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UNDP Project Document

Regional Project: "Increasing Urban Resilience by use of ICT for Mainstreaming Disaster and Climate Risk Reduction in Armenia, FYR Macedonia and Moldova"

Executive Summary:

The population, economy, and environment of Armenia, FYR Macedonia and Moldova are highly vulnerable to natural hazards such as earthquakes, floods, and forest fires. High degrees of urbanization, coupled with the impact of climate change, are increasing vulnerabilities of cities and urban centers in these countries.

The main project objective is to build disaster and climate resilience in the three countries by increasing institutional capacity, mobilizing knowledge and transferring appropriate best-practice innovation technologies. Through implementation of the project, the cooperation between the three countries will be enhanced, resulting in the development of a new dimension of international co-operation in the areas of disaster and climate risk reduction.

The project will particularly focus on strengthening collaboration between the selected pilot cities of the three countries where a number of innovative techniques and methodologies will piloted/tested.

The proposed project has four main components, three focused on national level activities and one on regional level. To the extent possible, the activities implemented on national level will include an element of knowledge and experience sharing, replication and scaling up.

SIGNATURE PAGE
United Nations Development Programme
National Project Document

Project Title: Enhancing Capacity, Knowledge and Technology Support to Build Urban Disaster and Climate Resilience in Armenia, FYR Macedonia and Moldova

UNDAF Outcome(s): 3. By 2015 central and local level authorities integrate environment and disaster risk reduction into national and local development frameworks, while communities and CSOs participate more effectively in environmental protection and disaster risk reduction planning, implementation and monitoring.
Expected CP Outcome(s): 3.3 By 2015 National authorities are better able to reduce the risk of and respond to natural and man-made disasters.
Expected Output(s):
- Capacities of the local governments of Yerevan, Skopje, Hincesti to develop & implement integrated disaster & climate risk reduction plans & programmes strengthened;
- Concept of Smart City solution for rapid urbanization and climate change challenges developed;
- Improved availability of information and increased public awareness on disaster and climate risk in urban areas by implementation of regional and country level ICT solutions/mobile application;
- Knowledge shared on best practices.

Executing Entity: UNDP
Implementing Partner: City of Skopje
Other Partners: Crisis Management Centre, Ministry of Environment and Physical Planning, Protection and Rescue Directorate, Municipalities within the City of Skopje, NGOs, Academia.

Brief Description

The population, economy, and environment of Armenia, FYR Macedonia and Moldova are highly vulnerable to natural hazards such as earthquakes, floods, and forest fires. High degrees of urbanization, coupled with the impact of climate change, are increasing vulnerabilities of cities and urban centers in these countries. The main project objective is to build disaster and climate resilience in the three countries by increasing institutional capacity, mobilizing knowledge and transferring appropriate best-practice innovation technologies. Through implementation of the project, the cooperation between the three countries will be enhanced, resulting in the development of a new dimension of international co-operation in the areas of disaster and climate risk reduction. The project will particularly focus on strengthening collaboration between the selected pilot cities of the three countries where a number of innovative techniques and methodologies will be piloted/tested. The proposed project has four main components, three focused on national level activities and one on regional level. To the extent possible, the activities implemented on national level will include an element of knowledge and experience sharing, replication and scaling up.

Programme Period:	2014-2016
Key Result Area (Strategic Plan):	Resilience Building
Atlas Award ID:	
Start date:	3 December 2014
End Date	31December 2016
PAC Meeting Date	01 December 2014
Management Arrangements	NIM

Total resources required:	305,000
Total allocated resources:	227,000
• Regular requested	100,000 (BCPR)
	100,000 (COs)
	27,000 (City of Skopje)
Unfunded budget:	78,000
In-kind Contribution:	10,000$

Agreed by (City of Skopje): Mr. Koce Trajanovski, Mayor

Agreed by (UNDP): Mrs. Louisa Vinton, Resident Representative

1 SITUATION ANALYSIS

1.1 Background

FYR Macedonia is a disaster-prone country that is exposed to various types of natural hazards, including earthquakes, wild fires, floods, droughts, extreme temperatures, landslides. Earthquakes pose largest risk in term of consequences - damages and human losses, wildfires are most frequent disaster, and floods are on the rise in terms of frequency and intensity.

The disaster management system in the country consist of two key independent state administrative bodies: 1) the Crisis Management Centre (CMC), established in 2005 with the main function to ensure continuity in inter-sector and international cooperation, consultation and coordination in the crisis (disaster) management, preparation and updating of the integrated assessment from all risks and hazards in the country, proposing measures and activities for response and resolving of crisis situations etc.; 2) the Directorate for Protection and Rescue (PRD), also established in 2005, which serves as a single system for tracking and prevention of occurrence, and mitigation of consequences caused by natural disasters, epidemics, epizootics, epiphytic or other emergencies in times of peace or war or military activities that endanger the population, natural gifts, flora and fauna, common goods and items or facilities of special cultural and historic importance. The country has also established a National Platform for Disaster Risk Reduction (DRR).

The country is exposed to climate change (CC) and its consequences, which increase the number and intensity of risks and their impact on the development and prosperity of the country and its citizens. According to the results of the climate change scenarios up to 2100 done as part of the Third National Communication to UNFCCC, the average projected increase of temperature in Macedonia is between 1.2°C in 2025, 2.0°C in 2050, 3.1°C in 2075, and 3.9°C in 2100. At the same time, the average sum of precipitation is expected to decrease from -4% in 2025, -10% in 2050, -15% in 2075 to -19% in 2100 in comparison with the reference period. The most affected and at the same time the most vulnerable sectors to the climate change impacts are: agriculture, water resources, biodiversity, forestry, human health, cultural heritage, and tourism.

FYR Macedonia ratified the UN Framework Convention on Climate Change (UNFCCC) in December 1997 and responding to the obligations towards the UNFCCC submitted the Third National Communication in January 2014. The Ministry of Environment and Physical Planning is the focal point for the UNFCCC and the key government entity responsible for creating climate change policies and ensuring proper monitoring and reporting to the global convention on climate change.

The City of Skopje is the capital city of FYR Macedonia with population of 506,926 citizens as per the latest Census in 2002. With the new law on administrative division from 2006, the population increased to 668,518 citizens. It is consisted of 10 municipalities (Centar, Cair, Karpos, Kisela Voda, Aerodrom, Gazi Baba, Butel, Suto Orizari, Gjorce Petrov, and Saraj). The total territory is 1,818 km2 with length of 23 km. and width of 9 km., whether the city area is 225 km2. Approximately, 1/3 of the total population of the country lives in Skopje.

The climate is characterized with annual average temperature of 13.5 C with long and warm summers and cold winters with annual average of 74 days with fog. Average rainfalls annually are 940 mm or 11 days. For the Skopje region it is expected to have in future more intensive temperature changes in

winter and less intensive in summer and fall. The level of precipitation will stay the same in winter, but it will be decreased in other seasons with maximum values of -23% in the summer.

Specific orographic conditions of the city area, placed in a basin and surrounded by hills and mountains, intensive urbanization and increase of its population, determine urban climate of Skopje and emphasize the enlargement of potential health risk of heat stress. Temperature inversions during winter accompanied with frequent and prolonged days with fog and air pollution are another problem of the urban environment.

With regards to the disaster hazard profile the earthquake poses largest risk in term of consequences - damages and human losses, and is followed by floods, fires and meteorological hazards (extreme temperatures, droughts, hail etc.). In this regard, the major earthquake happened on 26 July 1963, with a 6.1 moment magnitude (equivalent to 6.9 magnitude on a Richter scale). Casualties were high with 1,070 killed and more than 3,500 injured. About 80% percent of the city was completely destroyed leaving more than 200,000 people homeless and the damage was estimated 3.1bn USD.

With the support of UNDP project "Disaster and Climate Risk Reduction", the Regional Office of the Crisis Management Centre prepared Integrated Risk and Hazard Assessment of the City of Skopje that has to be adopted by the City Council in early 2015. This document contains all necessary information on the hazard profile of the city, exposure and vulnerability of the population and the critical infrastructure, as well as the coping capacities of the emergency management system with registry of all available resources.

With its administrative division and responsibilities the City of Skopje establishes a Headquarter for crisis management and protection and rescue which is main coordinative body within the city emergency management structure. Furthermore, the communication and coordination for the crisis management is done through the Regional Office of the Crisis Management Centre, whether the operational issues for protection and rescue are done by the Protection and Rescue Unit. The City of Skopje prepares and adopts Risk and Hazard Assessment, as well as the Protection and Rescue Assessment and Protection and Rescue Plan. Within its structure a territorial firefighting brigade operates with one central and four field stations.

Also, the area of climate change is within the competences of the city administration that is responsible for protection of the environment and the nature. The City of Skopje, as signatory of the Covenant of Mayors committed to increase energy efficiency and use of renewable energy sources on their territories, but also to meet the target of 20% CO_2 reduction by 2020.

Urban risk is continually increasing. It has been estimated that, more than 50 per cent of the world's population is living in urban areas. Urbanization is taking place at an unprecedented rate. In the next 20 years, the world's population is predicted to increase by an additional two billion. By 2030 more than 60% of the world's population is expected to live in cities, with record concentrations in large urban conglomerations and megacities in the developing world. Vulnerability of cities to disasters is on the rise especially as poor people settle in high-risk urban areas. Unfortunately, planning and development of cities has given little consideration to the consequences of hazards such as earthquakes, hydro-meteorological risks and others. The implication of this reality is the need for countries to focus their collective energies to create a safer world for urban dwellers and develop a series of innovative approaches to meet this challenge.

In this regard, building resilience and adapting to climate change is crucial for cities. Efforts to build resilience in cities can benefit from integrating disaster risk reduction and climate change adaptation with existing efforts in disaster risk reduction and other similar planning processes.

Women are affected differently from men during the disasters, largely due to differences in social status and household work distribution, but also due to lack of access, information and resources. Similarly, marginalized groups, such as disabled and most vulnerable (poor) will also have less access and accumulated capacity to withstand the impact of disaster. And finally, double marginalized group, which would include women and children that are among the most vulnerable and poor. Gender balanced inclusion of into DRR offers an opportunity for re-examining the relations of these groups with society from different angles and enhancing equality in socioeconomic development.

UNDP has a proven track record and experience both in strengthening capacities for disaster risk reduction and climate change adaptation and mitigation. This project is building upon the achievements of an existing DRR and climate change projects in the country, as well as will connect to the planned activities related to big data for disasters and climate change.

Namely, the project "Strengthening of the Capacities of the Crisis Management Centre" (2008 – 2011) enabled the national and local level authorities to be coordinated and efficient in disaster risk reduction and communities in high-risk areas to become more disaster-resilient. Furthermore, the cooperation with CMC continued with implementation of the project "Disaster and Climate Risk Reduction" with main objective to strengthen disaster and climate risk assessment capacities and identify priorities at the national level to inform country disaster risk and climate risk management strategies and program development. This was done through preparation of a comprehensive Disaster Risk Assessments, local level activities for reduction of vulnerabilities and strengthening the capacities for disaster and climate risks management at local levels and implementation of innovative public awareness and educational activities.

Moreover, UNDP was supporting the establishment and functioning of the National DRR Platform, as well as fostering the regional collaboration among the emergency agencies in Macedonia, Albania and Kosovo. Currently, UNDP is supporting the development of a National Disaster Risk Reduction Strategy.

UNDP and City of Skopje cooperate on regular basic in implementation or support of various activities related to environmental protection, especially in areas of building resilience to climate change (development of two Nationally Appropriate Mitigation Actions (NAMAs) proposals, Skopje Green Route Application, active participation in various workshops/training/public events etc.)

In the past 10 years, UNDP has been supporting the country to create national policies and plans that will better address climate change mitigation and adaptation needs and challenges, such as National Communications on Climate Change and the First Biennial Update Report on Climate Change. The climate change agenda is been promoted at several levels: The report on Socio-economic Impact of Climate Change and the Third National Communication on Climate Change is expected to bring additional evidences and policy recommendations for national action on climate change mitigation and adaptation measures. These policy documents will serve as a platform for mobilizing informed dialogue and action among the policy-makers, academic community, private and civil sector. UNDP is also supporting development and implementation of projects that contribute to mitigation of emissions of GHG (Green House Gasses) and adaptation to climate change.

2 STRATEGY

The project aims to build disaster and climate resilience by increasing institutional capacity, mobilizing knowledge and transferring appropriate best-practice innovation technologies. In addition, it will utilize existing products and best practices in the three countries and the ECIS region.

One of the three focus areas of cooperation for the UNDP and the UN agencies in the country stated in the UN Development Assistance Framework (UNDAF) and the Country Programme Document (CPD) 2010-2015 is environment protection, including the disaster risk management. UNDP's support in this area responds to the national priority for strengthening national capacities for integrated environmental management and enhancing administrative capacities at central and local level for enforcement and fulfilment of obligations of regional and global conventions. By the end of the five years programme cycles, capacities of central and local level authorities to integrate environment and disaster risk reduction into national and local development frameworks will be improved, while communities and CSOs shall participate more effectively in environmental protection and disaster risk reduction planning, implementation and monitoring.

The project interventions will rely on the integrated risk and hazards assessment for the City of Skopje and other municipalities in the country, as well as already developed Information and Communication technology (ICT) applications/databases within the Crisis Management Centre for e-assessment, inventorization of critical infrastructure, registry of resources, historical events and demography of the population, as well as synergy with the Macedonian Forest Fire Information System (MKFFIS). They will be one of the pillars for preparation and adoption of the urban risk resilience plans, as well as development of concepts and ICT innovative solutions.

Preparation of Climate Change Strategy for City of Skopje that will enable long-term climate change management and will incorporate climate change mitigation and adaptation into their development goals and planning processes. It will involve multiple sectors, stakeholders, and will enables City of Skopje to employ diverse financing and policy options required for low-emission and climate-resilient development.

The actions of the project will be mutually supportive. It will support technology transfer and know-how on best-practice adaptation measures through demonstration of concrete on-the-ground activities to build the disaster and climate resilience of vulnerable communities in the selected pilot cities of each of the three regions. The project will employ a „learning by doing" approach and there will be active promotion of the concept of „dynamic, learning organizations" that have an adaptive management approach, changing policies rapidly as new scientific information becomes available.

This project will recognize the fundamental role of private sector in emerging challenges of rapid urbanization and climate change. Private companies, and specifically mobile operators, collectively own the network infrastructure best placed to deliver digital urban services to future citizens. Private sector is also well positioned to provide the technology platform from which these future services can be delivered, and to deliver end-to-end services direct to consumers. As a part of Smart City Approach development proposed project will closely work with private sector to create public-private partnerships aiming to choose the suitable platform to deliver Smart City solutions. Obvious partners for such project are mobile network operators. Project will aim at developing partnerships with the mobile network providers that can share anonymous data linked to emergency situations.

Social Ventures, Innovation Labs and Academia will be involved to support analysis, design and development of the ICT solution/mobile application. Project will benefit from incubation of home grown solutions such as early warning and response applications developed in the country. Project will focus on integration of the ideas and upgrading/scaling up the solutions regionally.

At regional level, the project will support knowledge sharing on best practices and lessons learnt among the participating countries. All project activities, processes, and lessons learned will be well-documented and shared within the three countries and urban centers. This information will be used not only in the national context, but also on regional as well as broader multi-national levels. Lessons learned about how to make disaster and climate risk reduction an integral part of development will be promoted throughout the project implementation.

Additional rationale for the regional component is to coordinate the innovative component of the work, as part of the work will be based on the Innovation Labs, which are run out of the regional center. Also, this is the first time, innovative approaches based on ICT are used for DRR in the region, therefore, there is a strong knowledge management and lessons learned component. And finally, RBEC is interested to cultivate knowledge on using ICT for DRR and spreading it further in the region. Furthermore, there are positive examples of using ICT innovation on national level, like: mobile DRR application, proxy data for disaster resilience concept, Skopje Green Route etc.

The project proposes mainly advocacy efforts for considering and integrating gender and vulnerable groups' issues in DRR and CC activities. These efforts are built on the previous experience of UNDP DRR project and accumulated knowledge and information. The project will address vulnerabilities by applying a cross-cutting approach, such as introduction of ICT solution accessible by all groups of users disaggregating risk information and ensuring gender balanced representation of vulnerable groups in decision-making processes and actions. Support will also be provided to incorporate analysis of gender and vulnerable groups in the assessment of disaster and climate risks, impacts and needs.

To ensure continuation of gender sensitive inclusion of vulnerable groups the project proposes interventions in capacity development, advocacy and policy development, programmatic initiatives and training and education.

The project will further increase institutional capacity, mobilize knowledge and transfer appropriate best-practice innovation technologies within the three countries Armenia, FYR Macedonia and Moldova. The project will particularly focus on strengthening collaboration between the selected urban centers of the three countries within the frame of Global City Resilience Campaign and include Yerevan, Skopje and Hincesti where a number of innovative techniques and methodologies will be piloted/tested. These actions will support the development of a new dimension of international co-operation in the areas of disaster and climate risk reduction and contribute to a conceptual transition in Armenia, FYR Macedonia and Moldova from a response-focused towards a more prevention-oriented approach.

3 Objective, Outputs, and Activities

The main project objective is to build disaster and climate resilience in vulnerable developing countries by increasing institutional capacity, mobilizing knowledge and transferring appropriate best-practice innovation technologies.

The project outcome is - urban resilience in the City of Skopje improved by use of ICT Innovation in disaster and climate risk reduction.

The proposed project has four main components, three focused on national level activities and one on regional level. However, the third component is mixed with implementation of activities, both on national and local level. Therefore, to the extent possible, the activities implemented on national level will include an element of knowledge and experience sharing, replication and scaling up.

Outputs in support of this objective are as follows:

- Capacities of the local governments of the Yerevan, Skopje and Hincesti to develop and implement integrated disaster and climate risk reduction plans and programmes strengthened.
- Concept of Smart City solution for the rapid urbanization and climate change challenges developed.
- Improved availability of information and increased public awareness on disaster and climate risk in urban areas by implementation of regional and country level ICT solutions/mobile application.
- Knowledge shared on best practices and lessons learnt among the participating countries facilitated.

The activities in support of these outputs are described below:

Output 1: Capacities of the local governments of the Yerevan, Skopje and Hincesti to develop and implement integrated disaster and climate risk reduction plans and programmes strengthened.

The project will continue building city resilience capacity by utilization of various innovative foresight methodologies including Global Local Government Self-Assessment Tool (LGSAT) developed by UNISDR Global Education and Training Institute (GETI) or others.

Utilization of the foresight methodology will help to set baselines, identify gaps, plan actions and measure advancements over time. The self-assessment will be undertaken as a multi-stakeholder process, led by local governments. The main actors include local government authorities, civil society organizations, women's groups, local academia, the business community and community-based organizations, with the support of national entities as needed. Both women and men will be represented. The involvement of civil society organizations and community-based organizations will be essential for the process.

The LGSAT methodology has been piloted in Armenia - one of the project's participant countries – in 2014. As a result of LGSAT assessment the City Resilience Action Plan was produced specifying actions for each of Ten Essentials of Making City Resilient. Using this experience and lessons learn, LGSAT methodology will be applied for the City of Skopje and a City Resilient Action Plan will be developed.

For the purpose of the assessment workshops and meetings will be held with a broad range of government, civil society, and international stakeholders. Ongoing cooperation with UNDP and ISDR's Global City Resilience program will advance the assessment process and development of City Resilience Action Plan with the actions on DRR and CCA.

The output will have the following activities on the country level: Yerevan, Skopje and Hincesti based on LGSAT analysis

- Conduct initial analysis and adaptation of LGSAT methodology for the country specific

- Utilize LGSAT on-line tool to conduct the city assessment
- Develop City Resilience Action Plan based on LGSAT assessment results
- Enlarge the City Resilience Action Plans with specific actions beyond Ten Essentials of Making City Resilient Campaign, including CCA actions

- Develop responsibility matrix for the plan implementation. Ensure fully participatory process ensuring participation of both men and women and vulnerable social groups. All stakeholders from national and local governments, international organizations, private sector and civil groups should contribute to the action plan development with UN agencies as a process facilitator;
- Liaise with relevant country-level stakeholders to confirm the action plan and responsibility split
- Ensure accessibility of the City Resilience Action plans for all groups of the stakeholders via national information platform (City of Skopje portal, DRR National Platform and emergency management agencies websites and municipalities' websites).
- Develop monitoring and evaluation approach for the City Resilience Action Plan with identified responsible parties for M&E and timeframe
- Mainstream the City Resilience Action Plan into community mid-term development plans
- Support knowledge exchange, information sharing and lessons learnt on LGSAT methodology utilization and development of City Resilience Action Plan; provide feedback to the UNISDR/GETI on the methodology and country specific experience.
- Implementation of a small-scale simulation exercise for testing one of the Ten Essentials component of the City Resilience Action Plans
- Develop Inventory of Greenhouse gasses for City of Skopje as per the 2006 IPCC guidelines for two years (2008 and 2012) - database and narrative report.

Key Deliverables:

1. Integrated City Resilience Action Plans DRR for three cities, including two capital cities developed.
2. City Resilience Action Plans integrated with countries' informational platform.
3. Access procedures for the relevant layers of stakeholders (public, government, emergency management agencies and DRR specialists).
4. Small-scale demonstration project aimed at increasing urban resilience implemented in selected vulnerable communities and/or by vulnerable groups.
5. Simulation exercise and lessons learnt.
6. GHG Inventory for City of Skopje for 2008 and 2012 developed.

Output 2: Concept of Smart City solution for the rapid urbanization and climate change challenges developed

The Smart City approach is based on common urban ecosystem and technology platforms across multiple service layers to optimize scarce city resources, increase resilience and generate a unified and coherent 'customer experience' for the citizens. The concept of Smart City starts at the point of urban resilience data collection and generation via utilization of City Resilience Action Plan and other data sources. That data then should be backhauled by communications networks via a combination of fixed and wireless infrastructure depending on the mobility of the application and bandwidth and latency requirements. Data should be analyzed and warehoused in a central country data management platform that stores, tags and processes large data sets in the cloud. The user interface, accessed by citizens, local government and service providers, would be freely available via web services on mobile or desktop platforms. Open data sets should encourage a community to generate fresh insights and innovative new

services.

Different stakeholders have the opportunity to assume different roles across different parts of the Smart City value chain from a pure access play to full service delivery. Data records of urban resilience activities will lead to more efficient long-term planning tools for DRR and CCA urban planners, city administration and also private sector infrastructure investors.

As a first step of introduction of Smart City concept, the project will focus on development of road-map and detail technical requirements for the Smart City. As in setting of transition economies of telecom operators in the three countries are well placed to play a strategic role in creating and orchestrating the Smart City information flows, the concept should developed in close collaboration between City of Skopje, UNDP, CMC and private mobile operators.

In addition, development of this concept will rely on the already established ICT framework for risk assessment, as well as the strategic documents that are incorporating the disaster and climate risk reduction. Further to the integrated risk and hazard assessment of the City of Skopje and the National DRR Strategy and the Action Plan, the Climate Change Strategy for the City of Skopje is a comprehensive document that will integrate both the Smart City concept and the Urban Resilience Action Plan.

The output will have the following activities on the country level:

- Rapid assessment of the current situation and needs for ICT for Urban Resilience (DRR and CC).
- Develop Smart City approach for the three cities (Yerevan, Skopje and Hincesti) integrating different layers of DRR resources and services; Ensure participatory process and contribution from all stakeholders to identify the data sources and information flows on DRR and CCA, decide on the coordination points for the data flows and eliminate duplication of data; identify the services that could be provided by Smart City platform (such as City Resilience Action Plan availability, monitoring and tracking, etc.).
- Develop Smart City approach for the effective partnerships to align the large number of stakeholders involved in City Resilience and DRR efforts based on the City Resilience Action Plan.
- Develop detail functional and technical requirements to choose the technology platform from which these future services can be delivered. Collaborate with national mobile and telecom companies to identify possible platform, data storage and interface options.
- Identify most vulnerable sectors to climate change and propose appropriate adaptation measures.
- Assess the mitigation potential of the City of Skopje and possible co-benefits (new economic opportunities and jobs).
- Develop Climate Change Strategy for the City of Skopje.

Key Deliverables:

1. Rapid assessment of the current situation and needs for ICT for Urban Resilience.
2. Smart City conceptual design for the three capital cities including identification of different information and stakeholder's layers and the proposed way of collaboration.
3. Functional and technical requirements for the Smart City technology platform.
4. Road-Map for the Smart City approach mainstreaming.
5. Climate Change Strategy for the City of Skopje.

Output 3: Improved availability of information and increased public awareness on disaster and climate risk in urban areas by implementation of regional and country level ICT solutions/mobile application

Component 3 will contribute to realization of larger Smart City approach and introduce regional/country ICT solution and mobile application for the City Resilience improvement, disaster risk reduction and management.

ICT solutions such as mobile application and mobile networks and platforms are ideally placed to increase public awareness on disaster and climate risk in urban areas through connectivity and network intelligence. Mobile phone application allows the public to find emergency information, preparedness tools, and weather radar, along with several other options for disaster management.

The ubiquity of handheld computing technology has been found to be especially useful in disaster management and relief operations. This project will be focus on development and deployment of mobile applications and platforms that take advantage of key sources on DRR and CCA including current news releases, GIS information and government data. These applications will be based on common ICT solution platform but customize according to country needs and risk profile. Proposed solutions will have the capability of empowering citizens involved in crisis situations to contribute via crowdsourcing, and to communicate up-to-date information to others. Mobile and cloud based GIS offers many potential benefits to improve disaster management including emergency calls through the emergency management centers with ability to identify respondents' location.

Application will be also developed to empower people with a disability to use social media for disaster preparedness, response and recovery. ICT solutions will response to the fact that not all people with a disability are able to access lifesaving messages delivered through social media due to the accessibility challenges that the tools currently pose. ICT solution will provide information on how to prepare for a disaster and what to do when one strikes, including help for children and the disabled.

Project will leverage the current knowledge and experience of FYR Macedonia and Armenia in development of emergency application, which will be replicated in Moldova. It will utilize several technologies to develop application framework, such as linked data principles for structured data, existing data sources and ontologies for disaster management, and application innovations proposed by Innovation Labs in each country and Academia.

The output will have the following activities on the country and regional level.

Country activities:

- Collect functional requirements for the DRR ICT Solution on the country level.
- Scale up/replicate/upgrade existing ICT Solutions/Mobile Applications/Platforms based on collected functional requirements in collaboration with Social Innovation Labs, Institution and private sector in each country.

Key Deliverables:

- Scale up/replicate/upgrade ICT Solution/Mobile Application/Platform piloted in three countries.
- Integrated data insights for the real-time DRR analysis.

Regional Activities:

- Agree on high-level standard functional requirements for the DRR ICT Solution/Mobile Application.
- Analyze global best practices in DRR ICT Solutions/Mobile Application.
- Analyze existing ICT Solutions/Mobile Application available in Macedonia and Armenia and its functionality with the special attention on accessibility for disable and vulnerable groups.
- Decide on ICT Scaling Up/Replication approach.
- Develop governance model for ICT cooperation (including cooperation with Innovation Labs, Institutions and private sector).
- Ensure the participatory approach and accessibility of ICT for solution for vulnerable and disable groups.
- Implementation of targeted public awareness activities and development of knowledge products particularly focused on urban vulnerable.

Key Deliverables:

1. High-Level Common Requirements for the DRR application that could be replicated in other countries.
2. Results of the best practice analysis.
3. Model for the ICT cooperation (including cooperation with Innovation Labs, Institutions and Private Sector).
4. Model for the inclusive ICT solution that provides access for vulnerable and disable groups.
5. Public awareness and knowledge products, targeting both men and women.

Output 4: Knowledge shared on best practices and lessons learnt among the participating countries facilitated

One of the key elements of the capacity development will be a public education and awareness campaign on the regional level. The project will support each country in consulting with a broad range of stakeholders (community organizations, schools, churches, municipalities, other government agencies, businesses, etc.) to strengthen public awareness.

The campaign, based on the main issues and target audiences, will enhance education and awareness of DRR and CC challenges identify the appropriate role(s) for the media and effectively use of proposed ICT Solutions/Mobile Applications/Platforms. A new approach for the awareness campaign will be introduced through the Social Innovation Challenge for Urban Resilience targeting youth in each three participating countries. The Social Innovation Challenge is a competition to inspire cities to generate innovative ideas that solve urban resilience problems, improve city life, and ultimately can spread to other cities.

The key activities to facilitate the regional collaboration shall include the following:

- Implementation of Joint Social Innovation Challenge for Urban Resilience targeting youth in three participating countries.
- Study tours and exchange of information for the key national and local stakeholders
- Compilation of lessons learnt and best practices on the foresight/LGSAT and risk assessment methodology adaptation.
- Compilation of lessons learnt and best practices of the implementation of the project activities in the three participating cities.

Key Deliverables:

- Joint Social Innovation Challenge for Urban Resilience.
- Three Study Tours in each of the participating capital cities.
- Summary of lessons learnt and best practices.

4 MANAGEMENT ARRANGEMENTS

4.1 Management Arrangements – Regional Level

UNDP Country Offices in Armenia, FYR Macedonia and Moldova will implement the project. UNDP Istanbul Regional Hub (Regional Bureau for Europe and CIS) will serve as the coordinating office for the project. Furthermore, UNSDIR/GETI Network for the Global City Resilience Campaign will be utilized during the project implementation.

The regional project shall be implemented under the Direct Implementation Modality (DIM). Istanbul Regional Hub will have a leading role for the overall coordination of the project activities and particularly for the regional level activities, and UNDP Country Offices in Armenia, FYR Macedonia and Moldova will be responsible for implement of the national level activities in each of the countries respectively, and will ensure close collaboration and coordination with the national stakeholders in the three countries.

A Regional Project Board will be established consisting of representative of Istanbul Regional Hub, as an Executive, UNDP representatives of participating COs in a role of a Senior Supplier, and representatives of beneficiaries or other key partners from each of the participating countries as a Senior Beneficiary.

The Management Board will meet (physically in each country) once a year, at a suitable time, e.g. as a side event of one of the Regional (high level) workshops, and furthermore interact by e-mail, e.g. at the times of substantial Technical reporting. Senior Programme Officer of the UNDP Istanbul Regional Hub will also be part of the Board and coordinate the work of the Board from the UNDP Regional Hub in Istanbul.

The Regional Project Board shall be responsible for making management decisions for the overall project, and will endorse the Annual Work Plans and Project Progress Reports.

Advisory Board: the major function of the Advisory Board is to support the project on technical and quality assurance matters. The Advisory Board will consist of one selected Regional expert and one or two selected national experts who will interact with the UNDP Regional Disaster Reduction Advisor primarily by e-mail exchanges.

The Team Leader and Technical Advisor on DRR/Crisis Response in Istanbul Regional Hub will coordinate day-to-day managements and operational aspects of the Programme and coordinates with the senior managers in the participating UNDP country offices to ensure efficient programme implementation.

National Project Coordinators/Managers: will be responsible for day-to-day operational aspects of Programme activities envisaged in each country. National Project Coordinators/Managers will be paid by respective UNDP COs and will be based in their respective countries with travel in the region as

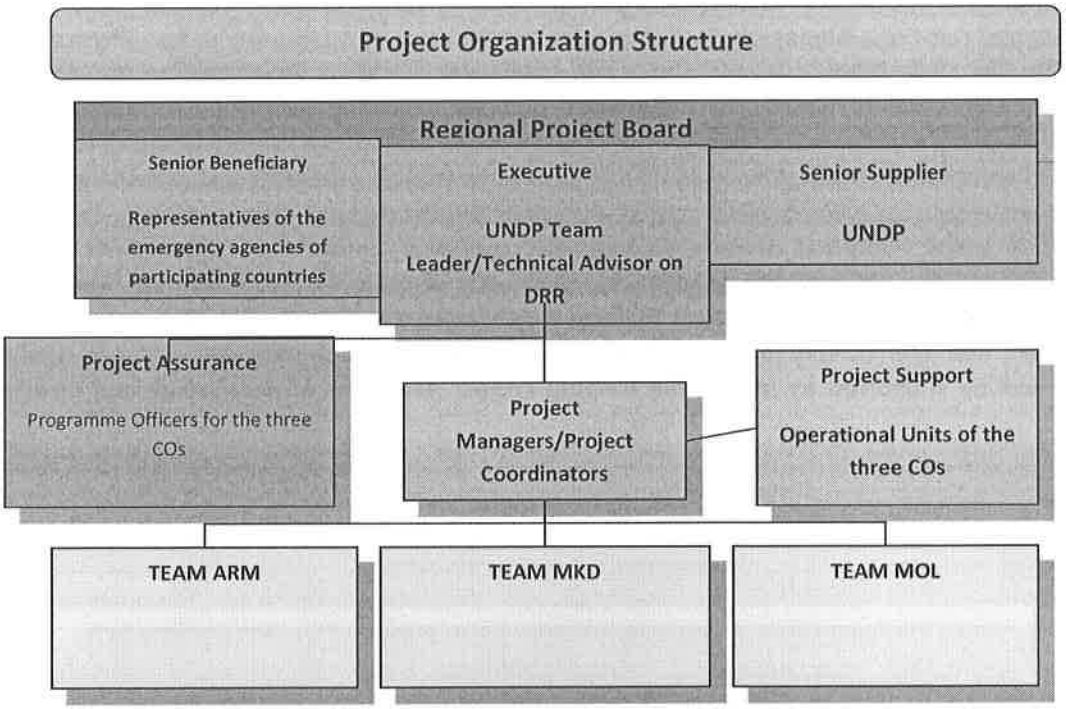
necessary to provide (i) state of the art technical advice and (ii) associated policy advice to the programme and its activities. They will provide guidance and advice to the UNDP Regional Disaster Reduction Advisor on identifying the best methods to ensure that the programme achieves maximum impact, in accordance with European and international best practice, towards the outcome defined in the Strategic Results Framework, and towards the objectives defined in the Programme document.

The Team Leader and Technical Advisor on DRR/Crisis Response in IRH (Istanbul Regional Hub) and Programme Officers from the three Country Offices will have a role of a Project Assurance.

The Team Leader and Technical Advisor on DRR/Crisis Response in Istanbul Regional Hub will provide technical support to the project and guidance to the project teams in the three countries. In addition, the Team Leader shall further support the efforts of the COs to mobilize additional resources for implementation of the project activities, particularly through identification an engagement in negotiations with potential donors and/or international financial institution institutions foundations, etc.

For the national level activities, each of participating countries shall establish a Project Board or shall utilize the Project Boards already established for the ongoing disaster risk reduction projects.

The Gender Focal Point of the UNDP COs shall be actively involved in the implementation of the project in order to ensure integration of both women's and men's needs and experiences into components of the project, including development of sex-disaggregated indicators, monitor women's participation and development of a solid information baseline to target women and women's groups in project activities. Gender focal point will also provide support as needed to avoid being implemented as something separate and unrelated to the rest of the activities.



4.2 Management Arrangements – Country Level (FYR Macedonia)

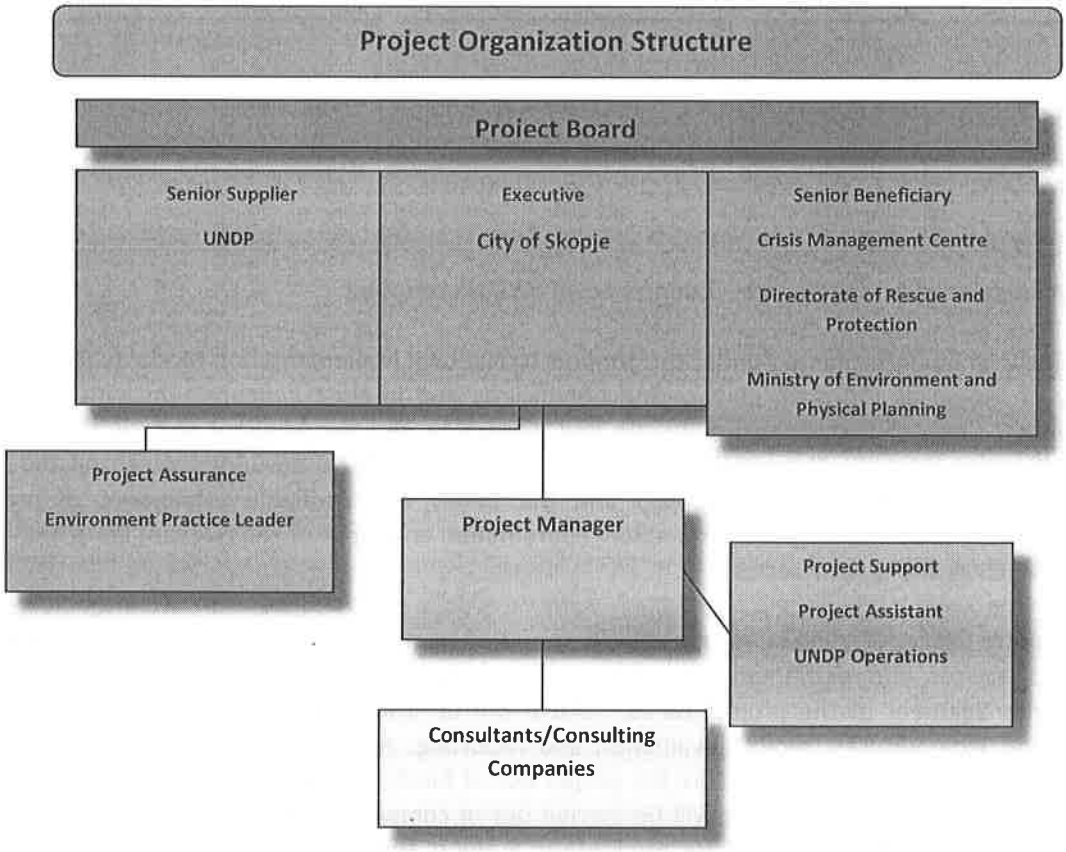
The project will be implemented under the Support to National Implementation Modality (NIM) with the City of Skopje as the main partner and beneficiary, and in close collaboration with the Crisis Management Centre, Directorate for Rescue and Protection and the Ministry of Environment and Physical Planning (MoEPP). The national partners will be responsible for ensuring the central and local government's participation in the project and the timely and verifiable attainment of project objectives. They shall also facilitate interaction, coordination and input of the relevant state and local institutions, CSOs and private sector.

UNDP Country Office (CO) will be responsible for provision of support services such as procurement of goods and services, and recruitment of project staff, consultants and consulting companies, as well as financial management of the project funds. UNDP will be also responsible for overseeing project budgets and expenditures; project evaluation and reporting; result-based project monitoring; and organizing independent audits to ensure the proper use of funds. Procurement, Recruitment, Financial transactions, auditing and reporting will be carried out in compliance UNDP procedures for national execution, based on the Agreement for provision of Support Services signed between UNDP and the City of Skopje.

UNDP Country Office will also be responsible for timely submission of progress reports, audit and evaluation reports to Istanbul Regional Hub through UNDP Team Leader/Technical Adviser on DRR, and to the national counterparts.

The national level activities a Project Board will be established consisting of representatives from the City of Skopje, the Crisis Management Centre and the Ministry of Environment and Physical Planning and UNDP. The Project Board is responsible for making by consensus management decisions for the project when guidance is required by the Project Manager, including approval of national component project work plans and revisions. In order to ensure accountability, the Project Board decisions should be made in accordance with standards that shall ensure the project's integrity and transparency.

The existing UNDP's internal project management resources within the Environment and Energy Practice area will be engaged and adjusted for the needs of project implementation. Because of the complementarity of projects, the Project Manager of Disaster and Climate Risk Reduction project shall be a Project Manager of this project as well. For technical and administrative matters the Project Manager will be supported by one of the existing Project Assistants of the Energy and Environment Portfolio.



5 MONITORING FRAMEWORK AND EVALUATION

In accordance with the programming policies and procedures outlined in the UNDP User Guide, the project will be monitored through the following:

Within the annual cycle

- On a quarterly basis, a quality assessment shall record progress towards the completion of key results, based on quality criteria and methods captured in the Quality Management table below.
- An Issue Log shall be activated in Atlas and updated by the Project Manager to facilitate tracking and resolution of potential problems or requests for change.
- Based on the initial risk analysis submitted (provided in Annex 3), a risk log shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation.
- Based on the above information recorded in Atlas, a Quarterly Progress Reports (QPR) shall be submitted by the Project Manager to the Project Board through Project Assurance, using the standard report format available in the Executive Snapshot.
- A project Lesson-learned log shall be activated and regularly updated to ensure on-going learning and adaptation within the organization, and to facilitate the preparation of the Lessons-learned Report at the end of the project.
- A Monitoring Schedule Plan shall be activated in Atlas and updated to track key management actions/events.

Annually

- **Annual Review Report**. An Annual Review Report shall be prepared by the Project Manager and shared with the Project Board and the Outcome Board. As minimum requirement, the Annual Review Report shall consist of the Atlas standard format for the QPR covering the whole year with updated information for each above element of the QPR as well as a summary of results achieved against pre-defined annual targets at the output level (the report is to be shared with BPPS/Istanbul Regional Hub).
- **Annual Project Review**. Based on the above report, an annual project review shall be conducted during the fourth quarter of the year or soon after, to assess the performance of the project and appraise the Annual Work Plan (AWP) for the following year. In the last year, this review will be a final assessment. This review is driven by the Project Board and may involve other stakeholders as required. It shall focus on the extent to which progress is being made towards outputs, and that these remain aligned to appropriate outcomes.

Terminal Evaluation

The project will also conduct an independent Terminal Evaluation will be conducted by BPPS and/or Istanbul Regional Hub , if necessary national DRR consultant will be employed for the final three months of the project. Evaluation will be carried out in collaboration with international and national DRR staff in the project office, the Environment Portfolio Analyst, and the Regional Disaster Risk Reduction Advisor of the Istanbul Regional Hub. The evaluation will consider achievement of development goals according to parameters of the relevance and responsiveness of the actions, their effectiveness and efficiency, and the impact and sustainability of results, focusing especially upon their contribution to capacity development. The evaluation will also provide recommendations for follow-up activities and develop a draft program.

6 LEGAL CONTEXT

This project document shall be the legal instrument as referred in Article 1 of the Standard Basic Assistance Agreement (SBAA) between the Government of FYR Macedonia and the United Nations Development Programme, signed by the parties on 30 October 1995. The host country-implementing agency shall, for the purpose of the SBAA, refer to the government-cooperating agency described in that agreement.
The following types of revisions may be made to this project document with the signature of the UNDP Resident Representative only, provided he or she is assured that the other signatories of the project document have no objections to the proposed changes:

- Revisions in, or addition of, any of the annexes of the project document.
- Revisions which do not involve significant changes in the immediate objectives, outputs or activities of a project, but are caused by the rearrangement of inputs already agreed to or by cost increases due to inflation.
- Mandatory annual revisions which rephrase the delivery of agreed project inputs or increased experts or other costs.

The executing agency agrees to undertake all reasonable efforts to ensure that none of the UNDP funds received pursuant to the Project Document are used to provide support to individuals or entities associated with terrorism and that the recipients of any amounts provided by UNDP hereunder do not appear on the list maintained by the Security Council Committee established pursuant to resolution 1267 (1999). The list can be accessed via http://www.un.org/Docs/sc/committees/1267/1267ListEng.htm. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

7 RESULTS AND RESOURCES FRAMEWORK

Intended Outcome as stated in the Country Programme Results and Resource Framework: 3.3 By 2015 National authorities are better able to reduce the risk of and respond to natural and man-made disasters				
Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets. **Baseline**: Multi-hazard monitoring and evaluation systems do not exist; ***Target:*** Established.				
Applicable Key Result Area (from 2014-17 Strategic Plan): Resilience Building				
Partnership Strategy: Crisis Management Centre, Ministry of Environment and Physical Planning, Protection and Rescue Directorate, Municipalities within the City of Skopje, NGOs, Academia.				
Project title and ID (ATLAS Award ID):				
INTENDED OUTPUTS	**OUTPUT TARGETS FOR (YEARS)**	**INDICATIVE ACTIVITIES**	**RESPONSIBLE PARTIES**	**INPUTS**
Output 1: Capacities of the local governments of the selected cities to develop and implement integrated disaster and climate risk reduction plans and programmes strengthened. ***Baseline:*** No integrated urban disaster and climate resilience action plans in countries in the region Not sufficient technical knowledge and expertise for preparation of integrated urban	**For the year 2015:** **1.** Selection and training on appropriate methodologies and tools for development of the integrated action plan; 2. Integrated urban disaster and climate resilience Action Plans for the three selected cities developed with participation of men and women; 3. Responsibility matrix for the action plan implementation designed; 4. Targeted capacity strengthening programme for the key stakeholders implemented; 5. Accessibility of the Integrated DRR and CCA Action Plans achieved;	***Activity 1:*** **Facilitate development of integrated urban disaster and climate resilience Action Plans for the selected cities in the participating countries.** Develop integrated DRR and CCA Resilience Action Plans for the selected cities through application of appropriate methodologies and tools (foresight/LGSAT) based on country specifics; Develop responsibility matrix for the action plan implementation; Implement targeted capacity development programme for the	National emergency management ministries, agencies and services, relevant government entities and bodies, National DRR Platforms, Regional DRR Teams, local governments, educational institutions, local NGOs, UNDP	**Sub-total for Armenia Activity 1 US$75,000** **Sub-total for FYR Macedonia Activity 1 US$109,800** **Sub-total for Moldova Activity 1 US$75,000**

disaster and climate resilience plans Ad-hoc integration of DRR and CCA issues into national policies and strategies. Low public awareness on urban resilience on disaster and climate risks. ***Indicators:*** Number of urban disaster and climate resilience action plans prepared. Number of targeted capacity strengthening programmes implemented. Number of action plans developed. Number of simulation exercises for testing of the urban resilience implemented. Gender considerations incorporated in the urban disaster and climate resilience action plans.	6. Inventory of Greenhouse gasses for City of Skopje as per the 2006 IPCC guidelines for two years (2008 and 2012) developed - database and narrative report. **For the year 2016:** 7. Concrete on-the ground activities in the selected pilot cities implemented; 8. Simulation exercise for testing of the urban resilience in the selected cities implemented; 9. Action Plans incorporated in mid-term city development plans	key stakeholders in a gender sensitive manner; Through a regional workshop ensure accessibility of the Integrated DRR and CCA Action plans for all groups of the stakeholders; Conduct initial country specific analysis and adaptation of LGSAT methodology Support building urban disaster and climate resilience of vulnerable communities in the selected pilot cities in the participating countries; Conduct a simulation exercise for testing of the urban resilience based on one hazard scenario identified in the Action Plans in the selected cities.		

Output 2. Smart City Concept developed ***<u>Baseline:</u>*** Low level of cooperation and information sharing between different level of stakeholders and organizations dealing with DRR; Lack of common system and technology concept to maximize city resources to increase resilience. ***<u>Indicators:</u>*** Number of Smart City development consultations for the selected cities. Number and type of functional and technical requirements to choose the technology platform for Smart City. Number of possible partnerships to align the number of stakeholders involved in City Resilience and DRR.	**<u>For the year 2015:</u>** 1. Stakeholder map with indicated key stakeholders and information flows developed; 2. Cooperation and knowledge mechanisms with DRR and CC stakeholders and information providers developed; 3. Thematic groups and stakeholders to ensure information flow identified and established; 4. Climate Change Strategy for City of Skopje developed **<u>For the year 2016:</u>** 4. Smart City Concept developed; 5. Detail functional and technical requirements for the platform to implement Smart City Concept designed; 6. Possible partnerships identified.	***<u>Activity 2:</u>* Development of Smart City Concept for the Resilient City** Develop Smart City approach for Yerevan, Skopje and Hincesti integrating different layers of DRR resources and services; Develop functional and technical requirements to choose the technology platform for delivery of ICT for DRR services; Conduct rapid assessment of the current situation and needs for ICT for Urban Resilience (DRR and CC)	National emergency management ministries, agencies and services, relevant government entities and bodies, National DRR Platforms, Regional DRR Teams, local governments, educational institutions, local NGOs, UNDP, Private Sector Companies	**Sub-total for Armenia Activity 2 US$45,000** **Sub-total for FYR Macedonia Activity 2 US$ 55,500** **Sub-total for Moldova Activity 2 US$35,000**

Output 3. Improved availability of information and increased public awareness on disaster and climate risk in urban areas by implementation of regional and country level ICT solutions/mobile application. ***<u>Baseline:</u>*** Basic mobile DRR applications/solutions for disaster risk reduction designed and developed in Macedonia and Armenia. Lack of integrated ICT mainstreaming for disaster risk reduction. Poor knowledge on ICT for urban resilience. Poor integration of ICT led DRR solutions for vulnerable categories of citizens, especially	**<u>For the year 2015:</u>** 1. Rapid Assessment of the current situation and needs for ICT for Urban Resilience conducted; 2. Existing ICT solutions in Armenia and Macedonia analyzed; 3. Common functional requirements for ICT solutions/applications designed; 4. Mobile DRR application replicated/scaled up in the participating countries; **<u>For the year 2016:</u>** 5. Smart and resilient City Models based on citizen led solutions designed; 6.Models for ICT cooperation and partnerships developed; 7. Targeted public awareness activities implemented.	***<u>Activity 3:</u>* Improved availability and facilitated use of ICT solutions for improved public awareness on disaster and climate risks in urban areas and support knowledge sharing** Conduct rapid assessment of the current situation and needs for ICT for Urban Resilience (DRR and CC), including analysis of best global practices and functional system design customized for each of the participating countries. Analyze existing ICT Solutions available globally and in Macedonia and Armenia and its functionality with the special attention on accessibility for disabled and vulnerable groups of citizens. Develop generic functional requirements for ICT to improve the functionality of the DRR system that could be replicated/scaled up. Develop Smart and Resilient City Models based on citizen led solutions (e.g. Geo portals, web platforms and applications, etc.).		**Sub-total for Armenia Output 3 US$65,000** **Sub-total for FYR Macedonia Output 3 US$64,500** **Sub-total for Moldova Output 3 US$50,000**

disabled persons. **Indicators:** Number of rapid assessments on the current state and usage of ICT for urban resilience. Common functional requirements for the ICT solutions and applications that could be replicated. Number of Smart and Resilient City Models based on citizen led solutions developed. Models for the ICT cooperation (including governance issue) developed for cooperation with Innovation Labs, Institutions and Private Sector.		Develop models for ICT cooperation and partnerships (including governance issues) with Social Innovation Labs, Foundations, Institutions and private sector. Implement awareness public campaign and development of knowledge products particularly focused on urban vulnerable groups.		

Output 4. Knowledge sharing on best practices and lessons learnt among the participating countries facilitated ***<u>Baseline</u>:*** Limited cooperation between countries and regions on execution of DRR and CCA project, lessons learnt in each country and best practices. Lack of public awareness on DRR, CCA and City Resilience, specifically limited knowledge about ICT solutions available for the DRR among target groups such as youth. ***<u>Indicators:</u>*** Summary of lessons learnt and best practices; Number of conducted Social Innovation	**<u>For the year 2015:</u>** 1. Implementation of the Social Innovation Challenge for Urban Resilience through the Social Innovation Labs in the participating countries; 2. One study tour and exchange of information implemented; **<u>For the year 2016:</u>** 3. Lessons learnt and best practices compiled; 4. Workshops on exchange of lessons learnt and best practices on ICT Solution/Mobile Application development and implementation conducted. 5. Two study tours and exchange of information for the key national and local stakeholders implemented	***<u>Activity 4:</u>* Facilitated knowledge sharing on best practices and lessons learnt among the participating countries** Conduct a Joint Social Innovation Challenge for Urban Resilience targeting youth in three participating countries through the Social Innovation Labs; Organize a study tour and exchange of information for the key national and local stakeholders; Compile lessons learnt and best practices of the implementation of the project activities in the three participating cities.		**Sub-total for Activity 4 US$100,000**

Challenges for Urban Resilience in three countries Number of Study Tours in the participating cities				
Project Management Support				**US$ 75,200**
Sub-total for Macedonia				**US$ 305,000**
BCPR/BPPS Contribution				**US$ 100,000**
UNDP CO FYR Macedonia				**US$ 100,000**
City of Skopje				**US$27,000**
Unfunded				**US$ 78,000**
Total project Budget				**US$305,000**

8 ANNUAL WORK PLAN 2015-2016

EXPECTED OUTPUTS *And baseline, indicators including annual targets*	PLANNED ACTIVITIES *List activity results and associated actions*	TIMEFRAME				RESP PARTY						
		Q 1	Q 2	Q 3	Q4		Funding Source	Budget Description	Amount 2015	Amount 2016	Total Amount	
Output 1: Capacities of the local governments of the selected cities to develop and implement integrated disaster and climate risk reduction plans and programmes strengthened. **Baseline:** No integrated	***Activity 1:*** **Facilitate development of an integrated Urban Disaster and Climate Resilience Action Plans for the selected cities in the participating countries.**	x	x	x	x							
	For the year 2015: Selection and training on appropriate methodologies and tools for development	x	x	x	x	UNDP, City of Skopje, Crisis Management Centre, MoEPP, PRD, relevant ministries and agencies, local government, National DRR Platform,	BCPR	71300 Local Consultants 71600 Travel 72100 Contractual services	$5,000 $1,000 $11,000	$2,000 $1,000 $11,000	$7,000 $2,000 $22,000	

urban disaster and climate resilience action plans in countries in the region Not sufficient technical knowledge and expertise for preparation of integrated urban disaster and climate resilience plans Ad-hoc integration of DRR and CCA issues into national policies and strategies. Low public awareness on urban	of the integrated action plan; Integrated urban disaster and climate resilience Action Plans for the three selected cities developed with participation of men and women; Responsibility matrix for the action plan implementation designed; Targeted capacity strengthening programme for the key stakeholders implemented; Through a regional workshop ensure					Regional DRR team, local NGOs, private sector		companies 72400 Communications &Audio Visual Equipment 74200 Audio Visual/ Printing Production costs ***Sub-total BCPR***	$1,000 $1,000 **$19,000**	$1,000 $1,000 **$16,000**	$2,000 $2,000 **$35,000**
							City contribution Unfunded local contribution	71300 Local Consultants **Sub-total City:** 72100 Contractual Services companies	$6,500 **$6,500** $3,500	$40,000	$6,500 $43,500

resilience on disaster and climate risks. **Indicators:** Number of urban disaster and climate resilience action plans prepared. Number of responsibility matrixes designed. Number of targeted capacity strengthening programmes implemented. Numbers of documents were action plans included.	accessibility of the Integrated DRR and CCA Action plans for all groups of the stakeholders; Conduct initial country specific analysis and adaptation of foresight or LGSAT methodology Accessibility of the Integrated DRR and CCA Action Plans achieved; Inventory of Greenhouse gasses for City of Skopje as per the 2006 IPCC guidelines for two years (2008 and 2012) developed - database and narrative						TRAC	***Sub-total unfunded local contribution:*** 72100 Contractual Services companies	**$3,500** $12,400	**$40,000** $12,400	**$43,500** **$24,800**

Number of concrete on-the-ground activities implemented. Number of simulation exercises for testing of the urban resilience implemented. Gender considerations incorporated in the urban disaster and climate resilience action plans.	report **For the year 2016:** Support building urban disaster and climate resilience of vulnerable communities in the selected pilot cities in the participating countries; Concrete on-the ground activities in the city; Conduct a simulation exercise for testing of the urban resilience based on one hazard scenario identified in the Action Plans in the city. Mainstream										

	the City Resilience Action Plan into city mid-term development plans.										
Sub-total for Activity 1									***$41,400***	**$68,400**	**$109,800**
Output 2. Smart City Concept developed ***Baseline:*** Low level of cooperation and information sharing between different level of stakeholders and organizations dealing with DRR; Lack of common system and	***Activity 2:*** **Development of Smart City Concept for the Resilient City**										
	For the year 2015: Stakeholder map with indicated key stakeholders and information flows developed; Cooperation and knowledge	x	x	x	x	UNDP, City of Skopje, Crisis Management Centre, MoEPP, PRD, relevant ministries and agencies, local government, local NGOs, Social Innovation Hub, private sector	BCPR	71300 Local Consultants 72100 Contractual Services - Companies 74500 Miscellaneous expenses	$4,000 $8.000 $3,000	 $18,000 $2,000	$4,000 $26,000 $5,000

technology concept to maximize city resources to increase resilience. ***Indicators:*** Number of Smart City approach for the selected cities integrating different layers of DRR resources and services Number and type of functional and technical requirements to choose the technology platform for Smart City Number of	mechanisms with DRR and CCA stakeholders and information providers developed; Thematic groups and stakeholders to ensure information flow identified and established; Climate Change Strategy for City of Skopje developed **For the year 2016:** Smart City Concept developed; Detail functional and technical requirements for the platform to						City contribution	***Sub-total BCPR*** 72100 Contractual Services companies ***Sub-total City:***	**$15,000** $20,500 **$20,500**	**$20,000**	**$35,000** $20,500 **$20,500**

possible partnerships to align the number of stakeholders involved in City Resilience and DRR	implement Smart City Concept designed; Possible partnerships identified.										
Sub-total for Activity 2									**$35,500**	**$20,000**	**$55,500**
Output 3. Improved availability of information and increased public awareness on disaster and climate risk in urban areas by implementation of	***<u>Activity 3:</u>*** **Improved availability and facilitated use of ICT solutions for improved public awareness on disaster and climate risks in urban areas and support knowledge sharing**	X	x	x	x						

regional and country level ICT solutions/ mobile applicatio n ***Baseline:*** Mobile DRR application s/solutions for disaster risk reduction designed and developed in Macedonia and Armenia. Lack of integrated ICT mainstrea ming for disaster risk reduction. Poor knowledge on ICT for	**For the year 2015:** Conduct rapid assessment of the current situation and needs for ICT for Urban Resilience (DRR and CC), including analysis of best global practices and functional system design customized for each of the participating countries. Analyze existing ICT Solutions available in Macedonia and Armenia and its functionality with the special attention on accessibility	x	X	X	X	UNDP, City of Skopje, Crisis Management Centre, MoEPP, PRD, relevant ministries and agencies, local government, local NGOs, Social Innovation Hub, private sector	BCPR	71300 Local Consultants 71600 Travel 72100 Contractual Services - Companies 74500 Miscellaneo us expenses ***Sub-total BCPR***	$4,000 $2,000 $9,000 $1,000 **$16,000**	$3,000 $2,000 $8,000 $1,000 **$14,000**	$7,000 $4,000 $17,000 $2,000 **$30,000**
							Other donors	72100 Contractual Services - Companies 74500 Miscellaneo us expenses ***Other donors***	$8,000 $1,000 **$9,000**	$24,500 $1,000 **$25,500**	$32,500 $2,000 **$34,500**

urban resilience. Poor common understanding of ICT solution for DRR and CCA on the regional level. Poor integration of ICT led DRR solutions for vulnerable categories of citizens, especially disabled persons. **Indicators:** Number of rapid assessments on the current state and usage of ICT for urban	for disable and vulnerable groups of citizens. Common functional requirements for ICT solutions/applications for improvement of the functionality of the DRR system that could be replicated/scaled up in other regions designed. Mobile DRR application replicated and scaled up in the participating countries as a blueprint for usage in the wider region. **For the year 2016:**										

resilience. Common functional requirements for the ICT solutions/applications that could be replicated in other countries/regions designed. Number of replications and scaling up of the existing mobile DRR application Number of Smart and Resilient City Models based on citizen led solutions developed. Models for the ICT cooperation	Development of Smart and Resilient City Models based on citizen led solutions (e.g. Geo portals, web platforms and applications, etc.). Development of models for ICT cooperation and partnerships (including governance issues) with Social Innovation Labs, Foundations, Institutions and private sector. Implementation of targeted public awareness activities and development of										

(including governance issue) developed for cooperation with Innovation Labs, Institutions and Private Sector.	knowledge products particularly focused on urban vulnerable groups.										
Sub-total for Activity 3									*$25,000*	*$39,500*	*$64,500*
	Project Management Support/Operations	x	x	x	x		TRAC 1	71400 Contractual services – Individuals	$25,500	$25,500	$50,000
								71600 Travel	$2,500	$2,500	$5,000
								72400 Communication&Audio Visual Equipment	$2,300	$2,300	$4,600
								72800 Acquisition of Comp Hardware	$1,500		$1,500
									$2,800	$2,800	$5,600

								73100 Rent 74100 External Audit 74200 Audio Visual 74500 Miscellaneous	 $1,000 $2,000	$1,500 $1,000 $2,000	$1,500 $2,000 $4,000
Sub-total for Project Management Support									**$37,600**	**$37,600**	**$75,200**
Total TRAC									**$50,000**	**$50,000**	**$100.000**
City of Skopje									**$27,000**		**$27,000**
Total BCPR/BPPS									**$50,000**	**$50,000**	**$100.000**
Other Donors/Unfunded									**$12,500**	**$65,500**	**$78,000**
TOTAL BUDGET									**$139,000**	**$166,000**	**$305,000**

ANNEX 3: RISKS AND MITIGATION MEASURES

#	Description	Date Identified	Type	Impact & Probability (scale 1 min. - 5 max.)	Countermeasures / Mngt response	Owner	Submitted, updated by	Last Update	Status
1.	Potential political destabilization and /or cabinet reshuffle, which might lead to change of Govt. priorities.		Political	I = 3 P =2	UNDP staff should regularly monitor the political situation in the country, and alert the Project Board on time of any potential impact, and discuss specific mitigation actions; Refer to the UNDAF, CPAP and AWP that was mutually signed by the Government and UNDP	Project Board Project Manager			
2.	Lack of commitment and coordination at the senior political level		Strategic Regulatory	I = 3 P = 1	Continued advocacy for the importance of effective, efficient and sustainable DRR system; Ensure regular participation of stakeholders in coordination forums; Continued good cooperation between UNDP and Govt, and delivering visible results of earlier agreed priorities	Project Board Project Manager			
3.	Lack of financial resources to address all project components		Financial	I = 4 P = 3 Possibility of lack of funds for some project activities	The CO resource mobilization strategy and policy; Regular donor liaison and coordination, including through the donor thematic group on DRR in the frame of NP	Programme Officer Project Manager			
4.	CMC will not support the implementation of the project activities		Operational	I = 3 P = 3 CMC will not make available the assessments and	The CO shall discuss the issue with CMCs senior management or with the senior Government representatives. Working modality for cooperation shall be found.	Project Board Project			

				applications/databases & will not participate in the project activities.		Manager			