

Бр. 02-4267/4
27.12.2016 год.

Project Title: Reducing Flood Risk in Kumanovo Municipality

Project Number: 00101269

Implementing Partner: UNDP

Start Date: 01 January 2017 **End Date:** 31 December 2017 **PAC Meeting date:**

Brief Description

The goal of the project is to significantly reduce flood risk in communities along Lipkovska River in the city of Kumanovo. To achieve this, the project will support the regulation of the most critical sections of the riverbed in total length of up to 1.8 km. This intervention will help directly protect a large ethnically mixed community living in a high flood-risk zone.

The project builds upon a recent UNDP-backed flood risk assessment, which thoroughly analysed the many obstacles and constraints imposed by urban development plans, existing structures and site conditions, offering an optimized solution.

The project will be implemented in close cooperation with the Ministry of Environment and Physical Planning, the Municipality of Kumanovo, the Secretariat for European Affairs and the affected communities.

Contributing Outcome (UNDAF/CPD, RPD or GPD):



By 2020, individuals, the private sector and state institutions base their actions on the principles of sustainable development, and communities are more resilient to disasters and environmental risks

Indicative Output(s):

Output 4.4.

Communities, supported by a strong framework of national policies and infrastructure, are better prepared to prevent and respond to disasters, including the human displacement they can cause

Total resources required:	USD 900,000	
Total resources allocated:	UNDP:	USD 559,319
	In-Kind:	
Unfunded:	USD 340,681	

Government	UNDP
 Bashkim Ameti, Minister of Environment and Physical Planning	 Louisa Vinton, UNDP Resident Representative
Date:	Date:

I. SITUATION ANALYSIS

The former Yugoslav Republic of Macedonia is a disaster-prone country that is particularly sensitive to flood risks. Most river basins experience dramatic variations in water flows over time, and the risk of floods is also exacerbated by the country's mountainous topography and land structure. In recent years, extreme weather events caused by changing climate conditions have heightened this risk. However, human factors are also at work. Changing use of land and land cover – for example, cultivation or construction in wetland areas, and heightened erosion from logging in forests – are altering hydrological regimes, increasing the risk of floods. Other causes include decaying or inappropriately used flood control infrastructure.

The Municipality of Kumanovo is one of the regions most exposed to flooding (**Figure 1**). The diversion and canalization of rivers, and conversion of natural floodplains into developed areas, increases flood-related damages and losses. The urban zones are particularly sensitive, especially in communities living along unregulated sections of Kumanovska and Lipkovska rivers. A 2015-flood event hit a densely populated area along Lipkovska River, causing damages to private houses and important communal infrastructure (roads, bridges, and water supply systems).

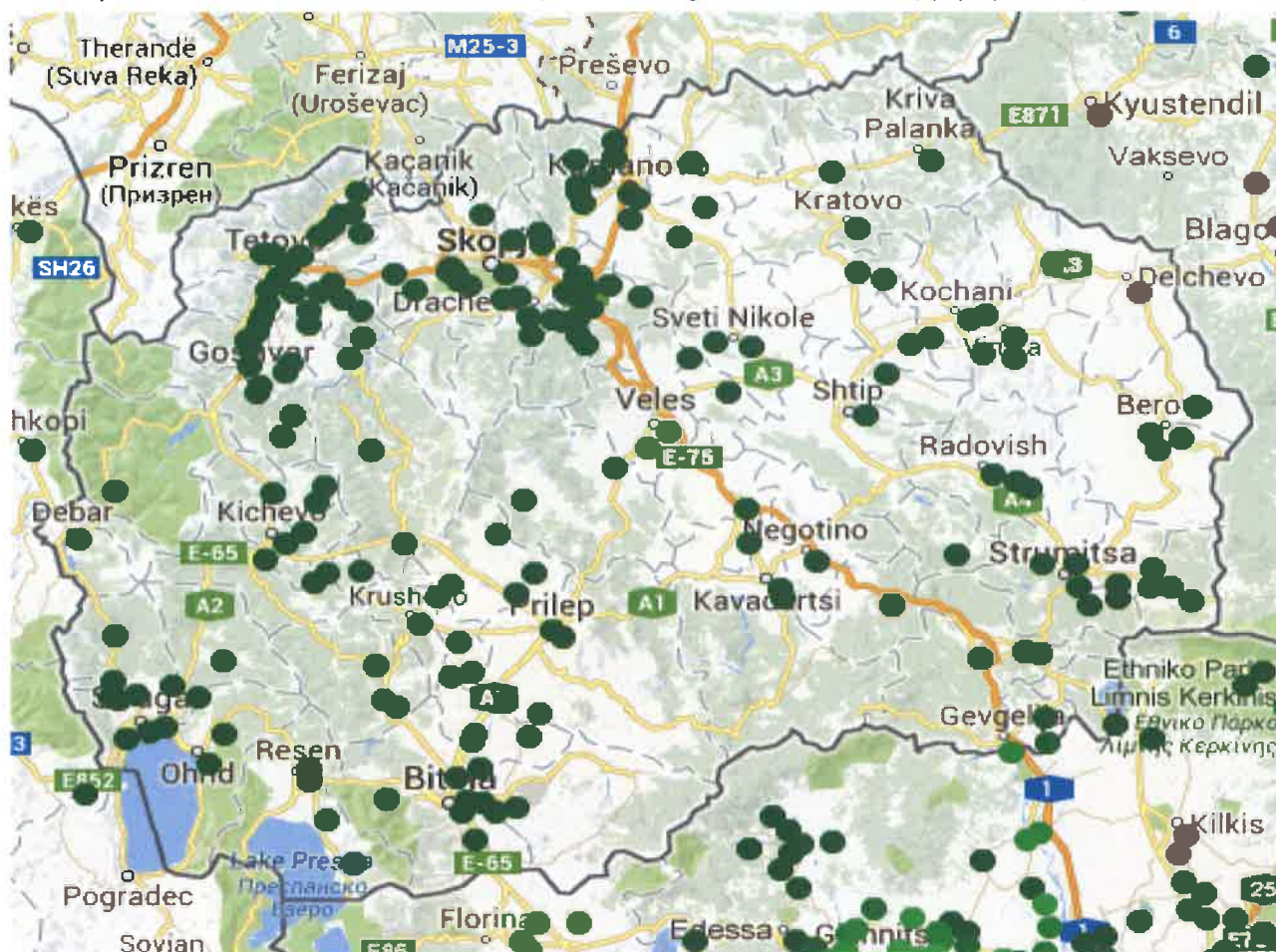


Figure 1. Registered flood events in the country in the last 60 years. The density of green dots in the Kumanovo Municipality illustrate the high frequency of flooding (Source: www.globalfloodmap.org)

Based on a Government request, UNDP initiated a flood risk assessment for the affected community along the Lipkovska River, by applying a new sophisticated methodology, tested already in other flood-sensitive regions of the country (e.g., Pelagonija, Strumica River Basin, and Polog). A detailed study into the genesis of past and likely future floods revealed the following main causes: a) the current geometry of the river channel resulting from its diversion; b) the reduced discharge capacity of the river channel resulting from its poor maintenance, as well as the

widespread deposition of waste material; and c) incomplete river regulation that will be able convey the increased discharges resulting from the urbanization and the regulated upstream river sections.

Following a detailed geodetic survey of the river channel and the surrounding terrain, and using the most advanced GIS-based hydrological and hydraulic modelling tools (**Figure 2**), a detailed cost-benefit analysis of various flood-prevention options was carried out. For this purpose, the damages and losses of possible future flood scenarios were evaluated against different flood protection levels and possible river regulation alternatives. A subsequent conceptual (preliminary) design defined the basic geometry and key design parameters of the proposed regulation works.



Figure 2. *Outputs of the flood risk model: a) Simulation of flooded area by an event with a return period of 100 years; b) Flood risk map with different damage levels based on land-use structure (right)*

Considering the degree of urbanization of the area, and the high value of assets to be protected from flooding, the economic analysis suggested the implementation of measures that will ensure high flood protection standards. The best economic parameters (benefit-to-cost ratio, net present value of all benefits and costs) will be achieved for control of floods with a return period between 50 and 100 years, with an estimated investment between EUR 800,000 (app. USD 836,000) and EUR 900,000 (app. USD 941,000).

II. STRATEGY

The project aims to prevent damage to property and economic losses from future floods by (re)constructing the key sections of the riverbed of the Lipkovska River in total length of 1.8 km. This intervention will help directly protect a large ethnically mixed community living in a high flood-risk zone. The project builds upon a recent UNDP-backed flood risk assessment that resulted in the formulation of an optimized solution to the challenge given the multitude of local constraints imposed by urban development plans, existing structures and other site conditions. The construction and other details of the proposed regulation are being further elaborated in a detailed technical documentation – a basic design aligned with national construction regulations has also been commissioned by UNDP (Figure 3).

The project will be implemented by UNDP, in close cooperation with all key stakeholders (including the Ministry of Environment and Physical Planning, the Municipality of Kumanovo, the Secretariat for European Affairs, and other affected communities). Funding for the key infrastructure interventions is provided by the Ministry of Environment and Physical Planning (USD 172,000), the Municipality of Kumanovo (EUR 200,000 or app. USD 209,000) and UNDP (app. USD 200,000).

Considering the size of the full flood control plan, the project will remain open to new funds from different sources. A more detailed schedule of activities, implementation and roles is presented in the work-plan below.

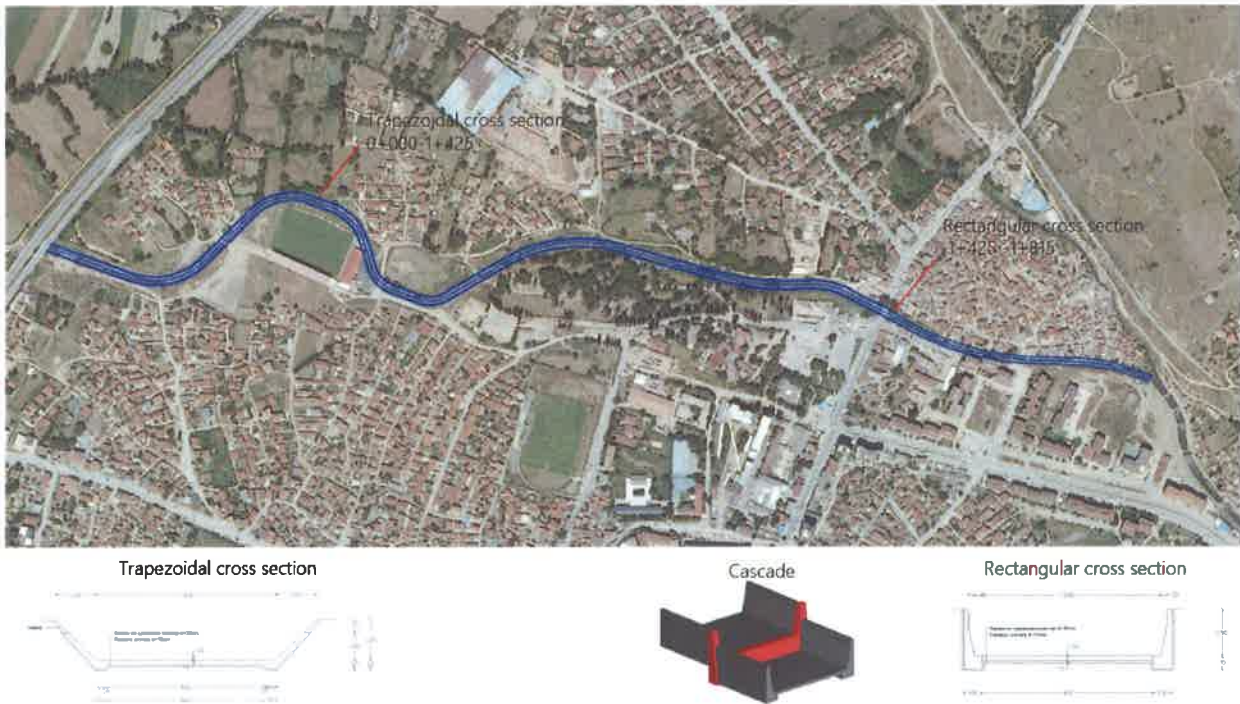


Figure 3. Basic design parameters of the proposed river regulation

The flood mitigation design introduces a modular approach, reflecting a risk-based prioritization of target river sections, providing flexibility in implementation depending on availability of funds (Figure 4). It is anticipated that the funding that has been currently committed will be sufficient for completing about 2/3 of the proposed regulation works. However, the funding status and possible percentage of completion of the river regulation will be much clearer once the entire technical documentation (including detailed cost estimates) is prepared, and initial procurement procedures for civil works are completed. The project is structured in a way to ensure that almost all of the available funding is used solely for construction interventions. Additional measures (e.g., education, monitoring and early warning) may also be considered if additional funding is secured at later stages of the project, and all the necessary construction works are completed.



Figure 4. The design flexibility allows for a phased approach to river regulation based on funds availability

Once completed, the overall project will not only have a very positive impact in the areas affected by the floods, but will also create a positive example for flood control interventions in an urban setting. By reducing the risk of flooding, the project will contribute to building community cohesion and improving the prospects for sustainable development.

III. PROJECT OBJECTIVES, INTENDED OUTPUTS AND ACTIVITIES

Impact/Overall Goal of the Project

The resilience of the Municipality of Kumanovo against floods is enhanced by improved flood prevention in communities along critical sections of the Lipkovska River

Project Outcome

The flood-exposed communities along the Lipkovska River benefit from reduced flood risk

Output 1

Priority flood control measures are implemented to reduce the likelihood and/or the impact of floods in sensitive areas along the Lipkovska River

This output encompasses the development and implementation of priority flood control/river regulation works on the critical (unregulated) sections of the Lipkovska River in total length of 1.8 km. Once the technical documentation is prepared, construction interventions will be implemented in phases, depending on the available funding. These interventions mainly include clean-up and (re)construction of the river channel by applying a design approach that fully respects the site constraints and urban development plans.

Activity 1.1. Design, technical review and permitting of flood control/river regulation measures

The recently completed UNDP-backed flood risk management study for the Kumanovo Municipality proposed a river regulation approach that is being developed to the level of detailed engineering design, in line with the national regulations. Following the subsequent review and permitting procedures, the necessary physical interventions will be carried out by the project.

Considering the overall size of investment, the flood control design introduces a modular approach, reflecting a risk-based prioritization of target river sections, providing in this way an implementation flexibility based on funds availability.

Activity 1.2 Supervised execution of construction works and commissioning of flood control measures

This activity encompasses all the necessary construction works in the riverbed for a length of up to 1.8 km. Works will be implemented in phases in line with funds availability.

The selection of the construction contractors for the proposed infrastructure project will be carried out in accordance with UNDP procurement procedures that will ensure transparency, competitiveness and best value for money. Tenders will be open to both national and international construction companies.

All works will be subject to multi-layer supervisory control provided by:

- a) a qualified/licensed supervising engineer as per the requirements of the national legislature;
- b) project management staff with long-term experience in the management of construction projects; and
- c) professional staff from the beneficiary institutions.

Upon finalization of the construction works and completion of the required documentation, the respective infrastructure will be commissioned and handed over to the relevant national/local authorities for future use and maintenance.

IV. RESULTS AND RESOURCES FRAMEWORK

Intended Outcome as stated in the Country Programme Results and Resource Framework: By 2020, individuals, the private sector and state institutions base their actions on the principles of sustainable development, and communities are more resilient to disasters and environmental risks

Outcome indicators as stated in the Country Programme Results and Resources Framework, including baseline and targets: Indicator 1: Economic loss from natural hazards and disasters as a share of GDP; Baseline (2013): 0,68% ; Target (2020): 0,20%

Applicable Key Result Area (from 2014 - 2017 Strategic Plan): Disaster risk reduction, preparedness, response and recovery

Partnership Strategy: The project will be implemented in close cooperation with the Ministry of Environment and Physical Planning, the Secretariat for European Affairs, the Municipality of Kumanovo, and affected population in the target areas.

Project title and ID (ATLAS Award ID): Reducing Flood Risk in Kumanovo Municipality (ID: 00101269)

INTENDED OUTPUTS	OUTPUT TARGETS FOR (YEARS)	INDICATIVE ACTIVITIES	RESPONSIBLE PARTIES	INPUTS
<p>Output 1</p> <p>Priority flood control measures are implemented to reduce likelihood and/or the impact of floods in sensitive areas along the Lipkovska River</p> <p><i>Baseline:</i></p> <p>The diverted / canalized riverbed of the Lipkovska River contributes to a high risk situation affecting a densely populated area</p> <p>Currently there is no technical documentation available for the flood control measures</p> <p><i>Indicators:</i></p> <ul style="list-style-type: none"> • Comprehensive technical documentation for flood control/river regulation on the Lipkovska River • Regulated riverbed of the Lipkovska River of up to 1.8 km (depending on funds availability) 	<p>Targets</p> <ul style="list-style-type: none"> • Detailed technical documentation for flood control measures • Regulation of the riverbed 	<p>Activity 1.1. Design, technical review and permitting of flood control/river regulation measures</p> <p>Activity 1.2 Supervised execution of construction works and commissioning of flood control measures</p>	<p>UNDP Relevant ministries and local government,</p>	<p>Contractual Services – Design and Review Contractual Services – Construction companies and Supervision Engineering</p>

V. ANNUAL WORK PLAN

Year: 2017

EXPECTED OUTPUTS <i>And baseline, indicators including annual targets</i>	PLANNED ACTIVITIES <i>List activity results and associated actions</i>	TIMEFRAME				RESPONSIBLE PARTY	PLANNED BUDGET		
		Q1	Q2	Q3	Q		Funding Source	Budget Description	Amount (USD)
<p>Output 1</p> <p>Priority flood control measures are implemented to reduce likelihood and/or the impact of floods in sensitive areas along Lipkovska River</p> <p>Baseline:</p> <p>The diverted and canalized riverbed of Lipkovska Reka contributes to a high risk situation affecting a densely populated area</p> <p>Currently there is no technical documentation available for the flood control measures</p> <p>Indicators:</p> <ul style="list-style-type: none"> Comprehensive technical documentation for flood control on Lipkovska Reka Regulated riverbed of Lipkovska Reka of up to 1.8 km (depending on funds availability) <p>Targets:</p> <ul style="list-style-type: none"> Detailed technical documentation for flood control 	<p>Activity 1.1.</p> <p>Design, technical review and permitting of flood control/river regulation measures</p> <p>Actions:</p> <ul style="list-style-type: none"> Preparation and review of technical documentation 	X				<p>UNDP, MoEPP, local authorities</p>	<p>71600</p> <p>72100</p> <p>72400</p> <p>74200</p>	<p>1,000</p> <p>16,000</p> <p>600</p> <p>1,000</p>	
<p>Currently there is no technical documentation available for the flood control measures</p> <p>Indicators:</p> <ul style="list-style-type: none"> Comprehensive technical documentation for flood control on Lipkovska Reka Regulated riverbed of Lipkovska Reka of up to 1.8 km (depending on funds availability) <p>Targets:</p> <ul style="list-style-type: none"> Detailed technical documentation for flood control 	<p>Activity 1.2.</p> <p>Supervised execution of construction works and commissioning of flood control measures</p> <p>Actions:</p> <ul style="list-style-type: none"> Select construction contractor and supervising engineers Execute construction 	X	X	X	X	<p>UNDP, MoEPP, local authorities</p>	<p>Ministry of Environment and Physical Planning</p> <p>UNDP</p> <p>Municipality of Kumanovo</p>	<p>1,500</p> <p>323,705</p> <p>209,000¹</p> <p>3,304</p>	

¹ Contribution from the Municipality of Kumanovo, pending approval by the City Council and signing of Cost Sharing Agreement

<p>measures</p> <ul style="list-style-type: none"> Regulation of the riverbed <p><u>Related CP outcome:</u> By 2020, individuals, the private sector and state institutions base their actions on the principles of sustainable development, and communities are more resilient to disasters and environmental risks</p>	<p>works</p> <ul style="list-style-type: none"> Commission reconstructed infrastructure 					548,539
TOTAL						

VI. PROJECT BUDGET BREAKDOWN:

	Expected Outputs & Monitoring Activities	Key Activities	Budgetary Accounts*	Budget (USD)*
OUTCOME: The flood-exposed communities along Lipkovska River benefit from the reduced flood risk	Output 1. Priority flood control measures are implemented to reduce likelihood and/or the impact of floods in sensitive areas along Lipkovska River	Activity 1.1 Design, technical review and permitting of flood control/river regulation measures Activity 1.2 Supervised execution of construction works and commissioning of flood control measures	71600 72100 72400 74200	3000 540.635 3904 1000
		Total Output 1:		548,539
		TOTAL DIRECT ELIGIBLE COST		548,539
		TOTAL INDIRECT ELIGIBLE COST (GMS) 3%:	75100	10,780
		TOTAL BUDGET:		559,319²

Budgetary Account*	Description
71600	Travel
72100	Contractual Services – Companies
72400	Communic & Audio Visual Equip
74200	Audio Visual & Print Prod Co
75100	Facilities & Administrations

*Exchange rate used for conversion purposes: UN Operational rate for January 2017, 1 US\$ = 0.956 EUR

² The amount includes the funding from Municipality of Kumanovo, subject of final approval by the City Council of Kumanovo and signing of the Cost-Sharing Agreement in the value of EUR 200.000 (or app. US\$ 209.000)

VII. MANAGEMENT ARRANGEMENTS

Project implementation will be governed by the Cost-Sharing Agreement signed between the Ministry of Environment and Physical Planning and the UNDP Country Office in Skopje, and will be in line with UNDP's Programme and Operations Policies and Procedures.

Internally, the project will be implemented under the support to NIM modality. The UNDP Country Office will be responsible for developing and managing the project, and ensuring that the project results are delivered as planned and that the project resources are used efficiently and effectively.

In the course of project implementation UNDP will maintain close collaboration and coordination with the Ministry of Environment and Physical Planning, the Municipality of Kumanovo, and affected population in the target areas.

A Project Board (PB) will be established as the main body responsible for the overall direction and management of the project. It will consist of representatives from the Ministry of Environment and Physical Planning, Municipality of Kumanovo and the UNDP Country Office.

The Project Board is the group responsible for making management decisions by consensus when guidance is required by the Project Manager, including approval of project work plans and revisions. In order to ensure UNDP's ultimate accountability, Project Board decisions are made in accordance with standards that ensure management for development results, best value for money, fairness, integrity, transparency and effective competition. In case a consensus cannot be reached within the Board, final decision shall rest with the UNDP Programme Manager (the UNDP Resident Representative) in consultation with the Ministry of Local Self-Government.

The Project Board approves the Annual Work Plans (AWP). It also reviews and approves quarterly project plans when required, and authorizes any major deviation from the agreed quarterly plans. The Project Board has authority to sign off on the completion of each quarterly plan and start the next quarterly plan.

In the course of project implementation Project Board assumes the following specific duties:

- Overall guidance and direction to the project;
- Review of each stage and approval of progress to the next; and
- Review and approval of work-plans and any exception plan.

At the end of the project, the PB will:

- Assure that all expected outputs have been delivered in a satisfactory manner;
- Approve the Final Project Report; and
- Approve the Lessons Learned Report.

The representatives of the Beneficiaries in the Project Board represent the interests of those who will ultimately benefit from the project. Their primary function within the Board is to ensure the realization of project results from the perspective of project beneficiaries.

Project Assurance: Project Assurance is the responsibility of each Project Board member; however the role can be delegated. The project assurance role supports the Project Board by carrying out objective and independent project oversight and monitoring functions. This role ensures that project management milestones are met. Project Assurance has to be independent of the Project Manager; therefore, the Project Board cannot delegate any of its assurance responsibilities to the Project Manager. A UNDP Programme Officer holds the Project Assurance role on behalf of UNDP.

She/he ensures that funds are made available to the project and are managed efficiently and in line with their stated purpose; ensures that the project makes progress towards intended outputs; and performs regular monitoring activities, such as periodic monitoring visits and “spot checks.”

The role of UNDP Deputy Resident Representative is to ensure that: resources entrusted to UNDP are utilized appropriately; the project makes progress towards intended outputs; and national ownership, ongoing stakeholder engagement and sustainability are addressed appropriately.

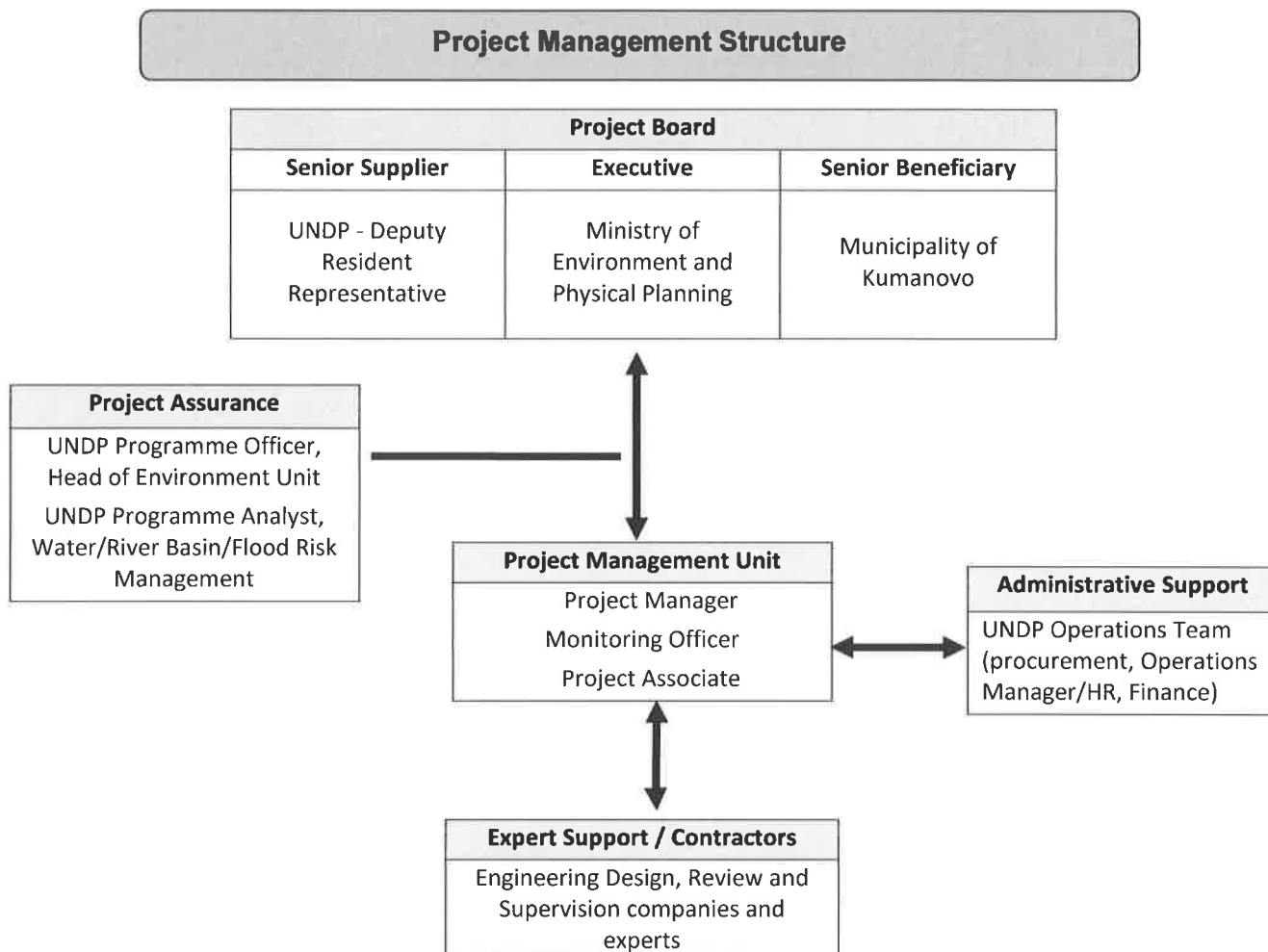


Figure 3 Project Management Structure

The Project’s day-to-day implementation will be carried out by a team of UNDP professionals from the Environment, Energy and Disaster Risk Reduction and the Governance Units. A Project Manager, a Monitoring Officer and a Project Associate from the Environment, Energy and Disaster Risk Reduction will be assigned with specific project implementation duties for a period of the project implementation. In addition, in order to build upon existing partnerships from previous projects, one Project Manager from the Governance Unit will be involved in the implementation of those project activities which require close collaboration with the municipal authorities and the local communities. No new staff will be recruited for the needs of this project’s implementation. Project assurance will be provided by UNDP’s Head of Environment, Energy and Disaster Risk Reduction, as well as the Programme Analyst in charge of water/river basin/flood risk management projects.

The project team will be located in UNDP Country Office premises.

Relevant members of the UNDP team will also support implementation in accordance with their area of expertise, particularly the Project Manager responsible for the Disaster Risk Reduction projects. The Communication Officer will ensure that proper visibility of the project.

The UNDP Operations team will provide administrative support in terms of procurement, operations management, human resources, financial management, and other required admin support.

UNDP's direct costs will be charged in line with its rules and regulations, as outlined in the project document and budget. Financial transactions and financial statements shall be subject to the internal and external auditing procedures laid down in the Regulations and Rules of UNDP.

Ownership of equipment, supplies and other properties financed from the contribution shall vest in UNDP. Matters relating to the transfer of ownership by UNDP to the national partners shall be determined in accordance with the relevant policies and procedures of UNDP.

The project will be implemented in the period of up to 9 months which is considered as optimal for completion of all project activities.

VIII. MONITORING FRAMEWORK AND EVALUATION

Project start:

A brief project inception phase will be organized within the first 2-3 weeks of project starts in order to build ownership for the project results and to finalize the work plan.

Within the project lifespan:

- 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. The purpose of the Issue Log is to capture, categorize and track all Project Issues. A Project Issue is anything that could have an effect on the project (either detrimental or beneficial). Managing Project Issues will involve: capturing and formally logging the Project Issue; assessing the Project Issue to decide on the type and therefore what action is required; investigating the required actions; documenting the actions and confirming their completion; and reviewing the Issue Log on a regular basis to monitor progress on outstanding Project Issues.
- Based on the initial risk analysis submitted, a **Risk Log** shall be activated in Atlas and regularly updated by reviewing the external environment that may affect the project implementation. Risk can be defined as the possibility that an event will occur and affect the achievement of the project results either negatively or positively. As such, it can represent a threat or a missed opportunity. In order to contribute to a project's success, risks are identified, assessed and prioritized. Then the possible actions to deal with these risks are considered and an appropriate action plan is developed (see Annex III).
- Based on the above information recorded in Atlas, a quarterly **Project Progress Report (PPR)** shall be submitted by the Project Manager to the Project Board through Project Assurance. The purpose of Project Progress Report is to provide the Project Board (and possibly other stakeholders) with a summary of the project status at regular intervals. The report compiles various financial and substantive data to compare project achievements with the project plans. The Project Board uses the report to monitor project progress. The Project Manager also uses it to advise the project Board of any potential problem or areas where the Board could help, by capturing information on risks and issues.
- **Final Report.** UNDP will submit the Final Report to the Ministry of Local Self-Government within one month after the end of the Implementation Period. The report will cover the entire period of implementation and shall include but limited to: summary and context of the Action, results achieved as measured by their corresponding indicators, agreed baseline and targets, and relevant data sources, and information on the implementation of

the Visibility and Communication Plan. The narrative report will be accompanied by a Financial Report.

UNDP will submit any other reports as required by the Ministry of Local Self-Government and/or other project partners.

Audit clause. Audit on project will follow UNDP Financial Regulations and Rules and applicable UNDP Audit policies.

Learning and knowledge sharing. Results from the project will be disseminated within and beyond the project intervention zone through existing information sharing networks and forums.

IX. LEGAL CONTEXT

This project document shall be the instrument referred to as such in Article 1 of the Standard Basic Assistance Agreement between the Government and UNDP, signed on 30 October 1995.

UNDP as the Implementing Partner shall comply with the policies, procedures and practices of the United Nations safety and security management system.

UNDP 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/sc/committees/1267/ag_sanctions_list.shtml. This provision must be included in all sub-contracts or sub-agreements entered into under this Project Document.

The project will also comply with the Cost-Sharing Agreement signed between the EU and Ministry of Environment and Physical Planning

X. Annex III: Risk Log

#	Description	Date Identified	Type	Impact & Probability	Countermeasures / management response	Owner	Submitted, updated by	Last Update	Status
1.	Delays in ensuring access to construction sites	January 2017	Regulatory	<p>Probability P = 1</p> <p>Impact I = 3</p> <p>Lengthy procedures to ensure access to construction sites of selected contractor are often a cause of delays in the start of construction works.</p>	<p>Regulation communication with the key stakeholders especially regarding permitting procedures. The necessary technical documentation will be developed in line with all legal requirements for such interventions in order to facilitate permitting.</p>	UNDP Project Manager	Project Manager	Automatically recorded in ATLAS	Ongoing