local community response capability does not assure effective response to early warning messages. To develop the culture of preparedness respective awareness raising and exercises should be incorporated in education system, culture of voluntarism promoted and incorporate good practices of developed countries in the sphere of disaster risk management. To facilitate the process RDFG DRR Center developed a handbook on early warning system for school based disaster risk reduction, which was distributed to 17 pilot schools within the World Vision Project in 2012. The handbook describes the four elements and checklist for People-Centered Early Warning System. It is recommended to disseminate such information among key actors in effective early warning system such as local communities, local and central government, regional institutions and organizations, science and academic communities, private sector and NGOs.

Since 1990-s NHMS of Georgia (Hydro-Meteorological Department of NEA) has experienced the following problems: substantially decreased the standard observational network of NHMS of Georgia (more than 5 times); totally stopped the specialized hydro-meteorological

observations, upper air, radar, actinometric, ozonometric, glaciological; problems aroused in calibration of systems; totally stopped digitized processing of regime hydro-meteorological data; there is insufficient quantity of terrestrial observation points; there is lack of radars and atmosphere vertical Sensing Systems as well as of the high-resolution models for weather and hydrological forecasts.

Geological monitoring activities are not adequate either. It is necessary to introduce the regime of stationary geological monitoring. Without it, it is difficult to assess the risks for further prevention.

Georgia has extensive experience with activities mitigating natural hazards, such as artificial stratification of hail clouds and snow-avalanche and precipitation stimulations. Currently these activities are stopped. These preventive activities are extremely effective for the reduction of and, in some cases even prevention of, disaster-induced economic losses. Early warning systems should be inclusive. To fulfill their function, they have to be adapted to the impairments of children and people with special needs.

Priority for action 2: Core indicator 4

National and local risk assessments take account of regional / trans boundary risks, with a view to regional cooperation on risk reduction.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Does your country participate in regional or sub-regional actions to reduce disaster risk? Yes

Establishing and maintaining regional hazard monitoring	Yes
Regional or sub-regional risk assessment	Yes
Regional or sub-regional early warning	Yes
Establishing and implementing protocols for transboundary information sharing	Yes
Establishing and resourcing regional and sub-regional strategies and frameworks	Yes

Description:

Regional and trans-boundary risk management is carried out based on the WMO convention, bilateral agreements with neighboring countries and international regional projects implemented by different donor organizations. There is an active cooperation in the field of rv. Mtkvari/Kura basin risk management and monitoring of rv. Kura and Chorokhi.

Since 2010 National Environmental Agency is involved in the Black Sea and Middle East regions component of the Flash Flood Guidance System Project, the purpose of which is to bring meteorological and hydrological communities to work closer in improving flash floods forecasts and disaster response. In the frame of this project regular data will be provided for the regional forecasting model and early warning system.

Georgian geological, seismic engineers, hydro-meteorologists have made a major effort to preserve linkages with the lead scientific institutions around the world.

The Ministry of Environment and Natural Resources is cooperating within the frames of the EUR-OPA Major Hazards Agreement with the Council of Europe and 27 member states of the agreement. Its field of competence covers the major natural and technological disasters - knowledge, prevention, risk management, post-crisis analysis and rehabilitation.

The Ministry of Environment Protection and Natural Resources is working on ratification/joining the UNECE Convention on Transboundary Effects of Industrial Accidents. Ratification of this convention will give Georgia the opportunity to introduce modern approaches for the prevention of industrial accidents at the national level and will increase cooperation in regards to possible transboundary effects of industrial accidents.

The EU-funded Programme for the Prevention, Preparedness and Response to Man-made and Natural Disasters in the ENPI East Region (PPRD East) is ongoing. The programme covers 6 countries (Armenia, Azerbaijan, Belarus, Georgia, Moldova and Ukraine). The life-span of the programme is 2010-2014 and the purpose is to contribute to the development of the partner countries' civil protection capacities through regional cooperation.

Within the project "Enhancing local capacity and regional cooperation for climate change adaptation and biodiversity conservation in Georgia and the South Caucasus", implemented by CENN/Mercy Corps and financially supported by EU, trans-boundary working groups of South Caucasus for Kura river basin were created.

Context & Constraints:

Regional cooperation needs to be improved. It is of high importance to ensure efficient regional early warning, well-coordinated regional civil defense and response system. Further training of personnel, modern technologies in mitigation, prevention, preparedness and response as well as respective funding are required.

Experts of the National Environmental Agency managed to preserve some scientific collaboration with foreign colleagues. Nevertheless, more active cooperation and information exchange is necessary on the regional and global level. Scientific potential of the National Environmental Agency is not fully used.

Currently the trans-boundary network/committee does not exist in the Region. It could be developed (where the trans-boundary network of Kura river basin could be included as well) to better understand trans-boundary risks (hazards, vulnerability), thus, reduce disaster risk through cooperation and joint actions.

Section 5: Priority for action 3

Use knowledge, innovation and education to build a culture of safety and resilience at all levels

Priority for action 3: Core indicator 1

Relevant information on disasters is available and accessible at all levels, to all stakeholders (through networks, development of information sharing systems etc)

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Is there a national disaster information system publicly available? Yes

Information is proactively disseminated	Yes
Established mechanisms for access / dissemination (internet, public information broadcasts - radio, TV,)	Yes
Information is provided with proactive guidance to manage disaster risk	Yes

Description:

Georgia is the signatory of the "Aarhus" Convention on Access to Information, Public Participation in Decision-Making and Access to Justice in Environmental Matters and accordingly has obligations for free dissemination of environmental information to the population. LEPL Environmental Information and Education Center is envisaged to be created under the reorganization of the Ministry of Environmental Protection and Natural Resources of Georgia.

The Hydro-Meteorological Department of National Environmental Agency of the Ministry of Environment Protection and Natural Resources conducts hydro-meteorological observation over the territory of Georgia; prepares and disseminates short and long-term weather forecasts, warnings on expected hazardous events of hydro-meteorological origin, processes regime hydro-meteorological data, prepares and issues different types of bulletins, reviews, tables and notes, implements field, identification-assessment works on the snow avalanches, floods, riverbed and other types of hydro-meteorological processes on the territory of Georgia. In case of hazardous events participates in the works for identification the hazards/disaster spread area, damage assessment, response planning and planning of the relevant preventive measurements; it provides zoning of the territory of Georgia on the frequency and intensity of hydro-meteorological processes, including diverse hydro-

meteorological events.

The departments of Geological Hazards and Geological Environment Management of National Environmental Agency of the Ministry of Environment Protection and Natural Resources are carrying out studies and assessments of man-made influence on environment and geological hazards, population and engineering objects. It issues and disseminates to the regional and national governmental bodies (Emergency Management Department of the Ministry of Internal Affairs, Defense Ministry, media and other interested end-users) information as well as annual bulletins on “Outcomes of Geological Disasters This Year and Forecast for the Next Year in Georgia”. Information is also circulated via media. Additional information concerning natural hazards, disasters, forecasts and responsibilities of National Environmental Agency is available on the webpage www.meteo.gov.ge.

In the frames of international cooperation and through conferences and workshops, National Environmental Agency and the Ministry of Environment Protection and Natural Resources are exchanging experiences, information, circulate publications.

In 2012 based on the memorandum between the National Environmental Agency of the Ministry of Environment Protection and the Caucasus Environmental NGO Network (CENN) (09.09.2011) regarding the cooperation in the field of disaster risk reduction and disaster management, the paper and web-based Atlas of Natural Hazards and Risks in Georgia was developed (www.drr.cenn.org.) This Atlas is unique for the region. The main goal of the Atlas is to provide national and local governments, businesses and the local population with information about existing and potential natural hazards, risks and socio-economic vulnerability. The atlas is dedicated to assist the governmental institutions in strengthening disaster risk reduction management in the country. The maps included in the atlas (e.g. nine different natural hazards and their overlap with eight elements at risk, such as population, buildings, and GDP, etc.) have been developed on the bases of modern, international and national research and assessment methods. The Atlas was developed in the framework of the project “Institutional Building for Natural Disaster Risk Reduction (DRR) in Georgia” implemented jointly by CENN, and the Faculty of Geo-Information Science and Earth Observation (ITC) at the University of Twente. The principal partners of the project were the National Environmental Agency of the Ministry of Environment Protection of Georgia, the Department of Emergency Management of the Ministry of Internal Affairs of Georgia, and the Institute of Earth Sciences at Ilia State University.

On national level RDFG DRR Center implements National Emergency Management Information System (NEMIS) Project aiming at strengthening of Emergency Management Department (EMD) capacity through improving disaster information systems in partnership with IMMAPP. The project is focusing on modernization and optimization of the EMD's information management system; a special emphasis will be placed on the subsequent involvement of respective governmental bodies, municipal and local level institutions (as well as schools) in information flow and reflection of non-state actors' resources in the joint database based on strictly defined levels of system access rights.

Context & Constraints:

It is true to say that the overall situation in the country could be accessed through the means of verification on positive track. However, despite the ongoing efforts in the establishment of disaster information management system, for the time being, the full and effective coverage of the population cannot be assured.

Information regarding hazards, risks and disaster forecasts should be promptly provided to the public. Nevertheless, at the municipality level there is a lack of information for population regarding hazards and risk existing, as well as planned and/or completed preventive/mitigation measures.

Community members given access to information regarding hazards, risks and factors

causing them would have been able to be more actively involved in the planning and implementation of preventive/mitigation measures. Provision of information to community members on the municipality level should be enhanced as well in regards to actions to take in emergencies.

Besides periodic DRR awareness raising-mainly project based-activities implemented by NGO partners in schools and communities, there is no unified nationwide programme on DRR awareness raising and dissemination of information. Although the National Environmental Agency of the Ministry of Environment Protection and Natural Resources and the Emergency Management Department of the Ministry of Internal Affairs are disseminating the information on risks, safe behavior, due to the lack of human and financial resources, the work remains fragmented and non-systematic.

It has been revealed that municipalities at large are not fully aware of the services, risk assessment data and recommendations on mitigation measures provided by the National Environmental Agency.

Countrywide public awareness strategy to stimulate a culture of disaster resilience, with outreach to urban and rural communities, including child-centered/child-led elements need to be elaborated.

Generally, respective information is mainly disseminated to key governmental institutions and is less adapted for a broader audience. Ordinary citizens are still experiencing the difficulties with identifying and obtaining proper sources of information related to disasters. This issue is also interlinked with the weak early warning system in the country

Trainings for journalists in DRR and the increase of the role of media in the awareness raising campaign are required. The already developed IEC materials generally lack funds for printing and dissemination.

Priority for action 3: Core indicator 2

School curricula , education material and relevant trainings include disaster risk reduction and recovery concepts and practices.

Level of Progress achieved: 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

Key Questions and Means of Verification

Is DRR included in the national educational curriculum? Yes

Primary school curriculum	Yes
Secondary school curriculum	Yes
University curriculum	Yes
Professional DRR education programmes	No

Description:

Components of DRR are taught at the three levels of education process (primary, secondary school and university).

The particular DRR gap in terms of preschool children and children in special/inclusive schools is being addressed through DRR education and preparedness activities in Tbilisi and two disaster prone regions in Georgia as well as policy change efforts to integrate age and ability adapted methodology and material into the curricula and improve overall sustainability and nationwide replication (DIPECHO-2 phase: Save the Children/Arbeiter-Smariter-Bund) Georgia offers an example of the systematic enrichment and vivification of DRR treatment in existing core curriculum through the introduction of two special initiatives: the addition of DRR themes to a mandatory Civil Protection and Safety course for grades 4 and 8 and the introduction of DRR learning into the mandatory Head of Class Hour programme for grades 5 to 9.

The Head of Class Hour programme has been presented as an innovative approach on the DRR Global Platform in 2011. In this programme, the Head of Class, the coordinator of teachers of each grade level is essentially given the responsibility of conducting a one-hour lesson each week on cross-curricular topics not easily accommodated within core subjects. The programme encompasses not only discussions in the classroom but also a range of practical activities such as excursions and environmental campaigns. As part of the Head of Class Hour programme children also participate in the mapping of school hazards, risk and vulnerability and in developing school disaster preparedness plans, giving them opportunities to learn by doing as well as to test their newly acquired knowledge in practice. It is a joint effort of UNICEF, Disaster Preparedness Programme of the European Commission for Humanitarian Aid and Civil Protection (DIPECHO), Ministry of Education and Science, Ministry of Environment Protection and Emergency Management Department of the Ministry of Interior. The new DRR programme and accompanying manuals were printed by the Ministry of Education and Science of Georgia (MES) with the support of UNICEF and disseminated to all 2,084 public schools countrywide.

Civil Protection and Safety subject is taught in the 4th, 8th and 12th grade for one semester. In the 4th grade the main focus is to learn how to behave in the unknown environment, in the 8th grade to prepare and respond to disasters and in the 12th grade (focus on military threats) students learn evacuation rules in case of emergency and provision of first aid. Several universities conduct bachelor's and master's degree programmes relevant to DRR. Particular attention deserves the MA Programme in Safety Engineering and Risk Assessment at Georgian Technical University and the MA Programme in Geosciences from the Ilia State University.

From October 2012 Ilia State University also offers MA Programme in Mental Health. One of the courses taught within the frame of the program is "Disaster Management". It implies 35 hours of teaching and 115 hours of independent learning. The course covers such topics as systems of stressors in natural and man-made disasters, analysis of stakeholders, assessment of needs and resources after disasters, crisis management, IASC guidelines, TENT guidelines, multidisciplinary approach to disaster management, early intervention among children, adolescents and elderly; psychological first aid, etc.

The future plans in Georgia are to incorporate DRR components into the educational process more intensively.

The staff scientists of NEA are associated professors in institutes of Georgia. They are adopting disaster-related curricula into existing study programmes, as well as reviewing international practice in disaster management and early warning systems.

National Environmental Agency is involved in the scientific research/studies implemented in Georgia: global climate change, risk management of natural (geological, hydro-meteorological and hydrodynamic) and anthropogenic hazards.

Ongoing project within the DIPECHO 2 Phase “Supporting Disaster Risk Reduction amongst Vulnerable Communities and Institutions in the South Caucasus” is implemented by UNICEF in partnership with Ministry of Education and Science of Georgia, Emergency Management Department of the Ministry of Internal Affairs, Ministry of Environment Protection and Natural Resources and Tbilisi City Hall LEPL Emergency and Urgent Situations Management Agency. The action aims by November 30, 2013 increase significantly the capacity of school and children to better prepare for, mitigate, and respond to disasters. In total 22,900 policy/decision-makers from education and emergency sectors at national regional and local levels, teachers and school administrators, civil society organizations and other community members will benefit from the action in Georgia, including 4,000 children and youth from the selected 10 pilot school in the natural hazard prone areas in the selected four regions: Racha Lechkhumi, Kvemo Svaneti, Samegrelo-Zemo Svaneti, Mtskheta-Mtianeti, Samtskhe-Javakheti and Tbilisi.

Within the framework of the DIPECHO project "Supporting Disaster Risk Reduction amongst Vulnerable Communities and Institutions in Georgia" UNICEF is supporting Ministry of Education and Science (MOES) in the establishment of the national inter-agency coordination mechanism on DRR education - Disaster Risk Reduction Education Coordination Group. The objectives of the coordination group/mechanism are to promote initiatives and support further mainstreaming of DRR in both formal and informal education, as well as school and pre-school disaster preparedness and safety. The first coordination meeting was held at MOES premises in May 2013.

Context & Constraints:

With regards to preschool institutions, fully decentralized management by municipalities and the absence of compulsory staff pre-service training hinders efforts of institutionalization and nationwide replication and harmonization. It is recommended to improve this situation with the creation of an overarching national agency responsible for the supervision of preschool education programming, which is planned at present within the Ministry of Education and Sciences. It is also recommended that the HFA report template be amended to include preschool and inclusive/special school curriculum as additional categories.

It is important to elaborate relevant disaster risk reduction/management study programmes and further integrate in the studies of spatial and land use planning, architecture, engineering, chemistry, economics and many others.

Despite the fact that DRR is formally incorporated in the national curriculum, there is no specific budget allocation for the new curriculum implementation/toll-out with this regard (e.g. teacher training printing of education resources, etc). The challenge remains in moving from the perception of DRR in school curriculum as an isolated and one-off or pilot initiative towards more sustainable mainstreaming.

Also, it should be mentioned that current public school financing model does not envisage provision of funds for school-based disaster preparedness activities (e.g. procurement of basic fire safety equipment, organizing simulation exercises such as fire drills).

Human resources and technical capacities require to be further strengthened. Several preponderant issues remain regarding teachers' and sector managers' skills, including the absence of DRR training materials, and a focus of teaching on knowledge rather than the appropriate preparedness skills and abilities. Emergency management and education structures lack communication strategies and resources for targeting educational facilities and children.

The DRR IEC (information, education and communication) materials need to be further developed and regularly disseminated throughout the country, targeting primarily the high-risk areas.

Priority for action 3: Core indicator 3

Research methods and tools for multi-risk assessments and cost benefit analysis are developed and strengthened.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Is DRR included in the national scientific applied-research agenda/budget?
Yes

Research programmes and projects	Yes
Research outputs, products or studies are applied / used by public and private institutions	Yes
Studies on the economic costs and benefits of DRR	No

Description:

Based on processing and assessment of existing observation data, National Environmental Agency of the Ministry of Environment Protection and Natural Resources has prepared special maps on diverse hazardous hydro-meteorological, geological processes and erosion on the territory of Georgia, which are accessible on the following web-page:

www.meteo.gov.ge:

- Populated area and Urban Territories of Georgia, located in the Geological Hazardous Risk Region;
- Landslide risk zones in Georgia and damage area;
- Mudslide risk zones in Georgia and damaged area;
- Areas at Risk of Flooding in Georgia;
- Drought Prone Regions in Georgia;
- Areas with High Wind Speeds in Georgia;
- Risk of Avalanches in Georgia;
- Areas with Intensive Hail in Georgia;
- Engineering Protection Master Plan of Black Sea Coastline (2004); and etc.

National Environmental Agency is involved in different scientific research projects aiming at disaster risk assessment and mitigation, financed by the National Scientific and international funds.

In Georgia there are a number of universities and research centers that provide important contributions to disaster risk assessments and disaster management on the whole.

Particularly should be mentioned:

- Nodia institute of Geophysics, a research center of the Ivane Javakishvili Tbilisi State University. Department of Seismology and experimental geophysics has been intensively working on seismic hazard assessments
- Ivane Javakishvili Tbilisi State University

- Ilia State University (seismic network <http://seismo.iliauni.edu.ge/eqs/eqs.php>) • Georgian Technical University • Ilia Chavchavadze State University

For the territory of Georgia economic loss risk maps were developed for earthquakes, floods and droughts. Some methodology and recommendations were developed for vulnerability assessment to geological, meteorological and hydrological hazards.

Context & Constraints:

The practical studies and disaster risk assessments are being carried out. However, National Environmental Agency needs more elaborated mechanisms for processing historical data and their introduction in relevant software. Stronger emphasis on research for economics of Disaster Risk Reduction and Studies on the economic costs and benefits of DRR are recommended.

The main challenge remains in application of outputs of provided assessments during decision-making process by public institutions, commercial entities as well as lack of awareness of the broad public. It is resulting in increased number of human casualties, ecological migrants, and economic damage.

Exchange of experience would be valuable for Georgia in regards to modeling and bio monitoring, establishment of mobile laboratories, environmental impact assessment, development of national training in chemical risk assessment methodology.

Priority for action 3: Core indicator 4

Countrywide public awareness strategy exists to stimulate a culture of disaster resilience, with outreach to urban and rural communities.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Do public education campaigns for risk-prone communities and local authorities include disaster risk? No

Public education campaigns for enhanced awareness of risk.	No
Training of local government	Yes
Disaster management (preparedness and emergency response)	Yes
Preventative risk management (risk and vulnerability)	Yes
Guidance for risk reduction	Yes
Availability of information on DRR practices	No

at the community level

Description:

As mentioned in previous section under the last core indicators, there are ongoing efforts in the education sector. The systematic approach in public education became a priority of the government in the last several years. Accordingly, public education campaigns lack are not characterized as an established practice to enhance awareness of risks.

Within the National Response Plan different governmental units have designated responsibilities. To facilitate the process of involvement of respective intuitions Emergency Management Department (EMD) of the Ministry of Internal Affairs facilitates the process of training institution staff. On municipal level EMD is taking efforts in development of emergency response plans with assistance of international organizations, local and international NGOs (such as Oxfam, CENN, RDFG, World Vision). On community level these efforts are conducted by local and international NGOs. Accordingly, the training component considered within the mentioned activities is provided by above-mentioned actors.

National Environmental Agency of the Ministry of Environment Protection and Natural Resources has the official mandate to observe, forecast and inform the governmental bodies and public.

Ivane Javakhishvili Tbilisi State University, M. Nodia Institute of Geophysics together with Tbilisi Architecture Service, Tbilisi City Hall invited representatives of the Government of Georgia, UN agencies, colleagues from international and national non-governmental organizations, scientists and media to a conference to present results of Tbilisi City Seismic Risk Scenarios, also existed problems to raise awareness of seismic risks, and promote the rise of disaster resilience culture in the country. It envisioned to enhance dialogue between scientists and practitioners and mobilize coordinated action to reduce disaster risk.

Prevention-aimed Regional Communication Strategy is envisaged to be developed under the EU funded PPRD East Programme.

Context & Constraints:

In general there is a lack of awareness in the country. Risk perception is considerably low, particularly, at the local level. Public education campaigns for enhanced awareness of risk is presented under limited number of short-term pilot projects implemented by UN agencies, international and local organizations and aiming to facilitate creation of disaster preparedness culture.

An important step would have been the establishment of the national coordinated system to build awareness for disaster risk reduction through campaigns, educational programmes, events, informational brochures, etc.

Awareness of population on natural hazards and disaster risk reduction should be further developed through national and local mass media, the development of TV programmes, through cooperation with publishing houses and through educational campaigns.

Conferences or school visits to National Environmental Agency of the Ministry of Environment Protection and Natural Resources for dissemination of information regarding the mandate of the activities of NEA would be a progressive step for creation of the flexible disaster risk reduction system and building public awareness. The DRR IEC (information, education and communication) materials need to be further developed and regularly disseminated throughout the country, targeting primarily the high-risk areas.

Section 6: Priority for action 4

Reduce the underlying risk factors

Priority for action 4: Core indicator 1

Disaster risk reduction is an integral objective of environment related policies and plans, including for land use natural resource management and adaptation to climate change.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Is there a mechanism in place to protect and restore regulatory ecosystem services? (associated with wet lands, mangroves, forests etc) Yes

Protected areas legislation	Yes
Payment for ecosystem services (PES)	No
Integrated planning (for example coastal zone management)	No
Environmental impacts assessments (EIAs)	Yes
Climate change adaptation projects and programmes	Yes

Description:

According to the “Basic Data and Directions for 2013-2016” environment protection is one of the priority areas of the government, which is reflected in augmented allocation of funds from the state budget. “Basic Data and Directions” (BDD) outlines the medium term reform program of Georgia and in essence represents the mid-term national development plan. As previously mentioned, it sets the following priority directions for the Ministry of Environment Protection: establishment of mechanisms for sustainable use of land resources to reduce erosion and prevent desertification; establishment of disaster forecast and early warning system; protection and restoration of the Black Sea coast and river banks; mandatory integration of environmental issues into urban development and building process.

In January 2012 the Government of Georgia adopted National Environmental Action Plan 2012-2016 (NEAP-2) as required by Georgian legislation for every 5 years period. This plan represents in essence the National Environmental Action Programme 2 for 2012- 2016. It sets long-term goals, short-term targets and provides respective activities for 2012-2016 for eleven themes: Disasters (covers natural and man-made disasters, industrial accidents),

Climate Change, Waste and chemical substances, Nuclear and Radiation Safety, Water Resources, Ambient Air, Black Sea, Biodiversity and Protected Areas, Land Resources, Forestry, Mineral Resources. NEAP-2 also presents several cross-cutting issues and concludes with an explanation of the importance of policy coordination within the national government, between the national and the municipal levels.

The Department of Ecological Expertise and Inspection of the Ministry of Environment Protection and Natural Resources is working closely with the Integrated Environmental Management Department and National Environmental Agency of the Ministry of Environment Protection and Natural Resources of Georgia. Environmental Impact Assessment (EIA) and environmental permitting are mandatory according to the environmental legislation. EIA is mandatory for a selection of activities that potentially cause significant negative environmental impacts. Permitting is required for all activities requiring EIA as well as a large number of other activities that might cause negative environmental impacts.

Adaptation to Climate Change was acknowledged as a priority in the National Climate Change Policy in 2009 based on the results of researches conducted under Georgia's Second National Communication to the UNFCCC. National Adaptation Plan is under development and will be consolidated with the Adaptation Strategy under the Third National Communication to the UNFCCC (undergoing since 2011).

On the 25th of June, 2010, the Government of Georgia adopted State Strategy on Regional Development for 2010-2017 which states improvement of disaster risk management as one of the key priorities of the government policy.

"Strategy of Agriculture Development of Georgia" (2012-2022) provides for main directions of agricultural development and incorporates aspects of Disaster Risk Reduction. Disaster Risk Reduction has been mainstreamed in the Strategy and relevant projects of the Ministry.

Context & Constraints:

Georgia undertakes efforts to improve the country's legal and policy framework in disaster risk management. Notwithstanding certain achievements, there is still a lack of consistent integration of environmental policies and planning in different sectors. Currently, efforts still remain scattered and integration takes place ad hoc rather than systematic.

Rural exodus, and as consequence, rural land use abandonment (also known as changing land-use patterns) currently still remains a challenge.

Ministry of Economic and Sustainable Development of Georgia is working on "Code of Spatial Planning and Construction Activities" with support of German Technical Assistance Program GIZ, and involvement of local and international experts.

Regulation of issues such as reduction of negative anthropogenic impacts on the environment and creation of the framework for disaster risk reduction are of particular importance. It should be highlighted that one of the major shortcomings represents the absence of the unified National Strategy and comprehensive approach to Disaster Risk Reduction in Georgia.

For the time being there is no consolidated document reflecting integrated planning for coastal zone management. However, the latest revision of BDD ("Basic Data and Directions for 2013-2016") identified protection and restoration of the Black Sea coast and riverbanks as one of the priorities for the coming years and creates the basement to make steps in this direction.

Priority for action 4: Core indicator 2

Social development policies and plans are being implemented to reduce the vulnerability of populations most at risk.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Do social safety nets exist to increase the resilience of risk prone households and communities? No

Crop and property insurance	Yes
Temporary employment guarantee schemes	Yes
Conditional and unconditional cash transfers	Yes
Micro finance (savings, loans, etc.)	Yes
Micro insurance	No

Description:

The Ministry of Agriculture of Georgia provides various services to the farmers. All the following projects (high quality seed, amelioration, modern agricultural machinery etc.) serve to develop rural areas, improve social life and decrease risks. Correct soil cultivation will decrease soil degradation, erosion process and will save land productivity. Farmers also receive compensation from the Government for disaster related losses. It should be mentioned that the government of Georgia in 2013 started issuing low-interest loans in agricultural sector in the Framework of One Billion Fund.

Context & Constraints:

For the time being there is only one company providing wide range of crop insurance services on the Georgian market. The trend of insuring crops started only a few years ago and remains challenging for small and medium size farming businesses due to the limited financial resources.

To increase the resilience of risk prone households and communities it is necessary to strengthen the monitoring and assessment systems of hydro-meteorological and geological hazards and further facilitate the wide application of insurance services for wider range of crops and respective infrastructure in agricultural production sector. Development of close cooperation between National Environmental Agency and social safety program should insure the coverage by social safety nets of vulnerable population living in disaster prone areas and increase the coping capacity of those at risk. There is a need for

sharing/implementation of EC practices and creation of relevant legislative frameworks. The segmentation of land complicates the land management process - for example in case of preservation, renewal and care of windbreaks. It implies that farmers individually do not have sense of common responsibility using existing natural resources. One of the effective solutions of this problem would be farmers' integration and union/joint effort against the problems.

In this regard the Government is working on the respective legislation and plans to: 1. Popularize the idea of cooperation; 2. Prepare initiatives for the promotion and development of the "cooperatives" establishment process; 3. Cooperate with donors in planning/implementation of "cooperatives" support programs.

The process of establishment of farmer's cooperatives also promoted by non-state actors could be used as an effective mechanism to introduce disaster risk reduction measures in agricultural sector. For example, Association Rural Development for Future Georgia combines two elements necessary for rural areas development such as Farmers Field Schools and Disaster Risk Reduction Center, dedicated to transfer modern agricultural technologies to local farmers with mainstreaming DRR into everyday practices.

There are several micro finance institutions (MFI) issuing micro loans for small businesses and agricultural activities. Nevertheless, interest rate during previous years remained an obstacle for wider application for the majority of rural population and small business representatives in urban areas.

Priority for action 4: Core indicator 3

Economic and productive sectorial policies and plans have been implemented to reduce the vulnerability of economic activities

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Are the costs and benefits of DRR incorporated into the planning of public investment? Yes

National and sectoral public investment systems incorporating DRR.	No
Please provide specific examples: e.g. public infrastructure, transport and communication, economic and productive assets	
Investments in retrofitting infrastructures including schools and hospitals	Yes

Description:

In case of large investment projects DRR is incorporated and special funds are included. In recent years, government pays increased attention to the use of modern irrigation methods, such as: drip irrigation, pivot and sprinkler irrigation systems, which minimize risks of soil salinization.

The Ministry of Agriculture has established six extension centers in 2012, where farmers get consultation by qualified specialists, and can get soil tested. Also it is planned to organize trainings with farmers on different topics, including using modern (safe and right) technologies in Agriculture.

Law of Georgia "On Ecological Expertise" (2007) regulates implementation of activities aimed at reducing or preventing adverse effects on the environment and possible consequence of accidents, establishes mechanism for analyzing and validating data;

In accordance with the Ministerial Decree "On assessing the impact on the environment" in 2009, developer applying for the permit needs to define set of actions aimed at minimizing possible damage / harm to the environment. Environmental Impact Assessment (EIA) and environmental permitting are mandatory according to the environmental legislation. EIA is mandatory for a selection of activities that potentially cause significant negative environmental impacts. Permitting is required for all activities requiring EIA as well as a large number of other activities that might cause negative environmental impacts.

It states that application should contain amongst other, action plans to manage and mitigate the expected impact on the environment, as well as emergency response plans with full consideration of local peculiarities.

Context & Constraints:

In order to reduce the vulnerability of economic activities it is necessary to incorporate DRR in the economic and production sectorial policies and preparedness strategies at all levels and timeframes (e.g., long-term monitoring and measures) as well the legal frameworks. Cooperation in the areas of risk assessment and disaster reduction with the private sector, insurance companies, government authorities and research institutes will increase the sensibility and resilience of economic infrastructure following main points: - Supply Systems such as Water and Sewage, Food, Health and Emergency Services/Disaster Management - Energy Industry - Traffic and Transportation Systems - Communication and Information Systems - Public Authorities and Administration - Financial, Monetary and Insurance Systems - Dangerous and Hazardous Substances - Others such as the Media, Science and Culture.

Extension Centers should work intensively to increase farmers' self-consciousness and awareness on risks connected with incorrect agricultural activities.

Nevertheless, at the moment additional efforts are required to increase public awareness on unintentional increase in the frequency and intensity of natural hazards through anthropogenic environmental impacts (e.g. mining, construction of hydropower facilities, illegal logging, overgrazing, unsystematic urbanization, illegal industrial activities in river beds, negligence of climate and hydrological standards during construction, and industrial land use without relevant preliminary studies) coupled with phenomena attributed to global climate change. It is of high importance to address this issue timely.

In infrastructure retrofitting, in particular when seeking to improve evacuation routes, special attention has to be paid to the special needs of children, and adults with impairments.

Priority for action 4: Core indicator 4

Planning and management of human settlements incorporate disaster risk reduction elements, including enforcement of building codes.

Level of Progress achieved: 2

Some progress, but without systematic policy and/ or institutional commitment

Key Questions and Means of Verification

Is there investment to reduce the risk of vulnerable urban settlements? Yes

Investment in drainage infrastructure in flood prone areas	Yes
Slope stabilisation in landslide prone areas	Yes
Training of masons on safe construction technology	No
Provision of safe land and housing for low income households and communities	No
Risk sensitive regulation in land zoning and private real estate development	Yes
Regulated provision of land titling	No

Description:

In the frames of the project “Alignment of National Action Programme and Reporting Process under United Nations Convention to Combat Desertification (UNCDD)” National Action Program to combat desertification will be aligned with the 10 year UNCDD Strategy. Land degradation and erosion causes will be identified and concrete measures to address the issues will be planned.

The competencies of National Environmental Agency of the Ministry of Environment Protection and Natural Resources include: engineer-geological advanced assessment for legalization of land plots of engineer-economic purposes; Implementation of engineer-geological and hydro-geological assessment works for the objects chosen beforehand to be given minerals extracting license to avoid negative impact on the geological environment. One of the main points in reducing vulnerability of economic activities is the planning and construction of human settlements and establishment of building codes, which scopes include the requirements for earthquake, strong wind, landslide, mudflow, shoreline erosion and flood resistance, especially in disaster prone areas.

The regulated activities of National Environmental Agency include implementation of engineer-geological, geotechnic and hydro-geo-ecological studies at any stage of the project, for all types of civil and industrial objects independent of the customer, as well implementation of all scale (including specialized) of engineer-geological, engineer-

geodynamic and geo-ecological studies, for sustainable assimilation of the territory and reliable disposition of engineer objects and efficient management of geological environment. European Building Codes “Eurocodes” as well International Building Code “IBC” are registered as Georgian Standards.

For civil defense, categorization of towns and economic objects needs to be developed to ensure proper planning of construction activities.

Ministry of Economy and Sustainable Development of Georgia is currently working on the new “Code of Spatial Planning and Construction Activities” with support of German Technical Assistance Program GIZ, and involvement of local and international experts. In case of receiving warnings on expected or occurring natural and anthropogenic disasters, Ministries of Infrastructure and Regional Development, Agriculture, Energy, local municipalities also participate within its competences in prevention and mitigation works in order to avoid human and economic losses. The Ministry of Regional Development and Infrastructure ensures safety of roads that are of state importance, coordinates riverbank fortification works, while rehabilitation of local infrastructure is within the competence of local municipalities.

Representatives of the Roads Department of the Ministry of Regional Development and Infrastructure are permanently implementing monitoring and assessment of damaged areas on roads with international and domestic significance, water reservoirs, riverbanks and shoreline. During the monitoring of riverbank lines, damaged areas are assessed according to the damage degree (I, II, III categories).

Riverbed cleaning-straightening as well as construction of rigid coast protective structures (concrete and gabion walls, berms etc.) are carried out to protect the riverbanks. During activation of landslide processes on the roads, appropriate landslide-protective activities are carried out if necessary. Immediate mobilization of technique takes place to liquidate disasters during their activation and cleaning (recovery) activities are carried out.

Context & Constraints:

In Georgia disaster risk management requires strengthening of legal frameworks, creation of reserve funds/their increase and diversification in terms of sources of their flow, purposes, target areas and groups.

According to official data, 35 204 families are registered in Georgia as the victims of disasters from natural hazards, 11 thousands out of which need urgent evacuation. The severity and the large-scale nature of this problem necessitate the need of establishing the comprehensive state strategy. Georgian legislation does not regulate the problems of eco-migration. The evacuations and compensations are taking place chaotically. There is no normative act that defines the term eco-migrant and the subsequent social guarantees.

Priority for action 4: Core indicator 5

Disaster risk reduction measures are integrated into post disaster recovery and rehabilitation processes

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Do post-disaster programmes explicitly incorporate and budget for DRR for resilient recovery? Yes

% of recovery and reconstruction funds assigned to DRR	0
DRR capacities of local authorities for response and recovery strengthened	Yes
Risk assessment undertaken in pre- and post-disaster recovery and reconstruction planning	Yes
Measures taken to address gender based issues in recovery	No

Description:

Reclamation works were carried out in different regions of Georgia in 2011-2013. Expansion and rehabilitation of irrigation channels, drainage process, particularly in Kolkheti lowland and Kakheti, will assist in decreasing of flooding of agricultural lands in the next years and will decrease the risks in agricultural sector.

In the time of natural disasters government supports rural population with one-time financial compensations, food and fertilizers.

Ministry of Regional Development and Infrastructure of Georgia coordinates works to ensure the safety of roads that are of state importance, whereas rehabilitation of local infrastructure is within the competence of local self-governing bodies. Ministry of Regional Development and Infrastructure is also in charge of hydro-engineered bank fortification works on the flood and flash flood prone areas.

Context & Constraints:

In the disaster damage mitigation, recovery and rehabilitation it is essential to incorporate disaster risk reduction principles in order to 'build back better' and not recreate risk. Notwithstanding the fact that National Environmental Agency carries out the regular monitoring, geo-technic and hydro-geo-ecological studies at any stage of projects, for all types of civil and industrial objects, accordingly prepares recommendations for necessary

measures to be taken, there is an identified need to elaborate mechanisms for provision of recommended measures in time and implementation of international post disaster recovery and reconstruction norms and standards at national and local level.

Priority for action 4: Core indicator 6

Procedures are in place to assess the disaster risk impacts of major development projects, especially infrastructure.

Level of Progress achieved: 3

Institutional commitment attained, but achievements are neither comprehensive nor substantial

Key Questions and Means of Verification

Are the impacts of disaster risk that are created by major development projects assessed? Yes

Are cost/benefits of disaster risk taken into account in the design and operation of major development projects? -- not complete --

Impacts of disaster risk taken account in Environment Impact Assessment (EIA)	Yes
By national and sub-national authorities and institutions	No
By international development actors	No

Description:

The activities of National Environmental Agency include assessment of major development projects such as dams, irrigation schemes, highways, Environment Impact Assessment related to the impact of hydro-meteorological, engineer-geological, hydrogeological processes and environment pollution.

National Environmental Agency provides assessment of the impact of mining to the environment as well as assessment of engineer-geological conditions of homestead plots and houses, provides engineer-geological and hydro-geological consultation works to reduce disaster risks.

National Environmental Agency as legal entity within the Ministry of Environmental Protection and Natural Resources of Georgia provides monitoring of chemical contamination of the environment (including soil).

The Ministry of Environment Protection and Natural Resources conducts monitoring and control over environmental pollution conditions: conducts assessment of air pollution and surface waters, ionizing radiation background, publishes state of environment reports. Upon request from individuals conduct electromagnetic background assessment.

The Department of Ecological Expertise and Inspection of the Ministry of Environment

Protection and Natural Resources is working closely with the Integrated Environmental Management Department and National Environmental Agency of the Ministry of Environment Protection and Natural Resources of Georgia. Environmental Impact Assessment (EIA) and environmental permitting are mandatory according to the environmental legislation. EIA is mandatory for a selection of activities that potentially cause significant negative environmental impacts. Permitting is required for all activities requiring EIA as well as a large number of other activities that might cause negative environmental impacts.

The Environmental Impact Assessment (EIA) report is the study of planned activity that reveals and describes direct or indirect potential impact on human health and safety, flora and fauna, soil, air, water, climate, landscape, ecosystems, and historical monuments or on above factors all together, including impact of the factors themselves on cultural, social and economic elements and values.

Context & Constraints:

With the magnitude of potential negative impacts associated with the disasters caused by natural hazards, Georgia is one of the most sensitive countries among mountainous regions of the world.

As such the role of National Environmental Agency, as the environmental monitoring and assessment organization, in preparation of Environment Impact Assessments of national major development projects, is of high importance.

Convention on the Transboundary Effects of Industrial Accidents, Protocol on Civil Liability for Damage and Compensation for Damage Caused by Transboundary Effects of Industrial Accidents on Transboundary Waters, Convention on the Protection and Use of Transboundary Watercourses and International Lakes, Convention on Environmental Impact Assessment in a Transboundary Context, Protocol on Pollutant Release and Transfer Registers, Protocol on Strategic Environmental Assessment are among those international treaties on the current agenda of the Ministry of Environment Protection and Natural Resources of Georgia.

Enforcement of environmental requirements in Georgia is implemented through environmental permitting and technical environmental regulations. Namely, certain types of activities defined by the law having significant impact on the environment are subject to an environmental impact permit. Activities not subject to an environmental impact permit have to comply with technical environmental regulations, which establish pollution discharge standards.

Due to legislative gaps and lack of resources, routine environmental surveillance has rarely been implemented. Recent legislative changes removed some legislative inconsistencies and granted the Inspectorate more power and flexibility to efficiently execute its competencies. Still, environmental enforcement needs strengthening. Especially problematic is the general lack of human resources both in terms of the quantity and the qualification of the personnel. Therefore, it is very important to provide regular inspection training to the personnel. In addition, it is necessary to develop comprehensive methodologies for risk assessment and inspection procedures.

There are gaps in the existing environmental impact permit system itself. Namely, the list of activities requiring a permit and a mandatory EIA is incomplete and inflexible. The current permitting system does not provide high quality EIA reports and adequate public participation procedures. Low quality EIAs create obstacles at a later surveillance and enforcement stage. Due to lack of knowledge and experience, the actual impacts of planned activities on biodiversity, and a description of possible mitigation measures are generally not adequately described in EIA reports. Monitoring of the implementation and effectiveness of mitigation measures identified in the EIA report is incomplete.

Section 7: Priority for action 5

Strengthen disaster preparedness for effective response at all levels

Priority for action 5: Core indicator 1

Strong policy, technical and institutional capacities and mechanisms for disaster risk management, with a disaster risk reduction perspective are in place.

Level of Progress achieved: 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

Key Questions and Means of Verification

Are there national programmes or policies for disaster preparedness, contingency planning and response? Yes

DRR incorporated in these programmes and policies	Yes
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The institutional mechanisms exist for the rapid mobilisation of resources in a disaster, utilising civil society and the private sector; in addition to public sector support.	Yes
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Are there national programmes or policies to make schools and health facilities safe in emergencies? Yes

Policies and programmes for school and hospital safety	Yes
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Training and mock drills in school and hospitals for emergency preparedness	Yes
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Are future disaster risks anticipated through scenario development and aligned preparedness planning? Yes

Potential risk scenarios are developed taking into account climate change projections	Yes
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Preparedness plans are regularly updated based on future risk scenarios	No
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Description:

The emergency management system in Georgia is mainly defined by the Law on Protecting the Population and Territory from Natural and Man-made Emergency Situations, the Presidential Decree on Approval of the National Plan for Responding to Natural and Man-made Emergencies # 415 dated August 26, 2008, the Law on Fire. These normative acts establish the unified emergency management system, describe principles of institutional set-up and coordination in emergency situations. According to the Law on Protecting the Population and Territory from Natural and Man-made Emergency Situations, the unified system includes ministries, their subordinate bodies and legal entities of Public Law authorized by the Government.

On 17 May 2011, the Organic Law of Georgia on National Security Council of Georgia was amended and the National Security Council of Georgia has been designated to act as a top-level strategic-political body to manage all types of crises situations threatening the national interest of Georgia.

Emergency Management Department of the Ministry of Internal Affairs plays a central role along with the unified system of ministries, their subordinate bodies and legal entities of Public Law in elimination of consequences of emergency situations at the national and regional levels.

In regards to Civil Protection should be mentioned the ongoing Twinning Project "Support the Emergency Management Department in development of emergency services in Georgia", one of the pillars of which is the revision and improvement of legislation and regulations in civil protection/disaster management, and the ongoing EU-funded Programme for the Prevention, Preparedness and Response to Man-made and Natural Disasters in the ENPI East Region (PPRD East, 2010-2014). PPRD East programme purpose is to contribute to the development of the partner countries' civil protection capacities through regional cooperation.

According to the National Response Plan, the Ministry of Health, Labor and Social Affairs is responsible for carrying out Medical Care (function 6). The Department of Emergency Situations and the Ministry of Health, Labor and Social Affairs have developed the Sectorial Response and Civil Defense Measures Plan of the Ministry of Labor, Health and Social Affairs of Georgia in Emergencies (adopted in 23 March, 2009). Recommendations for Designing Plans of Preparedness of Hospitals on Emergency Situations have been developed and distributed to all hospitals throughout Georgia. Besides, the managers of medical facilities were duly instructed regarding preparation of the local hospital response plans. The headquarters on emergency situations are created in almost all multi-branch hospitals. The response plans developed by hospitals currently are coordinated with the National Response Plan. This is a permanent and renewable process implemented on a daily basis. Within the framework of training programs organized by the Department of Emergency Situations and Ministry of Health, Labor and Social Affairs a number of medical doctors, hospital managers and rescuers have been trained on management of clinical conditions in critical situations and hospital management in emergency situations. Above-mentioned trainings took place in Tbilisi and regions throughout Georgia. Training programs include large-scale simulations drills and tabletop exercises.

Within the previously mentioned project implemented by CENN, "Guidelines for Risk Assessment to Geological and Hydro-meteorological Hazards and its incorporation into Spatial Planning and Environmental Assessment" were developed (<http://drm.cenn.org/index.php/en/background-information/guidelines/>) They do not have any legal status yet; In addition, a number of trainings were implemented related to DRM/risk assessment using Geo-information system (GIS) for the representatives of governmental, non-governmental and scientific institutions (<http://drm.cenn.org/index.php/en/background-information/training-materials/>).

Context & Constraints:

Emergency Management Department is working on the revision of the National Emergency Response Plan in collaboration with the relevant Ministries with the intention to increase their roles and responsibilities with regards to disaster preparedness and response. The culture of preparedness among the authorities and the public at large still continues to favor emergency response over disaster risk reduction.

Georgia is currently working on ratification/joining the UN Economic Commission Europe Convention "On the Transboundary Effects of Industrial Accidents". Ratification of this convention will give Georgia the opportunity to introduce modern approaches for the prevention of industrial accidents at the national level.

The education and disaster management framework in Georgia provides basis for compliance of schools with basic safety measures, including maintenance of evacuation and school disaster preparedness plans. However, there are certain challenges in reinforcement. The Government of Georgia should actively seek out opportunities to incorporate Disaster Risk Reduction into their own development planning methodologies, in all of the relevant sectors and at all relevant levels. The guidelines for risk assessment and incorporation of hazard and risk information into spatial planning and EIA/SEA should therefore be mandatory. Despite the number of training made in risk assessment using GIS techniques, more institutional development is needed, not only on national but on local levels as well (thus, decentralization is required).

Priority for action 5: Core indicator 2

Disaster preparedness plans and contingency plans are in place at all administrative levels, and regular training drills and rehearsals are held to test and develop disaster response programmes.

Level of Progress achieved: 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

Key Questions and Means of Verification

Are the contingency plans, procedures and resources in place to deal with a major disaster? Yes

Plans and programmes are developed with gender sensitivities	No
Risk management/contingency plans for continued basic service delivery	Yes
Operations and communications centre	Yes
Search and rescue teams	Yes
Stockpiles of relief supplies	Yes

Shelters	Yes
Secure medical facilities	Yes
Dedicated provision for disabled and elderly in relief, shelter and emergency medical facilities	Yes
Businesses are a proactive partner in planning and delivery of response	No

Description:

Emergency Management Department of the Ministry of Internal Affairs is responsible to carry out the disaster preparedness and contingency plans at all administrative levels.

The National Response Plan on Natural and Man-made Emergencies provides details on implementation and coordination of response and rehabilitation works during emergencies, covers responsibilities of individual ministries, other state institutions and local administrations in response to emergency situations. On top of defining functions of all Ministries in emergency situations it established obligations to develop thematic response plans. This plan represents the main working document for management of emergency situations. 17 functions are identified: provision of analytical planning; provision of communications and warning systems; provision of population evacuation activities; provision of search and rescue, emergency-rescue and recovery-rescue works activities; provision of transportation; provision of medical assistance; provision of diplomatic protocol and international humanitarian assistance; provision of forest fire fighting activities; provision of energy; provision of plants and animals safety; provision of chemical and radiation safety; provision of technical supplies; provision of engineering activities; Insurance of public order and protection of material goods; provision of road access; provision of food and water; protection of cultural heritage. Management of each function is conducted by state stakeholder, which has convenient authority, resources and competency in this sphere; Georgia Red Cross Society (GRCS) provides coordination for local non-governmental organizations in case of emergency. Together with other non-state actors the GRCS provides first aid and medical assistance, assists in ensuring functioning of water and food supply self-contained system in temporary residence areas, participates in search-and-rescue activities in the emergency situation zones.

For example, the Ministry of Labor, Health and Social Affairs maintains at all times sufficient supplies of medicines and consumables for provision of medical facilities in case of emergency situations. It is responsible for exposure and health risk assessment.

In Georgia, disaster emergency response plans are obligatory for all levels. All municipalities have emergency response plans/templates, which they are using for response planning. These plans contain a separate attachment describing preventive measures. The quality of response plan varies from region to region due to the fact this practice was introduced during last 2 years. It should be mentioned that in the majority of municipalities both local self-governance and population express little awareness of these documents.

There are 9 State Trustee; governors administrations and 69 self-governing unites (local level), where disaster response units are functioning.

In case of force-majeure and reactivation of extreme hydrological and geological hazardous events, National Environmental Agency with local communities and regional units of emergency management department is actively involved in disaster risk assessment,

preventive, recovery measures projection and mitigation activities.

Particularly should be mentioned conducted around Tbilisi, the capital of Georgia, from 22 to 28 September 2012 by the NATO Euro-Atlantic Disaster Response Coordination Centre (EADRCC) in cooperation with the Georgian Ministry of Internal Affairs' Emergency Management Department, the consequence management field exercise "Georgia - 2012".

The scenario for the exercise: a severe earthquake affecting the vicinity of Tbilisi, resulting in high numbers of victims and widespread damage to critical infrastructure, including chemical spills and a radiological incident.

All together 1000 people (35 nations) participated in the exercise (450 international, 550 from Georgia, 50+ observers). Fourteen nations/organization participated with teams of different specialties like: CBRN, search and rescue, water rescue, fire fighting, medical support and technical assistance (Armenia, Austria, Azerbaijan, Estonia, Finland, the former Yugoslav Republic of Macedonia¹, Georgia, Kazakhstan, Lithuania, NATO (HU, SK, SN), Poland, Ukraine, United Nations, United States).

Another 13 participated with staff support (Belarus, Belgium, Bosnia and Herzegovina, Croatia, Germany, Israel, Johanniter Int'l (NGO), Latvia, Moldova, Norway, Romania, Sweden, United Kingdom) and 8 sent only observers (Albania, Egypt, France, ICRC, Netherlands, Slovenia, Switzerland).

The exercise was one of the biggest organized by the EADRCC. It proved to be a well-developed rigorous exercise that was carried out in a safe manner with no major injuries or casualties. It was well designed, in that it promoted cooperation among responders from the participating nations.

As a part of the exercise observers programme a panel discussion on Protection of Cultural Heritage in Natural and Man-made Disasters was organized. The objectives of the panel discussion were to exchange information and best practices in disaster situations and more than 50 observers took part in that event. Through this exercise, NATO members and partner nations practiced procedures and capabilities, in order to improve nations' ability to respond to disasters. The exercise also contributed to strengthening stricken nation's capability to effectively coordinate emergency response management operations.

In 2012, the Office of National Security Council organized "St. George Exercise", a training session for representatives of relevant Government agencies aimed to improve crisis management capacity on strategic-political level. The training was organized in close cooperation with the Government of the United Kingdom, which provided both financial and technical support. More than 40 participants from 15 governmental agencies participated.

In addition in 2012, the following simulation exercises where performed:

- EU Monitoring and Information Centre (EU MIC) earthquake simulation exercise in Georgia, mitigation and liquidation of consequences of earthquakes 2.05.12.
- On 14 June 2012 the Emergency Management department of the Ministry of the Interior and the company "BP-Georgia" conducted a joint field exercise on the topic of "search-rescue measures following the helicopter crash."
- United Horizon 2012" military - civilian interagency training organized by the state of Georgia USA National Guard, the U.S. Command in Europe and the Georgian side with participation of the Emergency Management Department of the Ministry of Internal Affairs (25-29 June 2012).

The following bilateral Agreements and Treaties have been signed in the Field of Emergency Management:

- (Agreement) between Georgia and the USA on deepening the defense and military channels in the field of cooperation for prevention of weapons of mass destruction (July 17, 1997)
- (Agreement) between the governments of Georgia and the Republic of Azerbaijan on prevention emergency situations and cooperation in the field of their liquidation. (February 18, 1997)

- (Agreement) between the governments of Georgia and the Republic of Armenia on prevention emergency situations of natural and man-caused character and cooperation in the field of liquidation of their results. (May 3, 1997)
- (Agreement) between the member states of BSEC on emergency cooperation in case of natural and man-caused disasters as well as on cooperation for rendering assistance and taking prompt response. (April 15, 1998) BSEC country members: Republic of Albania, Republic of Armenia, Republic of Azerbaijan, Republic of Bulgaria, Georgia, Hellenic Republic, Republic of Moldova, Russian Federation, Romania, Ukraine.
- (Treaty) between Georgia, the Republic of Azerbaijan, the Republic of Turkey on transportation of the Baku-Jeihan pipe line through the territories of the Republic of Azerbaijan, Georgia and the Republic of Turkey (November 18, 1999)
- (Agreement) between Georgia and Kazakhstan on prevention of accidents and emergency situations (1997)
- (Agreement) between Georgia and the Republic of Turkey on prevention of accidents and emergency situations (1997)
- (Agreement) between Georgia and Ukraine on prevention of accidents and emergency situations (December 7, 1998)
- (Agreement) between the governments of Georgia and the Russian Federation on prevention emergency situations and cooperation in the field of their liquidation. (February 3, 1994) (absence of diplomatic relations since 2008)

Context & Constraints:

By the decree of the Prime Minister an interagency working group on elaboration of the Chemical, Biological, Radiological and Nuclear National Strategy has been recently established.

The Emergency Management Department is currently working on updating the National Response and Interagency response plans.

Ministry of Internally Displaced Persons from the Occupied Territories, Accommodation and Refugees is responsible for provision of shelter and respective services. Current status of the preparedness needs further development and resources.

According to the National Response Plan to Natural and Man-made Emergency Situations the national plans for chemical and radiation safety and forest fires are to be elaborated by the Ministry of Environment Protection and Natural Resources. The process is ongoing. It was previously delayed due the structural reorganization of the Ministry of Environment Protection and Natural Resources and the Ministry of Energy that took place in 2011.

As mentioned above Emergency Management Department and Caucasus Environmental NGO Network (CENN) have jointly elaborated emergency response plans for a number of municipalities by now. Nevertheless, in most municipalities both local self-governance and population express little awareness of these documents. It is recommended that disaster management plans have to include the detailed maps of the risks (hazard, vulnerabilities) as well and it have to be widely communicated to the public (local community members).

Priority for action 5: Core indicator 3

Financial reserves and contingency mechanisms are in place to support effective response and recovery when required.

Level of Progress achieved: 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

Key Questions and Means of Verification

Are financial arrangements in place to deal with major disaster? Yes

National contingency and calamity funds	Yes
The reduction of future risk is considered in the use of calamity funds	Yes
Insurance and reinsurance facilities	Yes
Catastrophe bonds and other capital market mechanisms	No

Description:

The bodies of state governance of Georgia, Autonomous Republics of Adjara and Abkhazia and local self-governance authorized to solve the issues of protection of the population and the territory from emergency situations are funded from the state budget of Georgia, budgets of the Autonomous Republics of Adjara and Abkhazia and local budgets accordingly. Measures on elimination of the consequences of emergency situations are funded at the expense of those natural and legal persons, which are actual owners of a territory where the emergency situation is created due to their own fault, through the state budget of Georgia, budgets of the Autonomous Republics of Adjara and Abkhazia and local budgets. If these funds are not sufficient for elimination of the consequences of the emergency situation the required funding is provided from the reserve funds. Special transfers to the budget of self-governing unit are used to fund the expenditures for the liquidation of the results of ecological and other kinds of calamities, specific capital and other necessary expenditures. National Environmental Agency of the Ministry of Environment Protection and Natural Resources carries out hydro-meteorological, geological, environment pollution monitoring through the state budget financing sources and state budget special purpose funds, which mainly are directed to support effective response and recovery when required. The Ministry of Agriculture supports building of cooling facilities for fruits and vegetables, storages and saving-drying places for grain. According to the estimates Georgia has stock of food for 3 months and therefore food crisis in case of disaster is not expected. Furthermore, during natural disasters government supports rural population with one-time financial compensations, food and fertilizers. In accordance with the Presidential Decree on Approval of the National Plan for Responding to Natural and Man-made Emergencies # 415 dated August 26, 2008, the Ministry of Agriculture of Georgia in case of disaster is responsible for provision of food and water as

well it is in charge of plant and animal safety. The Ministry of Agriculture is also a supporting institution in emergency management, medical provision, and assurance of chemical and radiation safety.

Context & Constraints:

Because of the scale of floods, flash floods, landslides, mudflows, heavy rains, droughts, snow avalanches, hail, strong winds in Georgia and their increased intensity caused by the global climate change and anthropogenic influence on the environment, it is desirable to create an independent DRR fund in the frame of technical cooperation for the implementation of DRR-concepts and programs for Disaster Mitigation and Disaster Preparedness. It will support implementation of best practices regarding disaster insurance in Georgia.

Priority for action 5: Core indicator 4

Procedures are in place to exchange relevant information during hazard events and disasters, and to undertake post-event reviews

Level of Progress achieved: 4

Substantial achievement attained but with recognized limitations in key aspects, such as financial resources and/ or operational capacities

Key Questions and Means of Verification

Has an agreed method and procedure been adopted to assess damage, loss and needs when disasters occur? Yes

Damage and loss assessment methodologies and capacities available	Yes
Post-disaster need assessment methodologies	Yes
Post-disaster needs assessment methodologies include guidance on gender aspects	No
Identified and trained human resources	Yes

Description:

National Environmental Agency of the Ministry of Environment Protection and Natural Resources and scientific institutions on the territory of Georgia conduct observations, data collection, provide relevant studies and assessments of natural processes and man-made influence to the geological and hydro-meteorological hazardous processes; provide risk assessments of settlements and industrial facilities, planning of preventive and mitigation measures, carry out damage assessments.

In case of activation of Geological Hazardous events information between the local municipal bodies and NEA is sharing by telephone, fax, correspondence, when needed geologist carry out field study and elaborate recommendations and measures to be taken.

In case of activation of hazardous processes National Environmental Agency (NEA) prepares and disseminates warnings to respective local decision makers and informs the Emergency Management Department of the Ministry of Interior. Equally National Environmental Agency prepares recommendation and necessary palliative measures for disaster risk management and damage reduction.

Information concerning natural hazards, disasters, forecasts and responsibilities of National Environmental Agency is available on the webpage www.meteo.gov.ge

Georgia is a party to the UNECE Convention on Access to Information, Public Participation in Decision-making and Access to Justice in Environmental Matters, known as the Aarhus Convention.

Information about hazards that can affect human life and health, natural and anthropogenic disasters and other incidents, which have already happened or can happen in the future and possess a threat to civil security, should not be confidential (the General Administrative Code of Georgia, Article 42; the Law of Georgia on The State Secret, Article 8). Chapter II of the above mentioned law defines the rights and obligations of the public and legal entities concerning public health issues. According to the Article 5, paragraph "e", every person residing in the territory of Georgia is obliged to notify the Public Health Service about any emergency situation caused by violation of sanitary norms in production and technological processes. According to Article 35, Paragraph 6 of the same law, the Ministry of Justice, the Ministry of Internal Affairs and the Ministry of Defense are obliged to inform the Public Health Service about any circumstances that may pose hazard to the health and safety of the population. According to the national legislation, information about emergency situations is public information and should be accessible to everybody unless, in particular cases, when the reasons for the emergency situations and persons are under investigation. It should also be mentioned that Article 233 of the Criminal Code of Georgia defines criminal sanction in cases of concealing or distorting information about emergencies or accidents at nuclear or radioactive installations. According to the Article 247 of the Criminal Code of Georgia, criminal sanction is applicable in the case of concealing or fabricating information about conditions posing hazard to human health and life.

Statistics of emergency situations by EMD is available on the following website:

<http://www.police.ge/index.php?m=277>

Information concerning current seismic situation is available on the website of the Seismic Monitoring Center of Ilia State University <http://seismo.iliauni.edu.ge/eqs/eqs.php>

The web-portal <http://drm.cenn.org> (web-atlas) can contribute as a tool to communicate, exchange information during the hazardous event as it gives an opportunity to report a damages caused by the event .

Context & Constraints:

The Government of Georgia does not have the capacity to conduct a thorough recovery needs assessment and develop an integrated recovery framework. National Emergency Response Pan does not provide a framework for early or long-term recovery. Coordination in post disaster settings and post disaster assessment require additional efforts and further capacity building.

The International Organization for Migration (IOM) holds global experience and specific know-how relating to rapid psychosocial needs assessment in emergency displacement, early recovery and return. In addition, IOM is a cluster lead on camp coordination and camp management (CCCM) during natural disasters. Stemming from this, IOM could be considered as a resource in view of respective knowledge sharing and capacity building of

governmental structures if relevant donor commitments are secured.

It should be noted that currently there is no common methodology applied by different governmental institutions for the assessment of economic losses. The assessment of damage and the statistical data are incomplete. It is important to adopt advanced methodologies and procedures to assess damage and losses. Advanced training of personnel of the National Environmental Agency in the field, adoption of cutting-edge methodologies and procedures to assess damage and losses are of high importance.

Section 8: Drivers of Progress

a) Multi-hazard integrated approach to disaster risk reduction and development

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Do studies/ reports/ atlases on multi-hazard analyses exist in the country/ for the sub region?: Yes

If yes, are these being applied to development planning/ informing policy?: Yes

Description (Please provide evidence of where, how and who):

The 2010-2013 Threats Assessment Document of Georgia (2010) was prepared as a result of inter-agency work carried out under the umbrella of the Office of the National Security Council and is based on the broad understanding of security. Adopted by the Presidential decree, besides military and political threats it evaluates socio-economic, terrorist threats as well as disasters. The document consists of 5 parts: Military Threats, Foreign Political Threats, Transnational Threats, Socio-Economic Threats and Natural and Industrial Threats and Risks.

The Hydro-Meteorological Department of the National Environmental Agency conducts hydro-meteorological observation over the territory of Georgia; prepares and disseminates short and long- term weather forecasts, warnings on expected hazardous events of hydro-meteorological origin, processes regime hydro-meteorological data, prepares and issues different types of bulletins, reviews, tables and notes, implements field, identification-assessment works on the snow avalanches, floods, riverbed and other types of hydro-meteorological processes on the territory of Georgia. In case of hazardous events participates in the works for identification the hazards/disaster spread area, damage assessment, response planning and planning of the relevant preventive measurements; it provides zoning of the territory of Georgia on the frequency and intensity of hydro-meteorological processes, including diverse hydro-meteorological events.

The departments of Geological Hazards and Geological Environment Management of NEA are carrying out studies and assessments of man-made influence on environment and geological hazards, population and engineering objects. It issues and disseminates to the regional and national governmental bodies (Ministry of Environment Protection and Natural Resources, Emergency Management Department of the Ministry of Internal Affairs, Regional Management Department of the Government Chancellery, Defense Ministry, media and other interested end-users) information as well as annual bulletins on "Outcomes of Geological Disasters This Year and Forecast for the Next Year in Georgia". Information is also circulated via media. Additional information concerning natural hazards, disasters, forecasts and responsibilities of NEA is available on the webpage www.meteo.gov.ge.

b) Gender perspectives on risk reduction and recovery adopted and institutionalized

Levels of Reliance:

No/ little reliance: no acknowledgement of the issue in policy or practice; or, there is some acknowledgement but nothing/ little done to address it

Is gender disaggregated data available and being applied to decision-making for risk reduction and recovery activities?: No

Do gender concerns inform policy and programme conceptualisation and implementation in a meaningful and appropriate way?: No

Description (Please provide evidence of where, how and who):

More attention will be paid to gender issue in DRR, particularly in vulnerable regions of the country.

c) Capacities for risk reduction and recovery identified and strengthened

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Do responsible designated agencies, institutions and offices at the local level have capacities for the enforcement of risk reduction regulations?: No

Are local institutions, village committees, communities, volunteers or urban resident welfare associations properly trained for response?: No

Description (Please provide evidence of where, how and who):

DRR needs to take an integrated approach to all environmental policies and plans.

d) Human security and social equity approaches integrated into disaster risk reduction and recovery activities

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Do programmes take account of socio-environmental risks to the most vulnerable and marginalised groups?: Yes

Are appropriate social protection measures / safety nets that safeguard against their specific socioeconomic and political vulnerabilities being adequately implemented?: No

Description (Please provide evidence of where, how and who):

To increase the resilience of risk prone households and communities it is necessary with the monitoring and assessment of hydro-meteorological, geological hazards to develop close cooperation between National Environmental Agency and social safety programs/insurance companies. There is a need for sharing/implementation of EC practices and creation of relevant legislative frameworks.

In Georgia there are challenges in delineating lines of responsibility and especially in promoting cooperation and communication/response planning, particular incorporation of community. It is necessary to improve early warning system, dissemination of forecasts in the high mountain region of Georgia situated in high-risk zones and implement culture of voluntarism as best practices of developed countries in the sphere of disaster risk management. It is highly important to build public awareness and further elaborate study programs on disaster risk management.

e) Engagement and partnerships with non-governmental actors; civil society, private sector, amongst others, have been fostered at all levels

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Are there identified means and sources to convey local and community experience or traditional knowledge in disaster risk reduction?: No

Description (Please provide evidence of where, how and who):

The activities on DRR implemented by NGO and Academic Institutions are supported by governmental institutions at all stages.

Contextual Drivers of Progress

Levels of Reliance:

Partial/ some reliance: Full acknowledgement of the issue; strategy/ framework for action developed to address it; application still not fully implemented across policy and practice; complete buy in not achieved from key stakeholders.

Description (Please provide evidence of where, how and who):

The Government of Georgia has signed the United Nations Development Assistance Framework 2011-2015. It includes implementation of the Governmental priority in DRR. National Development Priorities: - To prevent or mitigate disaster risks; -To effectively prepare for and respond; - To mitigate the damage and loss caused by emergency situations through unified management; - To work towards the full implementation of the United Nations Hyogo Framework for Action 2005-2015; -To implement sustainable measures to manage and prevent the substantial depletion of natural resources and environmental pollution; - Support MDGs: MDG 1: Eradicate extreme poverty, MDG 7: Ensure environmental sustainability.

The actions are taken by Governmental institutions and by other relevant stakeholders.

Section 9: Future Outlook

Future Outlook Area 1

The more effective integration of disaster risk considerations into sustainable development policies, planning and programming at all levels, with a special emphasis on disaster prevention, mitigation, preparedness and vulnerability reduction.

Overall Challenges:

One important precondition to reduce disaster risk is to have detailed knowledge of hazards and vulnerabilities, physical, social, economic and environmental risks that Georgia faces, and how hazards and vulnerabilities change in the short- and long- term. This knowledge can be the basis upon which evidence-based action can be taken and policies formulated. Activities will support the improvement of institutional capacities as well as capacities of individuals in relevant governmental organizations.

Future Outlook Statement:

Countries that develop policy, legislative and institutional frameworks for Disaster Risk Reduction and are able to develop and track progress through specific indicators have a greater capacity to both manage risks and to receive widespread consensus for, engagement in, and compliance with DRR measures across all sectors of society. Therefore, the first priority of a functioning, effective DRR system is the introduction of an inclusive multi-sectoral national platform for DRR, accompanied by institutional, legislative and policy frameworks.

Future Outlook Area 2

The development and strengthening of institutions, mechanisms and capacities at all levels, in particular at the community level, that can systematically contribute to building resilience to hazards.

Overall Challenges:

Disasters themselves, and their effects, may be significantly reduced if people are well-informed and are exposed to a culture of disaster prevention and resilience; this necessarily requires the collection, compilation and dissemination of relevant knowledge on hazards, vulnerabilities, and developing capacities.

Future Outlook Statement:

Further incorporation of DRR in education, targeting children, teachers, youth and vulnerable groups and especially communities in risk prone zones. Active cooperation and networking among all stakeholders: scientific communities, the Government, international and non-governmental organizations, practitioners, environmentalists, managers and planners is key to establishing the culture of safety and resilience.

Future Outlook Area 3

The systematic incorporation of risk reduction approaches into the design and implementation of emergency preparedness, response and recovery programmes in the reconstruction of affected communities.

Overall Challenges:

The impact of disasters as well as losses associated with them can be substantially reduced if authorities, individuals and communities in hazard-prone areas are prepared and ready to act to respond to events.

Future Outlook Statement:

To promote the establishment of a functional and unified disaster management system at all levels, from local to national. Furthermore, it will assist in the elaboration and implementation of complementary national, regional and community disaster management strategies to improve local capacities to prepare for and respond to the adverse effects of disasters in Georgia. These will strategically link regional, national and community level activities, with particular emphasis on complementary actions by multiple stakeholders, whilst helping to ensure that these activities are institutionalized. The development of functional contingency plans that encompass preparedness planning for increasing response capacity and clear roles, responsibilities and chains of command will be supported at all levels.

Future Outlook Area 4

The United Nations General Assembly Resolution 66/199, requested the development of a post-2015 framework for disaster risk reduction. A first outline will be developed for the next Global Platform in 2013, and a draft should be finalized towards the end of 2014 to be ready for consideration and adoption at the World Conference on Disaster Reduction in 2015.

Overall Challenges:

Focus on addressing underlying risks factors and regional cooperation for DRR.

Section 10: Stakeholders

Organizations, departments, and institutions that have contributed to the report

Organization	Type	Focal Point
Emergency Management Department of the Ministry of Internal Affairs	Gov	Temur Melkadze
LEPL National Environmental Agency	Gov	Ramaz Chitanava
LEPL National Environmental Agency	Gov	Emil Tsereteli
LEPL National Environmental Agency	Gov	Marina Kordzakhia
Ministry of Agriculture of Georgia	Gov	Vera Khomeriki
Ministry of Economic and Sustainable Development of Georgia	Gov	Sofia Daraselia
Ministry of Education and Science of Georgia	Gov	Mariam Chikobava
Ministry of Environment Protection and Natural Resources of Georgia	Gov	Olga Shashkina
Ministry of Regional Development and Infrastructure	Gov	Shota Margulia
National Security Council of Georgia	Gov	Mikheil Kekenadze
European Commission Humanitarian Aid and Civil Protection department – ECHO	Regl Inter-gov	Ketevan Lomsadze
I. Javakhishvili State University, Institute of Geophysics	Acad & Research	Tamaz Chelidze, Nino Tsereteli
Ilia State University	Acad & Research	Jana Javakhishvili
CENN - Caucasus Environmental NGO Network	NGO	Nino Kheladze, Kakha Bakhtadze

Disaster Risk Reduction Center / Rural Development for Future Georgia (RDFG),	NGO	Vano Grigolashvili
Georgia Red Cross Society	NGO	Kakha Mamuladze
Oxfam	NGO	Lauriane Gauny, Giorgi Datusani
Save the Children International (SCI) Georgia	NGO	Pierre Vischioni
Action Against Hunger / ACF Spain	UN & Intl	Edgar Barata
International Organization for Migration	UN & Intl	Nino Shushania
UNDP Georgia	UN & Intl	Herman Bergsma
UNICEF Georgia	UN & Intl	Nino Gvetadze
Swiss Agency for Development and Cooperation (SDC)/Georgia	Networks & Others	Davit Chichinadze