

## Mid Term Review Report

Midterm Review (MTR) of the UNDP-  
supported GEF-financed project

Technology Transfer for Climate Resilient  
Flood Management in Vrbas River Basin

PIMS#5241

GEF Project ID:5604

11/2017- 06/2018

Bosnia and Herzegovina

Document Information

Date	03.06.2018
HYDROC project no.	P170314
HYDROC responsible	Georg Petersen
Client	UNDP
Reference No.	PIMS#5241

With thanks to the UNDP BiH Country Office for their support, guidance and information provided as well as for invaluable information and insight; the Project Management Unit for making all necessary mission arrangements; the officials at the municipalities of Bugojno, Banja Luka and Celinac; the obliging and informative officials at the Ministry of Foreign Trade and Economic relations; UNFCCC focal point; ministries in charge of water management, hydro-meteorological institutes, water agency, private company Water Institute, Bijeljina and NGO Center for Development and Support. Without your combined kind help, the evaluator would not have been able to successfully conduct this mission.

## Acronyms and Abbreviations

AMAT	Adaptation Monitoring and Assessment Tool
ATLAS	Enterprise Resource Planning (ERP) system that integrates all of UNDP's data and processes, including budgets, accounting and auditing.
AWP	Annual Work Plan
BAM	Bosnian Mark
BiH	Bosnia and Herzegovina
CC	Climate Change
CPD	Country Programme Document
CRFRM	Climate Resilient Flood Risk Management
DEM	Digital Elevation Model
DIM	Direct Implementation Modality
EC	European Commission
EIB	European Investment Bank
EU	European Union
FBiH	Federation of Bosnia and Herzegovina
FFEWS	Flood Forecasting and Early Warning System
FRM	Flood Risk Management
FRMP	Flood Risk Management Plan
GCM	General Circulation Model
GDP	Gross Domestic Product
GEF	Global Environmental Fund
GIS	Geographical Information System
HR	Human Resources
H&S	Health and Safety
INC	Initial National Communication
INSPIRE	Infrastructure for Spatial Information in the European Community
IPA	European Union Instrument for Pre-Accession Assistance
IPCC	Intergovernmental Panel on Climate Change
LiDAR	Light Detection and Ranging
MoFTER	Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina
MTR	Mid Term Review
N/A	Not Applicable
NGO	Non-Governmental Organization
O&M	Operation and Maintenance
PEB	Project Evaluation Board
PGIS	Participatory Geographical Information System
PIMS	Project Information Management System
PIR	Project Implementation Review
PIU	Project Implementation Unit
PM	Project Management
RCP	Representative Concentration Pathways
RIMAX	Risk Management for Extreme Flood Events project
RS	Republika Srpska
SBAA	Standard Basic Assistance Agreement
SCCF	Special Climate Change Fund
SIDA	Swedish International Development Cooperation Agency

SMART	Specific, Measurable, Attainable, Relevant, Time-bound
SNC	Second National Communication
ToR	Terms of Reference
UNDAF	United Nation Development Assistance Framework
UNDP	United Nations Development Program
UNFCCC	United Nations Framework Convention on Climate Change
USD	United States Dollar
VRB	Vrbas River Basin
WB	World Bank
WBIF	Western Balkans Investment Framework

## Table of Contents

Acronyms and Abbreviations .....	3
1 Executive Summary .....	7
1.1 Project Information Table .....	7
1.2 Project Description .....	7
1.3 Project Progress Summary .....	7
1.4 MTR Rating and Achievement Summary.....	8
1.5 Summary of Conclusions and Recommendations.....	11
2 Introduction.....	14
3 Background context and project description .....	15
3.1 General context.....	15
3.2 Problems and vulnerabilities in the basin .....	15
3.3 Barriers targeted .....	16
3.4 Project Description and Strategy.....	17
3.5 Project Implementation Arrangements .....	19
3.6 Project timing and milestones.....	21
3.7 Main stakeholders.....	22
4 Findings.....	23
4.1 Project Strategy .....	23
4.2 Progress Towards Results.....	29
4.3 Project Implementation and Adaptive Management .....	42
4.4 Sustainability .....	47
5 Conclusions and Recommendations.....	49
6 Annexes .....	51
6.1 MTR ToR (excluding ToR annexes) .....	52
6.2 MTR evaluative matrix .....	63
6.3 Example Questionnaire or Interview Guide used for data collection .....	65
6.4 Ratings Scales .....	66
6.5 MTR mission itinerary.....	68
6.6 List of persons interviewed .....	69
6.7 List of documents reviewed .....	71
6.8 Co-financing table (if not previously included in the body of the report) .....	74
6.9 Signed UNEG Code of Conduct form .....	75
6.10 Signed MTR final report clearance form .....	76
6.11 Audit trail from received comments on draft MTR report.....	77

6.12	Relevant midterm tracking tools.....	79
------	--------------------------------------	----

## 1 Executive Summary

### 1.1 Project Information Table

Project Title:	Technology transfer for climate resilient flood management in Vrbas River Basin		
Country(ies):	Bosnia and Herzegovina	GEF Project ID:	5604
GEF Agency(ies):	UNDP	GEF Agency Project ID:	5241
Other Executing Partner(s):	Bosnia and Herzegovina Ministry of Foreign Trade and Economic Relations	Submission Date:	January 22, 2014
GEF Focal Area (s):	Climate Change Adaptation	Project Duration (Months)	60

### 1.2 Project Description

The "Technology transfer of climate resilient flood management in Vrbas River Basin" project is a 5-year 5 mill USD SCCF funded project with the objective to transfer technologies for climate resilient flood management in order to increase resilience of highly exposed rural poor, returnee and displaced persons communities in Vrbas River Basin. Adaptation technologies for climate resilient Flood Risk Management (FRM) include the development of state-of-the-art hydrological and hydrodynamic models and GIS tools for the Vrbas River Basin incorporating climate change predictions and producing flood hazard maps as the basis for spatial planning and long-term strategic FRM. The project includes the upgrade and rehabilitation of the hydrometric network, and the harmonization and centralization of the hydrometric database. The project also develops the flood forecasting system and enhance the existing early warning system within the VRB. Emergency response is being enhanced through the development of emergency response plans, and provision of training in flood-specific civil protection are provided. Further, an institutional capacity development plan for the long-term development of capability and capacity in FRM is developed. The project works closely with affected communities to introduce climate resilient community-based non-structural measures and provides training to local communities in climate resilient FRM.

### 1.3 Project Progress Summary

The project has made significant progress and is on target with regard to most of its objectives to transfer technologies for climate resilient flood management in order to increase resilience of highly exposed rural poor, returnee and displaced persons communities in Vrbas River Basin. Achievements include the setup and operationalization of a hydro-meteorological network consisting of 7 hydrological, 2 meteorological and 20 rain gauges; the development of a climate change model for Vrbas River Basin; the development of hydrological and hydrodynamics models (including 2D model for the whole basin); completion of hydrological and hydraulic models for flood forecasting; completion of vulnerability assessment, including

gender segregated data and development of flood depth-damages curve; identification of the first set of non-structural measures, which will be implemented in Vrbas River Basin. The project finalized flood hazard and risk maps for 20-, 100- and 500-year return periods for Vrbas River Basin, which have, after ground truthing, been accepted by relevant authorities. In addition to these maps, the project has, for the first time in BiH, developed torrential flood sensitivity models for the whole basin, which also included erosion maps. Significant progress has been made in data management with a) the establishment of a geoportal that links spatial data infrastructure and hydro-meteorological data and b) the upgrade and population of an existing obsolete water information system, that now for the first time in BiH enables automatic exchange of information among all three water agencies in Bosnia and Herzegovina. In addition, the system provides access for the ministries of water management to the available information.

Critical aspects include the development of flood risk management plans for which the legal and regulative framework is lacking, agroforestry measures that have been found more expensive than anticipated as well as difficulties in developing flood insurance schemes, as index-based insurance is not known to local legislation and respectively there is a lack of interest from the local insurance industry. The project has identified the related problems and is working towards solutions.

The project budget as per budget revision of 30. October 2017 shows a total of 5,282,140 USD, i.e. 282,140 USD additional funding added to the original 5,000,000 USD of which 47.6% have been disbursed till 20 Nov 2017. This additional funding of USD 282,140 is municipal contributions for implementation of flood risk measures. Co-financing from the Ministry of Agriculture, Forestry and Water Management, Sava River Basin Water Agency and UNDP, as indicated in the Project Document, show disbursement of 57%. The recorded and planned spendings are within budget and plausible given the overall project budget as well as implementation rate.

1.4 MTR Rating and Achievement Summary

Justification for project rating for each outcome has been given in the section 4.2. when explaining progress towards outcomes and outputs.

Measure	MTR Rating	Achievement Description
<b>Project Strategy</b>	Strategy: S	The project was designed to reduce flood risk management and increase resilience of the most vulnerable groups, which involved a wide range of stakeholders from policy makers to the flood exposed population. Apart from the critical aspects stated in Section 1.3, design is good, and the project is accepted and endorsed by the key partners who recognize its importance. The combination of technical work, new technologies and instruments, with practical on-the-ground implementation is greatly appreciated by all stakeholders.



		The project clearly addresses national priorities as well as conforming to the global guidelines of the SCCF.
<b>Progress Towards Results</b>	Objective: HS	The project started with introduction of the new technologies at early stages and established an automated hydrometric monitoring network covering the Vrbas River Basin, which is 12 % of BiH's territory. It has become a flagship project in the country with technology transfer as it takes a systematic and holistic approach to flood risk management starting with data systematization within the water information system, via hydrological and hydraulic modelling which present a base for the flood forecasting and early warning system as well as flood mapping. This in turn creates a base for flood damage modeling, flood zoning, flood insurance scheme, flood risk management planning and identification and selection of flood risk management measures.
	Outcome 1: HS	The project has made good progress with development and scaling up of the methodology for flood hazard and flood risk mapping, transposing of EU Flood Directive into local Water Law, establishment of an inter-agency working group consisting of the core institutions relevant for flood risk management risk, enabling regular data exchange and boosting cooperation between water agencies through a Water Information System, initiation of the development of a flood zoning policy as well as flood forecasting and early warning system set-up.
	Outcome 2: HS	The project has put significant efforts to enable technology transfer and strengthen institutional capacities. After digitization of available data and development of hydrological models which include climate change scenarios developed for the Vrbas River Basin in line with IPCC scenarios, 2D hydraulic models have been developed for the whole basin. These models, which represent a significant technological step-up in BiH served as a base for development of flood hazard and risk maps for 20-, 100- and 500-year return periods. The maps were developed in line with the EU Flood directive and for the first time in BiH. Also, for the first time, a torrents register has been set up and a torrents susceptibility model developed. Vrbas River Basin Spatial Data infrastructure has been developed and it serves to store, maintain and manage all information pertaining to the project to provide access to data for technical specialists and decision makers. Constant education of professionals is ongoing. Flood loss and damage

		modelling has been finalized and GIS representation of loss-damage curves is in progress.
	Outcome 3: S	Up to the MTR date, the project has managed to fulfil its scheduled tasks: developing the agro-forestation scheme for Vrbas River Basin with concrete proposals for agro-forestry measures, identifying and starting with implementation of non-structural measures, establishing a participatory GIS, developing a community engagement strategy etc. The main challenges for further project implementation have been identified under this outcome as: Cost of agro-forestation measures, no legal ground for introduction of index-based insurance and unclear regulatory framework and non-existence of necessary laws for development of the flood risk management plan.
<b>Project Implementation &amp; Adaptive Management</b>	Highly Satisfactory (HS)	All key stakeholders interviewed were very satisfied not only with the project results, but also with the way the project was managed. Project management has been successful in bringing on board and maintaining interest of key stakeholders as well as beneficiaries on all levels. The project took a good start by adjusting its activities and conducting LiDAR geodetic survey, thus becoming a country lead in flood hazard mapping and yet staying within anticipated budget. The project is actively adapting its management to overcome delays related to the development of flood risk management plan (FRMP) for the reasons beyond the control of the project. However, the project is well positioned to develop the first pilot FRMP for the Vrbas River Basin for further replication in the other basins of the country. An adaptive approach is required to adjust flood insurance scheme to Bosnia and Herzegovina circumstances and the project has been doing it so far, by analyzing the situation on the ground and creating a network of stakeholders including from the private sector, i.e. insurance companies, to come up with the best applicable insurance model for BiH. Implementation of agro-forestry measures will also require an adaptive approach as costs significantly exceed the budget anticipated in the Project Document.
<b>Sustainability</b>	Moderately Likely (ML)	Sustainability is rated as moderately likely due to the fact that that currently there is no budget available for long term capital intensive maintenance as well as suitable staffing. Legal adjustments and suitable funding sources would be necessary to allow for sustainable financing. This was clearly voiced by stakeholders. Although not financially sufficient, there is certain progress in this direction, as stakeholders

		have expressed an interest to upscale project results and understand that they have not shown their commitment and capability to do so.
--	--	---

## 1.5 Summary of Conclusions and Recommendations

This is a flagship and ground-breaking project for Bosnia and Herzegovina in a technical and institutional way. From a technical aspect the project has for the first time introduced climate change in hydrological modelling, did 2D hydraulic modelling, developed a torrents susceptibility model as well as introduced a flood forecasting and early warning system (FFEWS). The methodologies for the flood mapping and the FFEWS platform have been/will be replicated for other river basins in the country. From an institutional aspect the project introduced climate changes into the Water Law and established systematic data exchange between three water agencies, covering the whole country, not only the Vrbas river basin.

The project design, strategy and results achieved to date have been recognized by the GEF and UNDP by selecting this project for their publication "Voices of Impact: Speaking for the Global Commons" published to celebrate 25 years of GEF and 50 years of UNDP.

Based on the analysis of project progress, the need for ensuring project sustainability as well as the need to increase project benefits have become obvious. Recommendations are respectively formulated as follows:

<u>Problem</u>	<u>Recommendation</u>	<u>Responsible entity and timeline</u>
Where new technologies have been introduced, stakeholders/beneficiaries have been given the necessary basic training, but experience is lacking	Repeating exposure through on-the-job training is necessary to ensure long term sustainability of the new technologies.	Project management, supporting beneficiaries, during project duration
Stakeholders have shown a general understanding of the project concept of tackling the flood problems in BiH. Nevertheless, modern concepts like "living with floods" have not precipitated through to all involved institutions	More emphasis, capacity building and knowledge transfer regarding "making room for water" and/or "living with floods" concepts to beneficiaries would be highly beneficial in order to enable these beneficiaries to further develop means for holistic flood management in their jurisdictions.	Project management team to emphasize this approach in further capacity building activities, during project duration
Despite clear interest and willingness of the involved stakeholders, long term financial sustainability with regards to	The government of BiH as well as entities and municipalities will need to find ways and conduct the	Project management to provide advise to stakeholders.

<p>operating and maintaining the project results is not given within BiH (operation / maintenance / capital investments).</p>	<p>necessary legal adjustments to collect and/or allocate the necessary funds to ensure long term sustainability of the flood protection, adaptation and warning interventions. It is expected that capital intensive maintenance and replacement works will become necessary in the future that will need respective financing. Financing will need to cover both capital costs and staffing costs. The project is to develop a sustainability strategy with as exact as possible financial projections in cooperation with the respective stakeholders.</p>	<p>Sustainability strategy to be developed till the end of 2019</p>
<p>Stakeholders are interested in upscaling project results also to other basins in BiH.</p>	<p>Guidelines for potential upscaling including lessons learnt should be produced. Upscaling of project methodologies and results should be done through concrete project proposals covering other flood prone river basins in Bosnia and Herzegovina.</p>	<p>Depending on funds availability, project management to develop guidelines and project proposal</p>
<p>Agroforestry measures have not yet been implemented as more expensive than anticipated</p>	<p>Explore implementation of agro-forestry measures with direct involvement of beneficiaries e.g. project to provide seedlings and municipality or farmers to provide labour for planting.</p>	<p>Project management To start immediately</p>
<p>Flood risk management planning has not yet been conducted due to the lack of regulative and legal framework based on missing political consensus</p>	<p>The project should support development of by-laws that will regulate the development of the flood risk management plan and continue with the development of the Vrbas river basin flood risk management plan as a pilot for the rest of BiH.</p>	<p>Project management to develop ToR and obtain consent from relevant institutions</p>

<p>Flood insurance schemes have not yet been implemented due to the lack of relevant legislation for index-based insurance and poor interest among population at risk, thus resulting in low interest from insurers in BiH</p>	<p>Insurance models with applicable tariffs to be developed and discussed with stakeholders. Simulation of the model can be initiated in pilot municipalities. In order to ensure necessary insurance take-up, the 'solidarity' approach for financing should be explored.</p>	<p>Project management</p>
--	--	---------------------------

## 2 Introduction

UNDP has requested for carrying out a Mid Term Review (MTR) for the "Technology transfer of climate resilient flood management in Vrbas River Basin" project. The approach for the MTR is clearly laid out by the detailed ToRs for the MTR consultant and follows the specified UNDP "Guidance for Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects" document. In this regard, the MTR assesses progress towards the achievement of the project objectives and outcomes as specified in the Project Document and assesses early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results. The MTR also reviews the project's strategy and its risks to sustainability. To achieve these objectives, the review is conducted in close cooperation with the client, the project team, stakeholders and beneficiaries. Based on a thorough understanding of the project ToR and objectives and the institutional and policy framework in BiH, the project is thoroughly assessed. Main activities include document reviews, various interactive interviews and drafting the resulting reports.

## 3 Background context and project description

### 3.1 General context

Bosnia and Herzegovina (BiH) is a middle-income country with an estimated 3.8 million inhabitants. The 1992-1995 war has had a devastating impact on its human, social and economic resources, leading to enormous challenges of the post-war reconstruction and economic and social recovery. This challenge has been further compounded by the transition towards market economy requiring structural reforms and improved governance.

Due to the war time devastation and the unsuccessful transition of economy, a large part of Bosnia and Herzegovina's population still lives in poverty. The slow rate of the post-war economic recovery of Bosnia and Herzegovina has been compounded by the negative impacts of climate change on key sectors such as agriculture, energy (hydropower), the environment and, in particular, the frequency and magnitude of flood disasters, which have tripled in frequency in the last decade<sup>1</sup>. In 2010 - the second largest flood on record - damages were US\$ 200 million which is approximately 1% of GDP. In May 2014, Bosnia and Herzegovina experienced its worst flooding in 150 years which resulted in 23 deaths and US\$2.7 Billion worth of damages which is 15% of GDP.

The risk assessment report adopted by the Council of Ministers in 2011, emphasized that BiH is significantly exposed to the threats of climate change. Furthermore, the country has very limited capacity to adapt to address climate risks<sup>2</sup>. Both the BiH's Initial National Communication (INC) and the Second National Communication (SNC) to UNFCCC have identified that climate change is affecting Bosnia and Herzegovina and will accelerate during the remainder of the twenty-first century. This trend will lead to an increased likelihood of floods as the frequency of intense rain events is projected increases. Respective impacts have already been observed in the project target area – the Vrbas River Basin (VRB) – with the most damaging being flooding.

### 3.2 Problems and vulnerabilities in the basin

The municipalities of the Vrbas Basin are among the worst war devastated municipalities in BiH, which, 18 years after the war, are still struggling to re-establish normal living conditions and to repair physical and societal war damage. Post-war societal issues are manifested in the form of deep ethnic divisions and mistrust. Despite these problems, many municipalities have successfully undergone ethnic reconciliation and reintegration, but are still struggling with the economic recovery.

Vrbas River Basin is located in north western BiH and extends, fully or partially, throughout the area of 28 administrative municipalities within BiH. The total area of the VRB is 6,386 km<sup>2</sup> which is 12.5% of the entire BiH territory, 63% of which is located in the Republika Srpska (RS) and 37% in the Federation of Bosnia and Hertzegovina (FBiH).The Vrbas River is a right tributary of the Sava River, which is in turn a right tributary of the Danube River. The VRB is

---

<sup>1</sup> Climate Changes and Water Management in Bosnia and Herzegovina with Special Focus on Flood Protection, Igor Palandzic, Sarajevo 2012, <http://www.scribd.com/doc/112546672/KLIMATSKE-PROMJENE-I-VODNI-RESURSI-U-BOSNI-I-HERCEGOVINI-Climate-Changes-and-Water-Resources-in-Bosnia-and-Herzegovina>

<sup>2</sup> Risk assessment of vulnerability BiH to natural and other disasters, Ministry of security of BiH.

typified by mainly mountainous relief. There are relatively little lowlands at the mouth of Vrbas to River Sava, and in smaller part in narrow valleys along the main stream and tributaries.

The Vrbas River Basin experiences seasonal floods in the spring (March - May) as a result of snow melt and in late autumn (December) due to heavier rainfall. This combined with groundwater flooding puts the VRB at risk from multiple sources and from combination of all three (groundwater, rainfall and snowmelt). The lower part of the Vrbas River Basin, meanders, and there is significant river bank erosion and deposition.

In the Vrbas River Basin (VRB), the climate change related impacts have already been observed. The effects have included increased frequency and severity of flooding in every year of the last decade. Records for the Vrbas basin for the last 10 years<sup>3</sup> show that major floods occurred during late spring (April and May 2004) and summer (June 2010), but also during late autumn (December 2008) and early winter (January 2010), affecting all parts of the basin. The latest large flood event occurred in May 2014.

Estimated figures for damages sustained during the 2014 flood event have been collected. Based on the figures it is clear that the total damages of 131.7 Million BAM or \$88.5 Million USD far exceeds the damages sustained in floods for the entire period 2003 – 2013, making this the most devastating single flood event in BiH history. The impact included deaths, damage to infrastructure including more than 4 Million BAM or \$2.7 Million USD damages to roads and the destruction of 26 bridges. Over 5,400 houses were flooded (of which 216 were completely destroyed), 356 households evacuated, and more than 20,000 people affected. In Srbac and Banja Luka municipalities with more than 1400 businesses were affected. Throughout the basin, over 1,000 agricultural households (subsistence) were also affected and while exact agricultural damages are not available 5,355 ha of agricultural lands were flooded. In addition, the floods triggered more than 184 landslides.

The direct consequences of the flooding in the Vrbas basin are multiple and include: damages to the housing stock, damages of infrastructure and lower economic output, especially in agriculture. In the 2014 flood, commercial damages were also significant, due to the types of economic activities in the main affected municipalities. All of these negative consequences have direct negative effect on livelihood of the individual households and people of the VRB area. Considering the above, it is likely that repeated floods in VRB will increase vulnerability of the vulnerable groups and increase the risk of the rural population falling back to poverty.

### 3.3 Barriers targeted

Based on the identified problems and vulnerabilities in the basin, several barriers have been identified, including a lack of a comprehensive legislative and policy framework for strategic water and flood risk management, to respond to climate change risks; Fragmentation and gaps in policies and national regulations for long-term flood risk management under climate change and a lack of institutional capacities, technologies, equipment, data and tools for hazard, vulnerability, damages and loss assessments on which climate resilient flood risk management can be based. In addition, the lack of community level resilience technologies and adaptive

---

<sup>3</sup> Data on flood damages collected from Vrbas River Basin Municipalities, UNDP 2013



strategies to minimize flood impact, including lack of a comprehensive and unified flood forecasting, early warning and response system to increase community resilience have been identified.

### 3.4 Project Description and Strategy

The 5 mill USD SCCF funded project aims to transfer adaptation technologies for climate resilient Flood Risk Management. This includes the development of state-of-the-art hydrological and hydrodynamic models for the VRB, which incorporate climate change predictions and produce flood hazard maps as the basis for spatial planning and long-term strategic FRM. A further area of technology transfer is the development of a GIS-based vulnerability loss and damages assessment tool, and importantly a systematized approach is embedded, to enable the ongoing collection, storage and analysis of socio-economic data. An important aspect of technology transfer is the upgrade and rehabilitation of the hydrometric network, and the harmonization and centralization of the hydrometric database. The project also develops the flood forecasting system and enhance the existing early warning system within the VRB which is underpinned by the centralized hydrometric database. Emergency response is being enhanced through the development of emergency response plans, and provision of training in flood-specific civil protection.

The project provides targeted training on climate-induced FRM to over 100 practitioners and decisions makers and develops an institutional capacity development plan for the long-term development of capability and capacity in FRM. The project works closely with affected communities to introduce climate resilient community-based non-structural measures and provides training to local communities in climate resilient FRM. This includes the introduction of agro-forestry, community-based early warning systems, reforestation and introduction of financial instruments such as flood insurance and credit deference schemes as a means of compensating for flood damages for agriculture. The project works directly with farmers to identify farm-level risks and vulnerabilities with respect to flooding and works to embed climate resilience measures to agricultural practices at the farm-level.

The enabling environment is being enhanced by embedding climate change into key sector policies, strategies and plans to enable climate resilient flood risk management within sectors that impact flood risk significantly. The sectors will include land use and spatial planning, forestry, agriculture and energy sectors. Specifically, the project introduces floodplain management regulations that will enhance zoning of development and activities away from high risk areas. It also introduces climate resilient building codes for construction in flood risk areas. The project further enhances land use policies related to activities that significantly impact on flood risk including aggregate mining of river beds and banks.

The project is a direct response to the priorities that have emerged from the Second National Communication. The project is designed to respond to the flood risks to the most vulnerable communities in the Vrbas river basin, in the areas that are most stricken by poverty and inhabited by many war returnees, displaced people and the rural poor that are among the most vulnerable social groups of the BiH. The project, by transferring best available technologies for climate resilient flood risk management, directly benefits 250,000 people within two administrative parts of BiH and contributes to further reconciliation in a war damaged area. Indirectly the project also benefits at least 464,000 people living in the VRB.

The project is improving the knowledge base on flood risk through fully developed modelling and flood mapping. This, as well as the efforts to increase institutional capacity, leads to improved strategic management of flood risk and improved flood forecasting and warning. In particular, the population of the VRB benefits from improved lead warning times to flood events due to implementation of the forecasting and improvement of the early warning systems. Implementation of spatial planning on the basis of flood zones will lead to reduced exposure of the target population in the VRB. Overall vulnerability of the population in VRB to flooding is reduced due to increased awareness and direct engagement of local communities in flood risk management. Adaptation of climate resilient agricultural practices by farmer communities increases their adaptive capacity and reduce exposure. Targeted training in FRM functions further increases adaptive capacities within municipalities.

*Project Objective, Outcomes and Outputs/activities*

Project Objective: To transfer technologies for climate resilient flood management in order to increase resilience of highly exposed rural poor, returnee and displaced persons communities in Vrbas River Basin		
Project Component	Expected Outcomes	Expected Outputs
1. Enabling environment for climate risk sensitive water and flood management	1. Key relevant development strategies/policies/legislation integrate climate change-resilient flood management approaches	1.1 At least two priority sectoral policies and plans (e.g. agriculture, hydropower, water resources) updated to include climate change modeling results; 1.2. Floodplain management and spatial planning regulations and policies updated to include climate change risks (revision of land use regulations, stricter policy on construction permits in the areas prone to flooding, etc.); 1.3. Appropriate adaptation technology solutions for climate resilient flood management in BiH codified and disseminated.
2. Technical and institutional capacity for transferring climate resilient flood management technologies and approaches	2. Climate resilient flood risk management is enabled by transferring modern technologies and strengthening institutional capacities	2.1. Improved hydrological and hydrodynamic model for the VRB incorporating climate change predictions, developed to produce flood hazard inundation maps for spatial planning and emergency response planning, and for the long-term strategic flood risk management of the VRB; 2.2. GIS-based vulnerability, loss and damages assessment tool and database established and institutionalized to record, analyze, predict and assess hydro-meteorological and other hazard events and associated losses; 2.3. Hydro-meteorological monitoring system in the VRB upgraded (increased from 11 to 25

		<p>gauging stations) and harmonized into a central hydrometric system;</p> <p>2.4. Institutional capacity strengthening plan developed and targeted training on climate-induced flood risk management provided to at least 100 practitioners and decision-makers;</p>
<p>3. Climate resilient flood management technologies for vulnerable communities in VRB</p>	<p>3. New technologies and approaches for enhanced flood risk management applied to increase resilience of vulnerable communities in VRB</p>	<p>3.1. Integrated land use and flood risk management plan for the VRB developed and non-structural measures implemented by local communities (through Output 3.2.), government and/or private sector;</p> <p>3.2. Participatory community-based adaptation strategies, technologies and practices implemented in priority flood risk areas (e.g. community afforestation scheme on the flood plains; establishing locally controlled and managed flood zones; watershed rehabilitation works, etc.);</p> <p>3.3. Local communities (particularly women and refugees) trained to implement and maintain flood resilient non-structural intervention measures, including agricultural practices such as agro-forestry, to improve livelihoods of 13 communities in the VRB, and community-based flood early warning systems;</p> <p>3.4. Early warning system in VRB modified to include the new hydrometric monitoring network as part of a fully-integrated flood forecasting system (comprised of centrally-based and community-based early warning systems). Municipal-level flood response and preparedness plans prepared and implemented.</p>

### 3.5 Project Implementation Arrangements

The Government of Bosnia and Herzegovina has recognized a need to address flood risks and consequences, as well as associated impacts on populations and key socio-economic sectors in vulnerable areas in Vrbas River Basin. Entity line ministries also fully support the project. Although the existing water development framework does not consider the long-term implications of climate change, it provides favorable baseline conditions for the project to advance policies and implement a suit of on-the-ground measures for addressing adaptation needs in flood management. The project is set up to allow for later upscaling and replication. The currently implemented methodologies are in line with EU directives, and of a quality level that will allow them to become national methodologies, applicable in similar settings

elsewhere in the country. Expertise and experience gained both by line ministries as well as by implementing bodies will be useful for identifying needs and cases where methodologies can be successfully implemented with the desired benefits. Further details are provided in the recommendations section.

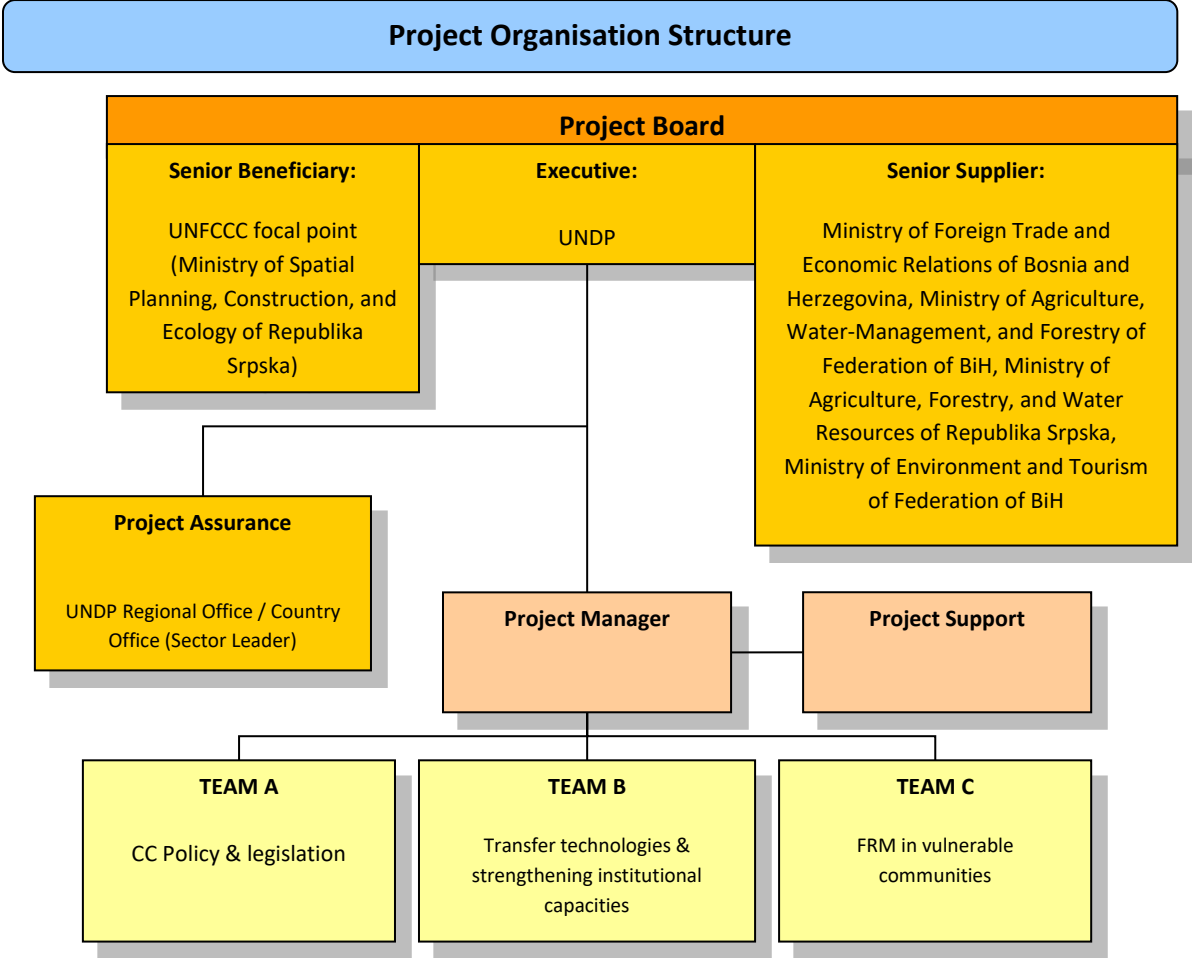
Given the complexity of BiH's federal administrative set-up, that includes two self-governing entities and applies multi-layered administrative procedures, the recently approved one United Nations Programme / United Nation Development Assistance Framework (UNDAF) for 2015 – 2019 and UNDP's Country Programme Document (CPD) for 2015 – 2019 for Bosnia and Herzegovina stipulate that all GEF and other vertical funds' financed projects be implemented under the direct implementation modality (DIM). Furthermore, this modality has been supported and agreed by governments at all levels (state and entity) and is in line with the Standard Basic Assistance Agreement (SBAA, 1995) between the UNDP and the Government of BiH. Guided by these above-mentioned country programme frameworks, the DIM is applied in a way to take into account potentials for maximum cost-effectiveness and tailored capacity development of counterpart government institutions. The approach has proven to be successful with all counterparts interviewed during the MTR confirming their close coordination and appreciation of the project.

Bosnia and Hercegovina UNFCCC Focal Point, Ministry of Spatial Planning, Construction and Ecology of Republic of Srpska and Ministry of Foreign Trade and Economic Relations (MoFTER) are the government institutions which are engaged in the implementation of the project and act as the Responsible Parties engaged by UNDP. UNDP is the Executing Entity/Implementing Partner for the project and is accountable to the GEF for the use of the funds. The UNDP Programme officer takes the oversight and quality assurance role for UNDP while a Project Manager contracted for the project has the project execution/implementation role and thus separating project oversight and execution/implementation duties. Project implementation by the ministries engaged as Responsible Parties ensure the timely and verifiable attainment of the project objective and outcomes. The UNFCCC Focal point and MoFTER provides support to, and inputs for, the implementation of all project activities.

A Project Board was established at the inception of the project to monitor project progress, to guide project implementation and to support the project in achieving its listed outputs and outcomes. It is co-chaired by UNDP and BiH UNFCCC focal point. Project implementing entities (Ministry of Spatial Planning, Construction, and Ecology of Republika Srpska, Ministry of Foreign Trade and Economic Relations of Bosnia and Herzegovina), as the key governmental institutions in charge of spatial planning, natural resources management, environmental protection and climate change policies, ensure that other governmental agencies are duly consulted and involved as per their mandate. Ministry of Agriculture, Water-Management, and Forestry of Federation of BiH, Ministry of Agriculture, Forestry, and Water Resources of Republika Srpska, Ministry of Environment and Tourism of Federation of BiH are also active members of the Project Board.

Other participants are invited into the Board meetings at the decision of the Board. The Board meets regularly (twice a year) to review project progress, discuss and agree on project work plans. One of the key tasks of the Board is to ensure coordination and synchronization of central and local-level activities supported by the project. In this respect, the Board serves as

a platform for key project stakeholders and beneficiaries to regularly get together and design a joint strategy of work on the project.



The day-to-day management of the project is carried out by a Project Manager under the overall guidance of the Project Board. The core Project Team consists of a Project Manager and Administrative Assistant, supported by Senior/Chief Technical Advisor and Project Officer who divides their responsibilities among specified three main areas of work. For successfully doing this, public outreach, establishment of the contacts and co-operation with the key local and international stakeholders and expert institutions as well as ability for adaptive management and new innovative approaches are of utmost importance. The Project Manager reports to UNDP and the Project Board. The project personnel are selected on a competitive basis in accordance with the relevant UNDP rules and procedures and in consultation with the UNDP-GEF Regional Technical Adviser.

3.6 Project timing and milestones

The “Technology transfer for climate resilient flood management in Vrbas River Basin” is a five-year project that started in April 2015 and is scheduled to run to April 2020.

Key project milestones include the inception workshop, the mid-term review, the terminal evaluation and the project closure. The inception workshop has been held on time in April 2015 (planned May 2015), the midterm review has started as scheduled in November 2017

and there are no foreseen changes to the project closing date and/or the terminal evaluation and project closure.

### 3.7 Main stakeholders

Main project stakeholders on state and entity level, include ministries responsible for water management, water agencies, hydro meteorological institutes, climate change focal point in BiH (Ministry of Spatial Planning, Construction, and Ecology of Republika Srpska) and other environment related ministries, as well as civil protection. On entity and cantonal level, political, operational and executive jurisdictions for water sector rest with line Ministries in charge of water. The stakeholders were extensively consulted in the project preparation process and contributed data and practical guidance. One of the important roles of the stakeholders in this project is to ensure that its activities are fully aligned with the relevant strategic and operational documents of the domestic government structures; as well as to ensure alignment of the project's activities with all the other ongoing projects and initiatives, the most important being the Emergency Flood Relief and Prevention Project (EIB Loan) for which the Entity Ministries are directly responsible as the PIU's for implementation of the EIB loan.

On local level, the project has mapped all stakeholders in the project area and created a reference group in each municipality. Civil protection organizations and representatives from municipal government actively participated in the project preparation. Additionally, civil society organisations that could be interested in project results are involved and encouraged to take active participation. The project is further making a specific attempt to involve the private sector in the VRB. For example, micro agricultural businesses in VRB are involved due to the fact that they are among most affected by floods groups.

The list of stakeholders consulted during the MTR mission (mission itinerary) is provided in Annex 6.5 and the list of stakeholders interviewed in Annex 6.6.

## 4 Findings

### 4.1 Project Strategy

The project is well designed and accepted as well as endorsed by the key partners who recognize its importance. The combination of technical work, new technologies and instruments, with practical on-the-ground implementation is greatly appreciated by all stakeholders. The project strategy follows the BiH and entities governments needs highlighted by the impacts of the 2014 floods, considering both soft as well as the most important hard measures and targeting several aspects of flood prevention, preparedness and mitigation. An aspect that has come up from the stakeholder consultation is that concepts of "living with floods" or "making room for water" aiming at mitigation rather than protection are not well understood by the beneficiaries and that instead hard protection or alleviation measures are desired without consideration of potential downstream consequences. Hard measures that are currently implemented and that have been visited during field visits are designed in a way to ensure faster drainage but not to provide maximum protection. While downstream impacts have likely not been considered in the design it is anyhow evident from the limited protection design that during larger flood events overtopping will occur, leading to flooding of lower value pasture areas - an effect that is actually beneficial for providing flood storage considering holistic flood management concepts. Even if not initially planned for the situation could be used as a good practice example and model for future upscaling. Soft measures as well as physical improvements of warnings are well covered.

Stakeholders and beneficiaries of the project on all levels are well involved with full ownership, as evident during all stakeholder meetings. The satisfaction with the project strategy was particularly highlighted by all stakeholders, also expressing satisfaction that the project was designed in a participatory manner from the start and respectively reflecting government needs on BiH government and entity as well as municipality levels. The project leadership and technical staff are further well involved with stakeholders and beneficiaries during project implementation, both considering steering committee meetings and involvement on technical level, guaranteeing that approaches are adjusted and finetuned during implementation. Especially on municipality level (i.e. grassroot level) satisfaction was shown in this regard and benefits are seen. It can therefore be expected that planned project outputs will be met.

Decision-making during project implementation has been reported as being based on steering committee discussions as well as needs and practicalities in the respective institutions as voiced by respective staff. Stakeholders and beneficiaries expressed satisfaction regarding these decision-making processes and showed respective ownership.

A results framework has been developed for the project that has been successfully being used in the 2016 and 2017 project implementation review. The indicators are considered SMART (Specific, Measurable, Attainable, Relevant, Time-bound) though with only single indicators at project end being defined. These indicators including their baseline level are clearly described and are based on the stakeholder agreed project objectives and related to outcomes/outputs that can be considered practical and feasible based on stakeholder feedback collected during the MTR meetings. Targets set for the end of the project are achievable except the target under outcome 3: At least 4,200 hectares of agricultural land protected by non-structural measures (e, g. floodplain agro-forestry to be implemented on at least 840 hectares). Due to

high costs of agro-forestry measures it will not be possible to implement these measures at 840 hectares. This issue is duly explained in the report. Project progress as per results framework is shown in Section 4.2.

Risk and assumptions, which were revised during project inception period, have been reviewed and it was suggested to increase prioritization of the risk: *Underestimation of project scope and requirements*, due to issues of flood risk management planning, flood insurance scheme and costs of agro-forestry measures. These issues are further explained in the document and recommendations provided.

Risk Description/Risk Source	Consequence	Risk Prioritisation	Mitigation/Action Description
Key roles within the project not filled. Lack of expertise for key role.	Impact on project quality and possible programme/cost impacts.	M	Ensure a good fit between the objectives of a role and the experience of the person allocated to that role.
Underestimation of project scope and requirements	Additional time and cost for undertake the project	H	Allow sufficient time for good project planning and risk management
Poor communications between international experts and local experts	Misunderstandings/difficulty in collaborating on technical work. Difficulty in quality assurance due to language/understanding barriers	M	Since the project deliverables will be delivered in English, need to ensure sufficient translators with appropriate technical background to enable effective communications. While the project reporting will be in English, it is imperative that the outputs are also translated back into technically correct local language to ensure that key messages and ideas are not 'Lost in Translation'
Poor user requirements specified, poorly defined data standards leading to poor design and implementation of data management system	Poor data management leading to errors in technical assessment and errors in design.	M	Scope project data management requirements early on. Establish facilities (i.e. technologies) that enable effective data sharing between organization/individuals holder and/or accessing data. Identify 'data champions' within organisations involved in project implementation of supply of data



<p>Failure to identify key data sets. Delays in collecting essential data for the project. Risk of essential data not being available or to the quality or accuracy needed</p>	<p>Lack of data leading to poor technical assessment and design. If essential data sets not available (or of poor quality) may need to undertake data modelling (e.g. data infilling), or collect data as part of the project</p>	<p>H</p>	<p>Undertake detailed data requirements and data identification (identifying all sources) as the first priority on the project. Link to data management definition task to ensure early centralized access of all relevant data. Undertake data analysis to identify quality, gaps, requirement for data modelling and additional data collection early on</p>
<p>Cost of modelling software more than budgeted for. Cost of floodplain DEM greater than original estimate. Floodplain data too coarse for detailed modelling</p>	<p>Higher expenditure on software and DEM data. If poor resolution DEM data used, could result in poor modelling results and poor design of intervention measures</p>	<p>M</p>	<p>Obtain detailed software quotes and ensure it fits within budget. Review freeware but justify using freeware from a technical perspective.</p> <p>During inception phase undertake a 'user requirements gathering' exercise to include a review of existing and proposed software needs and draw from lessons learned from projects such as Southeastern Europe and Caucasus Catastrophe Risk Insurance Facility, with regards to software cost.</p> <p>Before purchasing DEM obtain sample data for different parts of the VRB basin and check accuracy. Undertake ground truthing to confirm data accuracy</p>
<p>Cost of survey equipment higher than estimated</p>	<p>Higher expenditure</p>	<p>M</p>	<p>Investigate alternatives to purchasing surveying equipment under this project. For example, examine the cost effectiveness of hiring a survey contractor who will already have the equipment rather than purchasing</p>
<p>Scope and cost of survey underestimated</p>	<p>Insufficient survey data for technical studies. Higher expenditure to get the surveys required</p>	<p>M</p>	<p>Early scoping and recosting of surveys to be undertaken</p>

<p>Delays in availability of historical data, survey data leading to delays in starting the technical studies and modelling. Insufficient data and/or data of poor quality available to undertake sufficiently detailed and accurate modelling to support feasibility and desing studies; Model not suitably detailed and accurate to undertake feasibility studies</p>	<p>Delay to overall programme, poor outputs from technical assessments leading to poor intervention designs</p>	<p>H</p>	<p>Enforce data collection and survey programme rigorously. Identify data quality issues early as well as issues with model and technical studies quality before using in intervention designs. Enforce a 'check, review, authorize' procedure to capture quality issues related to human errors</p>
<p>Failure to consult all relevant stakeholders</p>	<p>Leading to lack of buy-in and failure to agree policy and legislative changes</p>	<p>L</p>	<p>Undertake institutional mapping to identify all relevant stakeholders in government, non-government, community donor and other user groups. Early establishment of inter-agency working group and engagement with key stakeholders. Ensure continued engagement of stakeholders throughout the process</p>
<p>Failure to reach agreement on new policy frameworks</p>	<p>Limited (or no) changes to legislation to address current issues will lead to continued exposure to hydrometeorological hazards</p>	<p>H</p>	<p>Ensure that the Inter-agency Working Group includes the right composition of stakeholders and is all inclusive to maximise the chance of reaching agreement on new policy framework. Ensure that the Project Board is also inclusive of all key stakeholders.</p>
<p>Failure to fully identify training needs</p>	<p>Continued lack of capacity within BiH for hydrometeorological hazard assessment and management. Leading to continued vulnerability</p>	<p>L</p>	<p>Initial and continued assessment of capacity and establishment of training programme that will ensure continued development of</p>

			capability and adequate succession planning
Review of requirements and development of a detailed functional specification could result in larger scope for FFEWS than currently budgeted for	Greater cost of establishing FFEWS than previously estimated. Equipment cost increase	M	Review should justify any major changes to the scope and equipment requirement
Unforeseen delays in undertaking essential surveys due to weather/access issues etc.	Delay to overall programme	H	Surveys to be scheduled to maximise favorable weather conditions. Early reconnaissance visits to remote areas will determine potential access difficulties. Issues/Risks will be raised to the PEB and adequate mitigation measures will be discussed/approved by PEB and implemented.
Adverse climatic conditions may also pose risks to workforce health and safety, or damage adaptation measures being implemented		H	The project will draw up an engineering and safety plan to reduce immediate risks of hazard occurrence during works. Health and safety precautions for the workforce will be established in the inception phase, drawing on lessons from other high-altitude projects. Contingency and evacuation plans will be prepared. All sub-contracted firms will need to have H&S insurance for its employees.
Resistance of certain government institutions to introduce floodplain development policy that sets number of land use limiting regulations and floodplain zoning rules.		M	Bottom-up approach to the policy development with active engagement of local population and authorities will enable the project to follow the principles of subsidiarity and participation underlined in the Regional Development Strategy and help local authorities make decentralized climate compatible development decisions. Engagement of the Regional Development Ministry

			will help the flood plain policy to emerge in full consistency with the development priorities that will be supported to embark on climate resilient pathway.
Lack of incentives for particular local communities to cooperate in activities that do not yield immediate financial value, but aim at longer-term resilience, may reduce stakeholder engagement and comprehensive participation.		M	The project incorporates activities that yield immediate benefits for communities in terms of awareness, preparedness, skill development and income generation (agro-forestry schemes). This will be emphasized during all meetings and consultations with community representatives during the inception phase
Due to staff turnover at the target Ministries the trained staff may leave for the other job opportunities undermining installed technical capacity		L	Special training conditions and / or training for trainers will be arranged to keep the trained staff at the target Ministries. Staff retention and succession plans will be developed
Delays in recruitment of qualified project staff may affect the timeframe of different project activities.		L	A pro-active coordination mechanism will be established by UNDP during the project inception phase. TORs for project staff have already been prepared
Changes in the government structures and functions		L	Closely monitor situation and keep regularly updated on any developments in this regard; call immediately PEB meeting.

The project is not specifically targeting women as direct beneficiaries, special attention was paid to gender through socio-economic research and capacity building.

Based on stakeholder discussions project implementation is reported as excellent, providing positive effects for beneficiaries as per the intended project outcomes. The project is further seen as a good practice example for upscaling efforts in other basins in the country.

Overall, project strategy is rated as: Satisfactory

#### 4.2 Progress Towards Results

Project progress as per the results framework is shown in the following overview table. At the time of MTR, all indicators are on target to be achieved or are reachable applying adaptive management with several potential issues identified for implementation of future activities. No obvious barriers exist assuming a continued excellent cooperation between project management and stakeholders as well as beneficiaries. Relevant and necessary adjustments to the project outputs / outcomes as e.g. to the delay in development of the flood risk management plan, insurance approach and implementation of agro-forestry measures are considered practical necessities that require adaptation and not barriers.

Progress towards outcomes and outputs:

Outcome 1: Key relevant development strategies/policies/legislations integrate climate change resilient flood management approaches

Output 1.1. At least two priority sectoral policies and plans (e.g. agriculture, hydropower, water resources) updated to include climate change modeling results

The project has taken a detailed review of the existing legislative and institutional framework and has come up with a recommendation for entry points for climate changes and flood risk management into local regulatory and policy framework. Climate change models for Vrbas River Basin have been developed via regionalization of the results of global climate models. Results of regionalization of three climate scenarios (A1B, A2 and RCP8.5) for the territory of Bosnia and Herzegovina have been used as a base for detailed studies on climate change impact on the most vulnerable sectors. These findings with identified priority adaptation measures will be compiled in the National Adaptation Plan. Amendments to the Water Law which would consider the EU flood directive and include climate change have been made and adopted by the Governments and National Assembly.

The project has established an inter-agency working group that meets regularly, at least quarterly, depending on the subjects discussed. The project work focuses on tackling main deficiencies identified by institutional analysis such as: the lack of a clear division of works between institutions, a systematic approach to data gathering and lack of coordination among various institutions. In order to show, in practice, the lack of clear division among institutions the project organized an interactive workshop which included simulations of a flood event and provoked a reaction of the relevant institution: hydro-meteorological institutes, water agencies, civil protection, and ministries in charge. The main obstacles identified are: overlap of activities between hydro-meteorological institutes and water agencies, lack of specific, targeted and detailed information to be issues and received, and poor response from civil

protection units. An urgent need to include power companies i.e. hydropower schemes into flood forecasting and early warning systems has been identified.

An analysis of the current situation of the insurance sector in BiH, including an overview of current practices related to risk management techniques as well as risk financing modalities has been completed. An overview of the institutional and legal environment for the insurance market in BiH, along with a review of the insurance and risk financing mechanisms of countries at a similar stage of development as BiH has been developed, showing the almost non-existence of insurance against floods. Index types of insurances are not known to the local regulatory framework i.e. currently damages are only covered if it can be proven that the damage actually occurred, not based on hydro-meteorological triggers, as necessary for index-based insurances.

Output 1.2. Floodplain management and spatial planning regulations and policies updated to include climate change risks (revision of land use regulations, stricter policy on construction permits in the areas prone to flooding, etc.);

Activities for the development of spatial planning policies for floodplains in the Vrbas River Basin have started by completing an analysis of the legal framework related to spatial planning and its link with flood risk management. It is important to note that existing spatial planning documentation do not take into consideration existing flood risk. Amendments to the law on use of space have been made and its approval by the Government is pending.

Output 1.3. Appropriate adaptation technology solutions for climate resilient flood management in BiH codified and disseminated.

The project communications have been result-oriented and attractive. One specific example of the project human-centered communication is a set of photo essays:

<https://undp-adaptation.exposure.co/datadriven-climate-resilient-flood-management>

<https://undp-adaptation.exposure.co/forests-fires-floods>

<https://www.preventionweb.net/news/view/50800>

The project is currently producing a short documentary which will focus on impact of the implemented flood risk management measures and their importance for vulnerable population.

Development of guidance documents is in line with activities performed. So far, a flood risk modelling and mapping methodology has been developed and adopted by local institutions. Guidance for the development of a centralized flood forecasting and early warning system has been established. A draft operation and maintenance plan for hydrometric stations has been completed. Guidance to use PGIs and geoportal has been developed.

Outcome 2: Climate resilient flood risk management is enabled by transferring modern technologies and strengthening institutional capacities

Output 2.1. Improved hydrological and hydrodynamic model for the Vrbas River Basin incorporating climate change predictions, developed to produce flood hazard inundation

maps for spatial planning and emergency response planning, and for the long-term strategic flood risk management of the Vrbas River Basin.

The project has put significant effort into overcoming problems resulting from a lack of data and data quality. After digitization of the available data, several independent experts, together with representatives of the hydro-meteorological institutes conducted quality checks and interpolated missing data, bringing data quality to a level satisfactory for further hydrological and hydraulic modeling. Hydrological modelling included climate change scenarios developed for the Vrbas River Basin in line with IPCC scenarios as well as 2D hydraulic modelling of the whole basin. The models, representing a significant technological step-up in BiH, created a base for development of flood hazard and risk maps for 20-, 100- and 500-year return periods, developed in line with the EU Flood Directive. The developed maps have been handed over to water agencies for further review and usage, but also to local municipalities which took a leading role in ground-truthing of the maps in the field. Based on feedback the maps were rated as approximately 95% accurate. Representatives of hydro-meteorological institutes and water agencies were directly involved and trained in hydrological and hydraulic modelling respectively.

Further, based on flood risk maps, flood zones for the Vrbas River Basin will be developed. These maps will also create a base for a flood insurance model, as well as for selection of non-structural measures that will be implemented within the project.

Taking into consideration the fact that flash floods create the largest damage in the basin, the project-initiated activities to identify torrent risks. Developing susceptibility models for torrents is in progress. The susceptibility models will include erosion maps for the Vrbas River Basin, a torrents register and cadaster, as well as a GIS base for the model.

Output 2.2. GIS-based vulnerability, loss and damages assessment tool and database established and institutionalized to record, analyze, predict and assess hydro-meteorological and other hazard events and associated losses;

A spatial data infrastructure has been developed for the project and can be accessed via a Geoportal at <http://vrb.pmfbf.org/>. It serves to store, maintain and manage all information pertaining to the project to provide access to data to the technical specialists and the decision makers. Flood hazard and risk maps have been included as well. This geoportal will be further populated with all findings and results of the project until final handover to the relevant institutions.

Flood loss and damage modelling has been finalized and GIS representation of loss-damage curves is in progress. Lack of unified data about damages, depth and duration of historical floods at specific locations has been overcome by collecting data from municipalities and creating a database. Additional analysis for vulnerability of females to floods has been completed and another module of flood loss and damage modelling will be set up to take these data into consideration.

Output 2.3. Hydro-meteorological monitoring system in the VRB upgraded and harmonized into a central hydrometric system;

After undertaking an assessment of the monitoring network requirements for effective monitoring for flood risk management, flood forecasting and early warning system operation, technical and financial assistance for the establishment of the hydro-meteorological network in Vrbas River Basin has been provided. This network consists of 28 gauges (20 precipitation, 2 meteorological and 7 hydrological automatic gauges). Centralized hydro-metric databases, with an automatic transfer of hydro-metric parameters, have been established within hydro-meteorological institutes. The importance of this activity is significant as there is no single automatic hydrological gauge downstream in the Vrbas River Basin, where flood risk is the highest. The Vrbas River Basin is the first basin in BiH with a centralized hydro-meteorological monitoring network with sufficient coverage. The integration and redesign of an existing, obsolete Water Information System has been completed. The system will enable the exchange of information among all three water agencies in Bosnia and Herzegovina, as well as provide access for the ministries of water management to the available information, testing of the system is currently in progress. It is important to mention that for the first time in BiH three water agencies agreed to exchange data within this restructured Water Information System. It is important to say that three commissions have been formed on BiH level since 2000, trying to establish mechanism for data exchange within water sector and all of them failed, while mechanism and methodology developed under this Project has been accepted by all three agencies and relevant ministries.

Output 2.4. Institutional capacity strengthening plan developed and targeted training on climate-induced flood risk management provided to at least 100 practitioners and decision-makers;

The current situation and future needs as well as requirements of sector institutions in relation to flood risk reduction capacities have been analyzed. The analysis has shown that the approach to flood is mostly retro-active and post-disaster oriented. There is no systematic approach towards risk reduction. On-the-job training has been provided for practitioners in the following areas: hydro-meteorological network operations and maintenance, use of Hydras software, hydrological and hydraulic modelling, flood mapping, water information system data management and use, as well as the use of early warning system equipment.

Outcome 3: New technologies and approaches for enhanced flood risk management applied to increase resilience of vulnerable communities in VRB

Output 3.1. Integrated land use and flood risk management plan for the VRB developed and non-structural measures implemented by local communities (through Output 3.2.), government and/or private sector

Farm level exposure and flood risk assessment has been done for the whole Vrbas River Basin and the results included into flood risk maps. An agro-forestation scheme for the Vrbas River Basin has been developed. It contains concrete proposals and will serve as a base for selection of agro-forestry measures. However, the project found out that the implementation price of agro-forestry measures is far above project budget e.g. the price of reforestation per hectare is approximately USD 3,000. Due to these high prices, implementation of agroforestry measures as defined in the project document has not started as yet. As implementation requires sufficient lead time, and the project has already covered half of its lifetime, project management is advised to pick up the respective works in due course.



The project conducted an analysis of a current situation regarding flood and natural disaster insurance in BiH, as well as a comparative analysis with other countries. Two round tables, where potential models for index-based and indemnity-based insurance schemes were presented to local stakeholders, were organized. Although this activity was very much supported by all involved stakeholders: relevant ministries, insurance agencies, private sectors (insurance companies), the main conclusions of these round tables also pointed out the main deficiencies regarding insurance sectors in BiH: low insurance take-up as citizens see the state/entity/municipality (i.e. public budget) as a body responsible to cover flood/natural disaster damages; insurance is hardly seen as flood risk management measure; insurance companies are not very motivated to sell premiums for this type of insurance as they cannot reach “profitable” number of customers; there are no historical data on previous flood damage such as flood depths recorded at objects, financial damage etc. It is very important to say that the Council of Ministers, with project support, recently initiated the establishment of a working group that should work on development of an insurance model for all-natural disasters.

The planned flood insurance scheme is particularly difficult in its design. Insurances generally live of the contribution of a large pool of subscribers that are equally at risk of a random hazard that hits selectively. So, in this way the large number of subscribers can cover the risk with relatively low premiums. In contrast, the hazard of flood is typically confined to specific areas that, if a flood hits, are prone to widespread damage and respectively broad scale insurance claims. Further it can be expected that only people with flood prone properties would sign up for a flood insurance. As a result, it is an unacceptable risk for the insurance who will not be able to spread the risk to a wide enough population and respectively offer an affordable premium. This situation can be mitigated by either broad spatial coverage overarching different river basins to spread the risks, or even better reinsurance schemes or substituted schemes as e.g. the National Flood Insurance Program in the United States. The scheme would in any case need to be designed to fit with the general setup of the national insurance industry, governmental-, as well as legal requirements in BiH.

As a similar case, the projected flood risk management planning has not yet been conducted as an unclear regulatory framework and non-existence of necessary laws is hindering implementation. The project is actively supporting institutional capacity development with the aim to improve the necessary regulatory and legal situation as a base for flood risk management planning.

In order to assure a participatory approach involving the local stakeholders, local municipalities were asked to identify non-structural flood risk management measures in their municipalities using a public call. Based on a primarily class of risk and cost-efficiency, ten projects were selected for implementing non-structural measures that will be financed through the project. An active role in project selection was given to water agencies, that are in charge for river basin management, to ensure an integral approach.

Output 3.2. Participatory community-based adaptation strategies, technologies and practices implemented in priority flood risk areas (e.g. community afforestation scheme on the flood plains; establishing locally controlled and managed flood zones; watershed rehabilitation works, etc.);

An extensive socio-economic survey has been undertaken to assess and quantify the value of property at the level of settlements by municipalities. Collected spatial socio-economic data were integrated into flood hazard maps in order to produce vulnerability maps with estimates of damages and casualties. The project has developed a methodology for gender disaggregated data collection within a flood risk assessment. A study regarding vulnerability of females to floods in Vrbas River Basin has been completed and another module of flood loss and damage modelling will be set up to take these data into consideration. Analysis shows that, out of total number of females, a large percentage is exposed to flood risk, at home and the work place/school (71%). Within upcoming project activities that will focus on local communities, special attention will be paid to capacity building of females in order to address flood risk challenges. Municipality-level flood response and preparedness plans will be fully engendered.

A Community engagement, mobilization and sensitization strategy has been developed. It sets out the general community engagement steps for each of the stages of community involvement throughout the project. Participatory GIS, as a means of integrating local community information into the assessments of flood risk has been developed and added to the geoportal. Its introduction to local municipalities started in September 2017.

3.3. Local communities (particularly women and refugees) trained to implement and maintain flood resilient non-structural intervention measures, including agricultural practices such as agro-forestry, to improve livelihoods of 13 communities in the VRB, and community-based flood early warning systems;

Training for communities on roles and responsibilities during flood emergency and for the first and second responders is in progress.

3.4. Early warning system in VRB modified to include the new hydrometric monitoring network as part of a fully-integrated flood forecasting system (comprised of centrally-based and community-based early warning systems). Municipal-level flood response and preparedness plans prepared and implemented.

Based on the developed ToR for the Flood Forecasting and Early Warning System as well as existing hydro-meteorological monitoring data, geographical and demographic characteristics, the project, together with Civil Protection representatives have identified, purchased and installed early warning system equipment in municipalities in the Vrbas River Basin. The equipment consisting of 8 sirens, 140 hand radio stations, 28 mobile radio stations, 14 fixed- and vehicle stations. The equipment has been distributed to 14 municipalities in Vrbas River Basin and entity and cantonal civil protection units.

Confirmation of the institutional set-up for the flood forecasting and early warning system has been obtained despite the fact that institutional fragmentation remains the main obstacle to meaningful cooperation and consolidation of main stakeholders around the project aims in the water sector. This issue is to be overcome by creation of the first FFEWS platform in BiH, that will be placed in water agencies and by clear definition of roles of all relevant institutions in FFEWS. Hydrological and hydraulic models for flood forecasting have been developed and may require minor adjustment depending on selected FFEWS platform.

The project is spending significant efforts for aligning its activities with other projects in the area of flood risk management in BiH. The WBIF project "Flood Hazard and Flood Risk Maps Development" took off in April 2017 (almost 2.5 years after initially planned) and, as requested by the Project Board, the project provided all available documentation (LiDAR survey, maps developed for Vrbas River Basin) to them. Also, developed models have been forwarded to the International Sava River Basin Commission for their hydrological modelling efforts, etc. Further coordination of activities on development of Flood Risk Management Plans (FRMP) is required due to the fact that the adoption of FRMP is not clearly defined in the local legislation in BiH and the European Commission has, via IPA 2016, provided funds for development of flood risk management plans for the whole country. The starting date of this undertaking is not known as yet, as the development of the plans depends on completion of the flood hazard and risk maps. It is estimated that development of the FRMPs for the rest of the country will not start before 2020. These factors pose a critical risk to further activities related to flood risk management plan development. The project will continue working with its partners in order to agree on basins for which FRMPs can be developed and will further pursue development of a FRMP for the Vrbas River Basin, to function as a pilot for the rest of the country, regardless of the starting time of the IPA 2016 project.

Observations during the MTR mission as well as based on the review of documents and feedback from stakeholders show that the technical output that the project produces are excellent and practical considering the project context as well as stakeholder and beneficiary capacity and needs. The results respectively serve the actual needs of the population affected by flooding as well as improving the capacity and the ability of the involved stakeholders to act. Shortcomings have been explained in previous sections, particularly considering the development of a flood insurance scheme and implementation of the agro-forestry measures. For the remainder of the project it will further be necessary to focus on implementing flood risk management planning and to install the required technical, managerial and institutional prerequisites with the stakeholder institutions to sustainably carry on with flood risk management activities after project end.

Overall, progress towards results is rated as: Highly Satisfactory (HS)

Justification for project rating for each outcome has been given in the section below, explaining progress towards outcomes and outputs.

Matrix of Assessing Progress Towards results

Green= Achieved	Yellow= On target to be achieved	Red= Not on target to be achieved
-----------------	----------------------------------	-----------------------------------

Project Strategy:	Description of Indicator	Baseline Level	Target level at end of project	Progress at MTR
<p>Project objective: To transfer technologies for climate resilient flood management in order to increase resilience of highly exposed rural poor, returnee and displaced persons communities in Vrbas River Basin</p>	<p>Number of new technologies transferred to BiH as part of a methodology for strategic FRM</p> <p>AMAT indicator 3.1.1.1</p> <p>Type of adaptation technologies transferred to the target groups.</p>	<p>Limited institutional capacity and technologies in use for strategic FRM in BiH</p>	<p>At least 5 new technologies introduced (hydrological and hydrodynamic modelling, state-of-the-art monitoring equipment, flood forecasting and early warning systems, flood damages and losses modelling and vulnerability assessment, and a number of non-structural flood management technologies to BiH)</p>	<p>Implementation of new technologies is continuing according to project workplan</p> <ol style="list-style-type: none"> <li>1. Hydro-meteorological network consisting of 7 hydrological, 2 meteorological and 20 rain gauges is operational.</li> <li>2. Climate change model for Vrbas River Basin has been developed.</li> <li>3. Hydrological and hydrodynamics models (including 2D model for the whole basin) have been completed. Hydrological modelling included climate change scenarios.</li> <li>4. Hydrological and hydraulic models for flood forecasting have been completed. Setting up of flood forecasting and early warning system will be finalized next year.</li> <li>5. Vulnerability assessment, including gender segregated data, has been completed. Flood depth-damages curve has been developed.</li> <li>6. Flood hazard and risk maps have been developed.</li> <li>7. Torrents register and torrential flood susceptibility model developed.</li> <li>8. Non-structural measures have been partly implemented (physical interventions and warning system are in progress) while others face challenges (insurance scheme) based on the particularities in BiH. Project management is aware of the problems and working on solutions.</li> </ol>

	VRB (12% of BiH territory) covered by an automated hydrometric monitoring network for effective flood forecasting and early warning	Hydrometric stations currently cover 50% of the area required for FFEWS for VRB	The VRB (i.e.12% of BiH) covered by a Hydrometric network that provides the optimal coverage required for FFEWS	Automated hydrometric monitoring network has been established in Vrbas River Basin, which makes it the first river basin in Bosnia and Herzegovina with a sufficient hydro-meteorological network coverage. Data collection and processing has been centralized and is taking place in hydro-meteorological institutes.
Outcome 1: Key relevant development strategies/policies/legislations integrate climate change resilient flood management approaches	AMAT Indicator 3.2.1 Policy environment and regulatory framework for adaptation related technology transfer established or strengthened	1: No policy/regulatory framework for adaptation related technology transfer in place	4: Policy/regulatory framework for adaptation related technology transfer have been formally adopted by the Government but have no enforcement mechanisms	<p>The project has reviewed existing legislation, policies strategies and plans and identified all sectors of relevance to flood risk. Entry points in the main legislations (law on waters, water management strategies, law on agricultural land, law on spatial planning) for introducing Climate Change considerations have been identified. Amendments to the Water Law, transposing EU flood directive have been approved by the Government and is awaiting national assembly adoption. Preparation of by-laws identifying clear institutional roles in hydro-meteorological data flow, flood forecasting and early warning system is in progress. Development of flood zoning policy has been initiated.</p> <p>Challenges have been identified with gaps in required regulations and legislation for flood risk management plans and insurance schemes. The project will continue working with the partners in order to clarify basin levels for which FRMP can be developed and will further pursue development of FRMP for Vrbas River Basin, as a pilot for the rest of the country. Also, a flood insurance scheme model applicable for Bosnia and Herzegovina will be developed.</p>

	No, of Adaptation technology solutions for climate resilient flood management (CRFRM) enabled for implementation	0: Document codifying standard methodologies and procedures for climate resilient flood risk management (CRFRM)	At least 10 guidance documents produced on climate resilient flood risk management topics	Flood risk modelling and mapping methodology has been developed and adopted by local institutions. Guidance for the development of a centralized flood forecasting and early warning system has been drafted. Draft operational and maintenance plan for hydrometric stations has been completed. Guidance to use PGIs and geoportal has been developed.  Ongoing progress of activity to be monitored
Outcome 2: Climate resilient flood risk management is enabled by transferring modern technologies and strengthening institutional capacities	AMAT Indicator 3.2.2: Strengthened capacity to transfer appropriate adaptation technologies	1: Very few professionals are aware of adaptation technologies	3: High capacity achieved (>75%). Provision of models, information systems, tools and training in the use of these to professionals, on various aspects of climate adaptation technologies	Professionals in hydro-meteorological institutes and water agencies have received trainings on hydrometric monitoring. Hydro-meteorological institutes and water agencies professional have been included in and have received on-work training in hydrological and hydraulic modelling. Geodetic experts have been involved and trained in interpretation of LiDAR survey. Professionals from water agencies and relevant ministries have been receiving continuous training in water information system (data entry, analysis etc.). Members of civil protection units have been trained on how to use early warning system equipment.  Ongoing activity that will require significant efforts throughout the implementation period
	No, of institutions enabled to modify risk management strategies based on introduced vulnerability, loss and damages	Most of the socio-economic information required to assess flood damages, losses, exposure and vulnerability is	GIS-based flood damages, losses and vulnerability assessment tool developed for VRB and systematic socio-economic survey	Project spatial data infrastructure, in line with the EU INSPIRE directive has been developed. Development of GIS-based flood damages, losses and vulnerability assessment in progress. Available data have been collected and digitized. Lidar geodetic survey of flood risk areas, as identified in preliminary flood risk assessment, have been completed. Completed flood hazard and risk maps have been entered in the project geoportal. Socio-

	assessment and improved hydrometric monitoring technologies	not currently available and is not collected systematically and gender-disaggregation of data not systematically done.	methods established and implemented for VRB and introduces sex-disaggregated data collection protocols and methods	<p>economic survey in the Vrbas River Basin has been completed and it includes vulnerability assessment for women in flood risk areas in VRB.</p> <p>Institutions have been enabled with capacity proven through project implementation though with a need for further exposure and experience over the remaining project period</p>
Outcome 3: New technologies and approaches for enhanced flood risk management applied to increase resilience of vulnerable communities in VRB	No. of people in target basin benefitting from FRM adaptation technologies, tools, and adaptation strategies, and are less exposed to flood risk	Current approach limited of inclusion of local communities, and particularly the vulnerable groups	At least 5 technologies transferred to 13 communities in community-based adaptation measures	<p>Participatory GIS, as a means of integrating local community information into the assessments of flood risk, has been developed as part the GIS-based socio-economic tool. Introduction of PGIS in municipalities is in progress. Community engagement, mobilization and sensitization strategy has been developed. It sets out the general community engagement steps for each of the stages of community involvement throughout the project. Hydrological and hydraulic (1D and 2D) models for the whole basin have been developed for the purpose of flood mapping. Hydrological models have been transferred to and are being operated by hydro-meteorological institutes and hydraulic models are handed over to water agencies. Flood hazard and risk maps have been handed over to water agencies and municipalities. Hydrological and 1D hydraulic models have been adjusted for the purpose of flood forecasting and early warning system. Flood depth-damage curve has been developed. Water information system has been upgraded and includes a platform for exchange of data among water agencies.</p> <p>Main tools for implementing new technologies have been implemented and respective trainings conducted. Further exposure of beneficiaries is</p>

				needed for ensuring sustainability. Community participation and involvement is excellent. Management and Modelling capacity in country is significantly improved though further exposure and on-the-job training is required for full sustainability
	No, of innovative non-structural measures introduced and implemented as part of climate adaptation strategies to provide improved resilience to communities (include agric.	Current approach to FRM is structural flood protection measures	Non-structural measures designed and implemented in 13 municipalities by 2020  At least 4,200 hectares of agric. land protected by non-structural measures (e.g. floodplain agro-forestry to be implemented on at least 840 hectares)	The first set of 10 non-structural measures in 7 municipalities has been selected. Implementation is to start in August 2017. Identification and selection of measures has been based on flood hazard and risk maps.  Applicable and practical ways forward for the flood insurance model have been discussed. A final decision on the way forward is outstanding
	No of communities benefitting from introduced forecasting, early warning, response and recovery technologies to support local	FFEWS system currently disjointed and not fully electronically based	Fully integrated flood forecasting and early warning system implemented in VRB	Hydro-meteorological network in Vrbas River Basin has been established and real-time data transfer is enabled. Hydrological and hydraulic model for flood forecasting have been completed and selection of platform is in progress.



	communities at risk of flooding			
--	---------------------------------	--	--	--

### 4.3 Project Implementation and Adaptive Management

The project management team has built an effective management structure both considering the steering committee as well as through interaction with direct stakeholders and beneficiaries. During discussion with stakeholders, project management was praised as excellent considering all aspects of project applicability, progress and involvement. Decision making is transparent with stakeholders feeling involved and project reporting is in place and on time. The project team itself is well coordinated and complementary in their skills and responsibilities as well as well connected with stakeholders and beneficiaries.

Project objectives are being implemented through selected implementing partners with the support of a technical assistance team. Tasks have been well tackled so far and the partly previously less experienced implementing partners have gained experience through exposure and cooperation with the technical assistance team. While their skills and capacity has been improved care should be taken to further involve them to assure continued exposure and, in that way, promoting sustainability of the achieved capacity improvement. All interviewed implementing partners have shown a good understanding of their tasks and confirmed good cooperation with the technical assistance team and project management. The implementing partners are aware of the need for further exposure and consolidating capacity. A current limiting factor may also be the limited number of involved staff on the side of the implementing partners so that staff fluctuation may lead to serious loss of capacity. Products developed and delivered by the implementing partners have been derived with support, and/or reviewed by the technical assistance team, ensuring the required quality.

The project took an adaptive management approach from its start. During the donor coordination meeting held in 2015 and organized by the Ministry of Foreign Trade and Economic Relations and attended by representatives of UNDP, as well as EC, WB, EIB, SIDA and the International Sava River Basin Commission, a special focus was put on activities which need coordination and uniformity throughout the country, such as flood hazard and risk maps development and establishment of early warning system. Considering that at the time the WBIF funded project for flood hazard and flood risk mapping was almost a year late, and that it was not very likely to start shortly after the donor meeting, it was decided that, in addition to cross-section surveys, the project was to undertake a LiDAR survey of the VRB (Activity 2.1. of the Project Document). In that way, compatibility with the WBIF project was ensured and duplication of efforts and inconsistent products avoided. At the same time delay in the project implementation did not take place. This was done under existing budget anticipated for topographic survey.

An adaptive management aspect that has also been taken up by the project management team is the need to change the approach of the planned flood insurance schemes to a more practical approach applicable in BiH. The necessary adjustments are currently being discussed but given the complexity of implementing new insurance schemes, project management is advised to spend serious efforts on achieving results that are acceptable by all involved stakeholders. A critical aspect is the implementation of flood risk management plans for which it has been reported that the problems are related to missing regulatory and legal frameworks and hence are outside the control of the project. Project management is advised to continue supporting the government to work towards enabling legislation as a base for future flood risk management planning.

## Work planning

Considering project progress and stakeholder satisfaction, work planning through the project management team is excellent, especially also ensuring full transparency and using participatory and result based approaches with the beneficiaries. The approach ensures ownership which was positively highlighted in all interviews. The project activities have been carried out in line with the AWP with significant efforts made to align project activities with other flood risk management projects in the country as well as developing pilot examples for hydrological and hydraulic modelling, flood hazard and risk mapping, and flood forecasting and early warning systems.

The project is mostly on target regarding its implementation status, the results framework has been used for assessing project progress during the scheduled project implementation reviews.

## Finance and co-finance

The project finances are managed well, and no issues were apparent during the MTR. 1,425,485 USD or about 28% were spent in 2015 and 2016. Anticipated budget for 2017 is 1,274,419 USD, out of which 85% were spent till 20 Nov 2017. The planned spending for 2018 show 1,628,345 USD. The recorded as well as planned spendings are within budget and plausible given the overall project budget and implementation rate. Strong control over the budget by the project management is seen in project budget balance reports i.e. planned vs. disbursed funds, and budget revisions which are made to best suit project needs, but also stay within lines of budgeting guidelines.

GEF Outcome/Atlas Activity	AWP Year 1	Disbursement Year 1	Difference Year 1	AWP Year 2	Disbursement Year 2	Difference Year 2
Outcome 1	91,000	77,555	13,445	177,400	172,507	4,893
Outcome 2	362,000	354,811	7,189	508,400	497,455	10,945
Outcome 3	30,700	22,020	8,680	250,500	219,121	31,379
Outcome 4 - PM	33,200	32,273	927	54,111	49,744	4,373
Total	516,900	486,659	30,241	990,411	938,827	51,590

The project budget is reviewed bi-annually with the last revision conducted on 30. October 2017, showing a total project budget of 5,282,140 USD, i.e. 282,140 USD additional funding added to the original 5,000,000 USD project budget. This additional funding is municipal contributions for implementation of flood risk measures. These contributions have been sought to show municipal ownership and commitment for implementation of measures, as well as their ability to provide further maintenance of implemented flood risk management measures.

Municipality	Amount (BAM)
Laktasi	120,000.00
Srbac	20,926.17
Kotor Varos	43,842.75

Knezevo	12,264.90
Bugojno	95,971.24
Gornji Vakuf	32,996.97
Banja Luka	150,000.00
<b>Total</b>	<b>476,002.03</b>

Co-financing is provided as per the project document (PIMS) Annex 2 as follows.

Source of co-financing	Name of co-financier	Type of co-financing	Amount of co-financing	Invested during the period 2014-2017
National government	Ministry of Agriculture, Forestry and Water Management of Republic of Srpska	Cash	approx. 75,000,000 USD	BAM 67,913,932 app 41,950,000 USD
Multilateral agency	Sava River Basin Agency, Sarajevo	Cash	approx. 700,000 USD	BAM 1,142,443 app 705,650 USD
Multilateral agency	UNDP BiH, Sarajevo	Cash	1,500,000 USD	1,500,000 USD
<b>Total co-financing</b>			<b>approx. 77,200,000 USD</b>	

Co-financing letters are included in Section 6.8.

#### Project-level monitoring and evaluation system

The monitoring and evaluation work plan has been sufficiently budgeted and in line with standard UNDP procedures and SCCF (GEF) requirements. AWP's have been developed by the project staff and confirmed by the Project Board. PIR's have been confirmed by the Project Board and GEF operational focal point. A Regional Technical advisor is playing an important role in the quality control and provide critical and regular input, particularly on the technical reports and papers produced.

A project inception workshop was conducted and included all key stakeholders and role players. Involvement of the stakeholders continued throughout the project implementation leading to a strong sense of ownership of the project by the national partners. This is an important element contributing to the long-term sustainability of the project. The project inception report included the technical methodology, updated risk- and assumption tables, terms of reference for the main international experts and subcontractors, and also pointed out the need- and identified activities necessary for stakeholder coordination.

Two project implementation reviews (PIR) were conducted in 2016 and 2017. Both PIRs have rated the project to be on-track with its activities. PIR presented progress was discussed with stakeholders and has shown to be realistically described. MTR also confirmed the risks explained in PIR's.

A risk log has been regularly updated in ATLAS. Risk and assumptions were revised during project inception period. During MTR increase for prioritization of the risk: *Underestimation*

*of project scope and requirements*, has been suggested due to issues of flood risk management planning, flood insurance scheme and costs of agro-forestry measures. These implementation challenges are identified and elaborated on in sections 4.2. and 5. and are being worked on jointly by the project and government.

High quality of the risk management has been shown by project approach towards risk which were prioritized as high in the Project document and at the inception phase:

- Risks a) *Failure to identify key data sets. Delays in collecting essential data for the project. Risk of essential data not being available or to the quality or accuracy needed* and b) *Delays in availability of historical data, survey data leading to delays in starting the technical studies and modelling* have been overcome by undertaking detailed data requirements and data identification (identifying all sources), assisting local institutions in data digitalization, verification and analysis. Where data were not officially available (e.g. historical flood damage, land use, crop cultures etc.), data were collected on the field, from people who did assessments etc. Data collection was enforced within local institutions (hydro-meteorological institutes, water agencies, civil protection etc.), data quality issues were raised. Local institutions recognized this need and led the process of data improvement. Overcoming this risk has required and still requires huge efforts by both project staff and local institutions.
- A risk *Failure to reach agreement on new policy frameworks* still remains (e.g. development of the flood risk management plan) and will remain till the end of the project. So far, the project is managing this risk by involvement of all relevant institutions, active work of inter-agency working group and government ownership, also via strong inclusion of the Project Board.
- A risk *Unforeseen delays in undertaking essential surveys due to weather/access issues* was overcome by proper planning to maximise favourable weather conditions.
- A risk *Adverse climatic conditions may also pose risks to workforce health and safety, or damage adaptation measures being implemented* has been overcome by selection of contacts with high level of health-safety protocol for their employees.

UNDP Country Office Verification Missions have been conducted and a post-facto assessment of the CO projects' adherence to the basic UNDP rules and regulations took place in Mar 2017. The Mission covered operational activities of the project in the period 1 January to 31 December 2016.

### Verification Mission Summary:

#### Ratings:

Verification Mission Areas	Not assessed/not applicable	Unsatisfactory	Partially satisfactory	Satisfactory
HR				
IC management	N/A			

Leave monitoring				satisfactory
International travel				satisfactory
<b>Finance</b>				
Hospitality	N/A			
Travel				satisfactory
Timely payments, Purchase order closure, etc.				satisfactory
<b>General Services</b>				
Procurement< US\$ 2,500				satisfactory
Procurement in general				satisfactory
Transportation				satisfactory
Inventory/Assets				satisfactory
<b>Project support</b>				
Filing				satisfactory
Budget revisions, Monthly disbursement plans, DPs, AWP				satisfactory
Atlas project management and reporting			partially satisfactory	
Result Based Management aspect of Atlas PM				satisfactory

#### GEF Tracking Tool for Climate Change Adaptation Projects

In addition to the results framework the project is monitored using the GEF tracking tool. Due to changes made in the tool between the old version used during the project preparation phase and the new version, comparison is not directly possible, as the tool has been revised completely in its structure, now containing 14 indicators and 4 questions. The new tracking tool is annexed in a separate file. Project management has selected indicators 1, 6, 7, 8, 10 and 13 as the most appropriate to reflect project progress. MTR agrees with the selected indicators and advises further monitoring of the same.

#### Stakeholders

Stakeholders have been specifically interviewed during the MTR in order to obtain information regarding stakeholder involvement and ownership. Stakeholders confirmed that the project has an excellent track record of stakeholder engagement starting from project design through implementation with periodic steering committee meetings taking place and stakeholders and beneficiaries on all levels being involved in the definition of detailed project details and decision making, which is well appreciated and leading to an excellent ownership mentality and support of project activities from local-, entity- and national government side.

The steering committee (Project Board) plays an integral part in managing the Vrbas project, with periodic meetings taking place twice a year including reporting on progress as well as on planned activities. The interviewed steering committee members confirmed good cooperation and involvement in project management aspects.

### Reporting

Project reporting has been conducted as planned, showing good quality and depth.

### Communication

Communication in the project has been reported as excellent by interviewed stakeholders on all levels. The steering committee is fully involved in processes and interviewed entity as well as municipal institutions expressed their full satisfaction with project communication, contributing in full ownership on beneficiary side and respective sustainability. Communication is regular and effective.

Overall, project implementation and adaptive management is rated as: Highly Satisfactory (HS)

## 4.4 Sustainability

Given the excellent stakeholder- and beneficiary involvement in the project, ownership and sustainability of project interventions during the project implementation period are rated as moderately likely. In addition to the institutional involvement and ownership the project design regarding capital investments (i.e. the project providing the necessary capital investments) as well as the confirmed commitment of the government and benefitting institutions allows to assume that long term sustainability of the project beyond the project end date is a strong interest of the government institutions.

### Financial risk to sustainability

Financial capacity to operate and maintain the implemented improvements may anyhow be problematic in the long term. Despite this fact government stakeholders have in addition voiced interest in upscaling project results, though depending on funding opportunities. Before taking this step, a strategy for long term financial sustainability beyond donor involvement needs to be defined.

Particularly, finding ways for building up funds for operation and maintenance of the implemented improvements, maintenance and improvement of hydro-meteorological

network and flood forecasting and early warning system and moreover, maintaining and replacing capital investments will be a challenging requirement for the involved government institutions to ensure long term sustainability. This is currently not given but the problem is identified. Stakeholders have clearly voiced that currently there is no budget available for long term capital intensive maintenance as well as suitable staffing and that legal adjustments and suitable funding sources would be necessary to allow for sustainable financing. Although this issue is yet to be systematically resolved, there is a certain progress recorded. With project advocacy, the amount of BAM 50,000 has been allotted to the Hydro-Meteorological institute for network maintenance for the year 2018. This amount is certainly not enough but represent a good start. Understanding the importance of the FFEWS, water agencies have signed a cost-sharing agreement with UNDP to co-finance 30% of the FFEWS set-up. This certainly shows their will and ability to take over the functioning of the system and assure its sustainability. Tackling long-term sustainability before project closure is therefore a major requirement and will be a major benefit for long term financial sustainability. Given the populations memory of the recent devastating flood events, this may be an opportune time to develop accepted public funding mechanisms including the necessary legal and fiduciary instruments for long term financing.

#### Socio-economic risks to sustainability

The project is properly documenting its results and lessons learnt, all project activities are continually shared with and handed-over to authorized institutions, thus making socio-economic risk insignificant.

#### Institutional framework and governance risk to sustainability

All project activities are done in line with the existing regulatory framework. Activities which support legal and policy changes are done with significant involvement of relevant stakeholder, ensuring that final products are institutionally supported. Technical knowledge transfer is constantly ongoing, during as well as after activity completion, with e.g. technical staff in water agencies receiving continued training on modelling and water information system utilization.

#### Environmental

There is no environmental risk to project sustainability.

Overall project sustainability is rated as: Moderately Likely (ML)



## 5 Conclusions and Recommendations

The Technology Transfer for Climate Resilient Flood Management in Vrbas River Basin project is innovative, ground-breaking and ambitious. It has created a precedent in river basin management in Bosnia and Herzegovina and has laid the foundations for a more robust, and efficient management of climate change adaptation measures for flood risk management in BiH. It responds to the needs at state-, entity- and local levels and contributes to developing capacities to enable the country to adapt to climate change and develop its resilience. The project is implementing good practices that need to be maintained and up-scaled.

The project is being implemented in the Vrbas River Basin, while approaches, the developed methodologies and specifically the lessons learned are of significant value also in other basins in the country. The project results therefore will be good practice examples for any upscaling endeavors as already requested by the government. Further, it is likely that political consensus for the required legislation as the base for the planned flood risk management planning and flood insurance may take its time so that full impact of these activities can only be achieved in a successive project.

Upscaling in this regard needs to take into account the specific contexts in the different basins in BiH and consider these in any planning approach, requiring a detailed situational analysis and adaptation of the approaches, methodologies and solutions to the specific needs. It is recommended that a guideline for upscaling as well as for adaptation is being developed for the different main project activities, specifically also describing the needs assessment to capture economic, social, institutional, legal and technical as well as capacity related conditions and requirements in other basins as they may vary from the Vrbas River basin. The best approach for upscaling will be via development of a project proposal that will focus on replication of lessons learnt and results achieved within the current project. Adaptation approaches can e.g. be found in "Managing Extreme Flood Events – Analyzing, forecasting, warning, protecting and informing - case studies from the RIMAX projects". 2009. G. Petersen, UNESCO-IHP/WMO-HWRP Series 9, ISSN 1614-1180. The publication specifically describes what to consider for adapting and scaling flood management approaches to other situations.

The upscaling will in addition be useful to consolidate project results and provide more exposure to involved stakeholders. Knowledge transfer in-between stakeholder groups can be utilized and facilitated building significant in-country capacity. An important aspect in considerations for upscaling will anyhow be the financial requirements for BiH to operate and maintain an even larger upscaled flood risk management system in the country in a sustainable manner. Also, in this context, less budget intensive approaches considering the "living with floods" concept may be chosen over capital intensive or maintenance intensive solutions.

For broader exposure and learning experience it may in addition be very beneficial to conduct regional workshops with UNDP projects from other countries where flood risk management strategies and works have been implemented.

As already mentioned at the time of the MTR, all indicators are on target to be achieved with several potential issues identified for implementation of future activities. Relevant and necessary adjustments to the project outputs / outcomes as e.g. to adjust to the delay in

development of the flood risk management plan, insurance approach and implementation of agro-forestry measures, are considered practical necessities that require adaptation and not barriers.

1. Flood risk management planning: The project should continue supporting development of by-laws regulating development of the flood risk management plan and continue with development of the Vrbas River Basin flood risk management plan as a pilot for the rest of BiH. The project is on good track to do so and pending political and Project Board consensus, the development of the flood risk management plan using a methodology that can be replicated in other river basins in the country should be initiated.

2. Implementation of agro-forestry measures should be explored in a way that beneficiaries are directly involved and carry out part of the job which can be done with their own efforts e.g. the project can provide seedlings to municipalities or farmers for planting.

3. Development of insurance model enjoys full support from local authorities who understand a need for this, as it is the best way to take *ex-ante* approach and take off the burden of flood recovery from public budget. The approach is fully supported by insurance companies, as they see it as a business opportunity which they cannot utilize if the current status quo remains. It is evident that index-based insurance can currently not be applied in BiH as it would require major law changes starting with obligatory law. BiH regulations state that damage can be paid only if proven that it actually took place and to the extent determined, which is contrary to index-based insurance approaches, according to which compensation is to be paid if certain hydro-meteorological triggers are met. The MTR suggests developing insurance models with applicable tariffs to be discussed with stakeholders. Simulation of the model can be initiated in pilot municipalities. The application of "solidarity" principles is to be explored to ensure necessary insurance take-up and to avoid putting a burden on the most vulnerable.

A recommendation table is included into section 1.5.



## 6.1 MTR ToR (excluding ToR annexes)

### 1. INTRODUCTION

This is the Terms of Reference (ToR) for the UNDP-GEF Midterm Review (MTR) of the *full or medium-sized* project titled *Technology Transfer for Climate Resilient Flood Management in Vrbas River Basin* (PIMS#5241) implemented through the *United Nations Development Programme*, which is to be undertaken in 2017. The project started on the *23 April, 2015* and is in its *third* year of implementation. In line with the UNDP-GEF Guidance on MTRs, this MTR process was initiated before the submission of the second Project Implementation Report (PIR). This ToR sets out the expectations for this MTR. The MTR process must follow the guidance outlined in the document *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* ([http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance\\_Midterm%20Review%20EN\\_2014.pdf](http://web.undp.org/evaluation/documents/guidance/GEF/mid-term/Guidance_Midterm%20Review%20EN_2014.pdf)).

### 2. PROJECT BACKGROUND INFORMATION

“Technology transfer for climate resilient flood management in Vrbas River Basin” is a 5-year SCCF (Special Climate Change Fund) funded USD 5 mil project, which started in April 2015.

The Project will enable the government of Bosnia and Herzegovina and communities of the Vrbas basin to adapt to flood risk through the transfer of adaptation technologies for climate resilient flood management and embark on climate resilient economic activities.

The project will enable strategic management of flood risk through the legislative and policy framework and appropriate sectoral policies and plans that incorporate climate change considerations. In order to develop institutional and local capacities in Flood Risk Management (FRM) the project aims to:

- upgrade and rehabilitate hydrometric monitoring network,
- develop flood risks and flood hazard maps for the Vrbas river basin,
- develop a flood forecasting system and early warning system,
- develop Flood Risk Management plan for Vrbas river basin,
- develop emergency response plans, and provide trainings in flood-specific civil protection,
- provide targeted training on FRM to practitioners and decisions makers,
- prepare institutional capacity development plan for the long-term development of capability and capacity in Flood Risk Management,
- implement non-structural interventions in municipalities of the Vrbas river basin,
- provide training to local communities in climate resilient FRM, and introduce community-based early warning systems,
- prepare and implement municipal-level flood response and preparedness plans,
- implement agro-forestation scheme
- introduce financial instruments such as index-based flood insurance and credit deference schemes as a means of compensating for flood damages for agriculture.

Bosnia and Herzegovina (BiH) is a middle-income country which is still recovering from the 1992-1995 war which had a devastating impact on its human, social and economic resources, leading to enormous challenges of the post-war reconstruction and economic and social recovery. This challenge has been further compounded by the transition towards market economy requiring structural reforms and improved governance. The slow rate of the post-war economic recovery of Bosnia and Herzegovina has been compounded by the negative impacts of climate change on key sectors such as agriculture, energy (hydropower), the environment and, in particular, the frequency and magnitude of flood disasters, which have tripled in frequency in the last decade. In May 2014, Bosnia and Herzegovina experienced its worst flooding in 150 years which resulted in 23 deaths and \$2.7 Billion USD worth of damages which is 15% of

GDP, and is expected to result in a 1.1 percent contraction in the economy this year, compared to the growth of 2.2 percent that had been predicted before the flood.

BiH is significantly exposed to the threats of climate change, but has very limited capacity to address and adapt to its negative impacts, in particular the frequency and magnitude of floods from its major rivers. The Vrbas River basin is characterized by a large rural population comprised of the poorest and most vulnerable communities in BiH, including war returnees and displaced people, with high exposure to flooding and its devastating impacts.

### 3. OBJECTIVES OF THE MTR

The MTR will assess progress towards the achievement of the project objectives and outcomes as specified in the Project Document, and assess early signs of project success or failure with the goal of identifying the necessary changes to be made in order to set the project on-track to achieve its intended results. The MTR will also review the project's strategy, its risks to sustainability.

### 4. MTR APPROACH & METHODOLOGY

The MTR must provide evidence based information that is credible, reliable and useful. The MTR Consultant will review all relevant sources of information including documents prepared during the preparation phase (i.e. PIF, UNDP Initiation Plan, UNDP Environmental & Social Safeguard Policy, the Project Document, project reports including Annual Project Review/PIRs, project budget revisions, lesson learned reports, national strategic and legal documents, and any other materials that the team considers useful for this evidence-based review). The MTR Consultant will review the baseline GEF focal area Tracking Tool submitted to the GEF at CEO endorsement, and the midterm GEF focal area Tracking Tool that must be completed before the MTR field mission begins.

The MTR Consultant is expected to follow a collaborative and participatory approach<sup>4</sup> ensuring close engagement with the Project Team, government counterparts (the GEF Operational Focal Point), the UNDP Country Office(s), UNDP-GEF Regional Technical Advisers, and other key stakeholders.

Engagement of stakeholders is vital to a successful MTR.<sup>5</sup> Stakeholder involvement should include interviews with stakeholders who have project responsibilities, including but not limited to (*list*); executing agencies, senior officials and task team/ component leaders, key experts and consultants in the subject area, Project Board, project stakeholders, academia, local government and CSOs, etc. Additionally, the MTR Consultant is expected to conduct field missions to Bosnia and Herzegovina including the following project sites (*Banja Luka, Sarajevo, Vrbas river basin municipalities*).

The final MTR report should describe the full MTR approach taken and the rationale for the approach making explicit the underlying assumptions, challenges, strengths and weaknesses about the methods and approach of the review.

### 5. DETAILED SCOPE OF THE MTR

The MTR Consultant will assess the following four categories of project progress. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for extended descriptions.

#### i. Project Strategy

##### Project design:

- Review the problem addressed by the project and the underlying assumptions. Review the effect of any incorrect assumptions or changes to the context to achieving the project results as outlined in the Project Document.

---

<sup>4</sup> For ideas on innovative and participatory Monitoring and Evaluation strategies and techniques, see [UNDP Discussion Paper: Innovations in Monitoring & Evaluating Results](#), 05 Nov 2013.

<sup>5</sup> For more stakeholder engagement in the M&E process, see the [UNDP Handbook on Planning, Monitoring and Evaluating for Development Results](#), Chapter 3, pg. 93.

- Review the relevance of the project strategy and assess whether it provides the most effective route towards expected/intended results. Were lessons from other relevant projects properly incorporated into the project design?
- Review how the project addresses country priorities. Review country ownership. Was the project concept in line with the national sector development priorities and plans of the country (or of participating countries in the case of multi-country projects)?
- Review decision-making processes: were perspectives of those who would be affected by project decisions, those who could affect the outcomes, and those who could contribute information or other resources to the process, taken into account during project design processes?
- Review the extent to which relevant gender issues were raised in the project design. See Annex 9 of *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for further guidelines.
- If there are major areas of concern, recommend areas for improvement.

Results Framework/Logframe:

- Undertake a critical analysis of the project’s logframe indicators and targets, assess how “SMART” the midterm and end-of-project targets are (Specific, Measurable, Attainable, Relevant, Time-bound), and suggest specific amendments/revisions to the targets and indicators as necessary.
- Are the project’s objectives and outcomes or components clear, practical, and feasible within its time frame?
- Examine if progress so far has led to, or could in the future catalyse beneficial development effects (i.e. income generation, gender equality and women’s empowerment, improved governance etc...) that should be included in the project results framework and monitored on an annual basis.
- Ensure broader development and gender aspects of the project are being monitored effectively. Develop and recommend SMART ‘development’ indicators, including sex-disaggregated indicators and indicators that capture development benefits.

**ii. Progress Towards Results**

Progress Towards Outcomes Analysis:

- Review the logframe indicators against progress made towards the end-of-project targets using the Progress Towards Results Matrix and following the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects*; colour code progress in a “traffic light system” based on the level of progress achieved; assign a rating on progress for each outcome; make recommendations from the areas marked as “Not on target to be achieved” (red).

Table. Progress Towards Results Matrix (Achievement of outcomes against End-of-project Targets)

Project Strategy	Indicators	Baseline	Targets End of Project	Source of verification	Risks and Assumptions
<b>Project Objective:</b>	Number of new technologies transferred to BiH as part of a methodology for strategic FRM	Limited institutional capacity and technologies in use for strategic FRM in BiH	At least 5 new technologies introduced (hydrological and hydrodynamic modelling, state-of-the-art monitoring equipment, Flood	Project monitoring reports and final evaluation  Survey of Adopted policies and plans	Risk: Government bodies do not pay sufficient attention to climate change  Governments on state and entity level are not
<b>To transfer technologies for climate resilient flood management in order to increase resilience of highly exposed rural poor, returnee and displaced persons communities in Vrbas River Basin</b>					

	<p>AMAT indicator 3.1.1.1 Type of adaptation technologies transferred to the target groups.</p>		<p>forecasting and early warning systems, flood damages and losses modelling and vulnerability assessment, and a number of non-structural flood management technologies to BiH)</p>	<p>Survey of Technologies in place</p>	<p>able to reach an agreement on supportive regulatory documents and management plans</p> <p>Risk rating: low</p> <p>Assumption: Government will understand importance of CC induced flood risk management and provide support to regulatory documents</p>
	<p>VRB (12% of BiH territory) covered by an automated hydrometric monitoring network for effective Flood Forecasting and Early Warning</p>	<p>Hydrometric stations currently cover 50% of the area required for FFEWS for VRB</p>	<p>The VRB (i.e.12% of BiH) covered by a Hydrometric network that provides the optimal coverage required for FFEWS</p>		
<p><b>Outcome 1: Key relevant development strategies/policies/legislations integrate climate change resilient flood management approaches</b></p>	<p>AMAT Indicator 3.2.1 Policy environment and regulatory framework for adaptation related technology transfer established or</p>	<p>1: No policy/regulatory framework for adaptation related technology transfer in place</p>	<p>4: Policy/regulatory framework for adaptation related technology transfer have been formally adopted by the Government but have no</p>	<p>Project annual reports, Mid-term evaluation, final report</p> <p>Survey of Policy/regulatory framework in place</p>	<p>Risk: Consent to Policy/regulatory framework not given by all government levels</p> <p>Risk rating: Low</p> <p>Assumption: political</p>

	strengthened		enforcement mechanisms		support provided
	No, of Adaptation technology solutions for climate resilient flood management (CRFRM) enabled for implementation	0: Document codifying standard methodologies and procedures for Climate resilient flood Risk Management (CRFRM)	At least 10 guidance documents produced on Climate Resilient Flood Risk Management topics	Project annual reports, Mid-term evaluation, final report  Survey of Guidance documents developed	No risks identified
<b>Outcome 2: Climate resilient flood risk management is enabled by transferring modern technologies and strengthening institutional capacities</b>	AMAT Indicator 3.2.2: Strengthened Capacity to transfer appropriate adaptation technologies	1: Very few professional are aware of adaptation technologies	3: High Capacity achieved (>75%). Provision of models, information systems, tools and training in the use of these to professionals, on various aspects of climate adaptation technologies	Project annual reports, Mid-term evaluation, final report	Risk: Management of relevant institutions do not recognise a need to such a training  Risk rating: low  Assumption: a need for a training recognized
	No, of institutions enabled to modify risk management strategies based on introduced vulnerability, loss and damages assessment	Most of the socio-economic information required to assess flood damages, losses, exposure and vulnerability is not	GIS-based flood damages, losses and vulnerability assessment tool developed for VRB and systematic socio-economic	Project annual reports, Mid-term evaluation, final report  GIS data base	Risk: institutions not willing to provide and/or do not have data  Risk rating: medium



	and improved hydrometric monitoring technologies	currently available and is not collected systematically and gender-disaggregation of data not systematically done.	survey methods established and implemented for VRB and introduces sex-disaggregated data collection protocols and methods	Assumption: data will be gathered on the field
--	--	--	---	--

### **Indicator Assessment Key**

Green= Achieved	Yellow= On target to be achieved	Red= Not on target to be achieved
-----------------	----------------------------------	-----------------------------------

In addition to the progress towards outcomes analysis:

- Compare and analyse the GEF Tracking Tool at the Baseline with the one completed right before the Midterm Review.
- Identify remaining barriers to achieving the project objective in the remainder of the project.
- By reviewing the aspects of the project that have already been successful, identify ways in which the project can further expand these benefits.

### **iii. Project Implementation and Adaptive Management**

#### Management Arrangements:

- Review overall effectiveness of project management as outlined in the Project Document. Have changes been made and are they effective? Are responsibilities and reporting lines clear? Is decision-making transparent and undertaken in a timely manner? Recommend areas for improvement.
- Review the quality of execution of the Executing Agency/Implementing Partner(s) and recommend areas for improvement.
- Review the quality of support provided by the GEF Partner Agency (UNDP) and recommend areas for improvement.

#### Work Planning:

- Review any delays in project start-up and implementation, identify the causes and examine if they have been resolved.
- Are work-planning processes results-based? If not, suggest ways to re-orientate work planning to focus on results?
- Examine the use of the project's results framework/ logframe as a management tool and review any changes made to it since project start.

#### Finance and co-finance:

- Consider the financial management of the project, with specific reference to the cost-effectiveness of interventions.
- Review the changes to fund allocations as a result of budget revisions and assess the appropriateness and relevance of such revisions.
- Does the project have the appropriate financial controls, including reporting and planning, that allow management to make informed decisions regarding the budget and allow for timely flow of funds?

- Informed by the co-financing monitoring table to be filled out, provide commentary on co-financing: is co-financing being used strategically to help the objectives of the project? Is the Project Team meeting with all co-financing partners regularly in order to align financing priorities and annual work plans?

Project-level Monitoring and Evaluation Systems:

- Review the monitoring tools currently being used: Do they provide the necessary information? Do they involve key partners? Are they aligned or mainstreamed with national systems? Do they use existing information? Are they efficient? Are they cost-effective? Are additional tools required? How could they be made more participatory and inclusive?
- Examine the financial management of the project monitoring and evaluation budget. Are sufficient resources being allocated to monitoring and evaluation? Are these resources being allocated effectively?

Stakeholder Engagement:

- Project management: Has the project developed and leveraged the necessary and appropriate partnerships with direct and tangential stakeholders?
- Participation and country-driven processes: Do local and national government stakeholders support the objectives of the project? Do they continue to have an active role in project decision-making that supports efficient and effective project implementation?
- Participation and public awareness: To what extent has stakeholder involvement and public awareness contributed to the progress towards achievement of project objectives?

Reporting:

- Assess how adaptive management changes have been reported by the project management and shared with the Project Board.
- Assess how well the Project Team and partners undertake and fulfil GEF reporting requirements (i.e. how have they addressed poorly-rated PIRs, if applicable?)
- Assess how lessons derived from the adaptive management process have been documented, shared with key partners and internalized by partners.

Communications:

- Review internal project communication with stakeholders: Is communication regular and effective? Are there key stakeholders left out of communication? Are there feedback mechanisms when communication is received? Does this communication with stakeholders contribute to their awareness of project outcomes and activities and investment in the sustainability of project results?
- Review external project communication: Are proper means of communication established or being established to express the project progress and intended impact to the public (is there a web presence, for example? Or did the project implement appropriate outreach and public awareness campaigns?)
- For reporting purposes, write one half-page paragraph that summarizes the project's progress towards results in terms of contribution to sustainable development benefits, as well as global environmental benefits.

**iv. Sustainability**

- Validate whether the risks identified in the Project Document, Annual Project Review/PIRs and the ATLAS Risk Management Module are the most important and whether the risk ratings applied are appropriate and up to date. If not, explain why.
- In addition, assess the following risks to sustainability:

Financial risks to sustainability:

- What is the likelihood of financial and economic resources not being available once the GEF assistance ends (consider potential resources can be from multiple sources, such as the public and private sectors, income generating activities, and other funding that will be adequate financial resources for sustaining project's outcomes)?

Socio-economic risks to sustainability:

- Are there any social or political risks that may jeopardize sustainability of project outcomes? What is the risk that the level of stakeholder ownership (including ownership by governments and other key stakeholders) will be insufficient to allow for the project outcomes/benefits to be sustained? Do the various key stakeholders see that it is in their interest that the project benefits continue to flow? Is there sufficient public / stakeholder awareness in support of the long term objectives of the project? Are lessons learned being documented by the Project Team on a continual basis and shared/ transferred to appropriate parties who could learn from the project and potentially replicate and/or scale it in the future?

Institutional Framework and Governance risks to sustainability:

- Do the legal frameworks, policies, governance structures and processes pose risks that may jeopardize sustenance of project benefits? While assessing this parameter, also consider if the required systems/ mechanisms for accountability, transparency, and technical knowledge transfer are in place.

Environmental risks to sustainability:

- Are there any environmental risks that may jeopardize sustenance of project outcomes?

**Conclusions & Recommendations**

The MTR Consultant will include a section of the report setting out the MTR’s evidence-based conclusions, in light of the findings.<sup>6</sup>

Recommendations should be succinct suggestions for critical intervention that are specific, measurable, achievable, and relevant. A recommendation table should be put in the report’s executive summary. See the *Guidance For Conducting Midterm Reviews of UNDP-Supported, GEF-Financed Projects* for guidance on a recommendation table.

The MTR Consultant should make no more than 15 recommendations total.

**Ratings**

The MTR Consultant will include its ratings of the project’s results and brief descriptions of the associated achievements in a *MTR Ratings & Achievement Summary Table* in the Executive Summary of the MTR report. See Annex E for ratings scales. No rating on Project Strategy and no overall project rating is required.

Table. MTR Ratings & Achievement Summary Table for *Technology transfer of climate resilient flood management in Vrba River Basin*

Measure	MTR Rating	Achievement Description
<b>Project Strategy</b>	N/A	
<b>Progress Towards Results</b>	Objective Achievement Rating: (rate 6 pt. scale)	
	Outcome 1 Achievement Rating: (rate 6 pt. scale)	
	Outcome 2 Achievement	

<sup>6</sup> Alternatively, MTR conclusions may be integrated into the body of the report.

	Rating: (rate 6 pt. scale)	
	Outcome 3 Achievement Rating: (rate 6 pt. scale)	
	Etc.	
<b>Project Implementation &amp; Adaptive Management</b>	(rate 6 pt. scale)	
<b>Sustainability</b>	(rate 4 pt. scale)	

## 6. TIMEFRAME

The total duration of the MTR will be approximately max 20 days over a time period of *16 weeks* starting *01 November, 2017*, and shall not exceed five months from when the consultant(s) are hired. The tentative MTR timeframe is as follows:

<b>TIMEFRAME</b>	<b>ACTIVITY</b>
<i>30 March 2017</i>	Application closes
<i>30 April 2017</i>	Select MTR Consultant
<i>30 September 2017</i>	Prep the MTR Consultant (handover of Project Documents)
<i>10 Nov 2017</i>	Document review and preparing MTR Inception Report
<i>30 Nov 2017</i>	Finalization and Validation of MTR Inception Report- latest start of MTR mission
<i>15 December 2017 (7 days including travel)</i>	MTR mission: stakeholder meetings, interviews, field visits
<i>15 December 2017</i>	Mission wrap-up meeting & presentation of initial findings- earliest end of MTR mission
<i>30 December 2017</i>	Preparing draft report
<i>31 January 2018</i>	Incorporating audit trail from feedback on draft report/Finalization of MTR report (note: accommodate time delay in dates for circulation and review of the draft report)
<i>07 Feb 2018</i>	Preparation & Issue of Management Response
n/a	(optional) Concluding Stakeholder Workshop (not mandatory for MTR Consultant)

15 Feb 2018	Expected date of full MTR completion
-------------	--------------------------------------

Options for site visits should be provided in the Inception Report.

## 7. MIDTERM REVIEW DELIVERABLES

#	Deliverable	Description	Timing	Responsibilities
1	<b>MTR Inception Report</b>	MTR Consultant clarifies objectives and methods of Midterm Review	No later than 2 weeks before the MTR mission: 10 Nov 2017	MTR Consultant submits to the Commissioning Unit and project management
2	<b>Presentation</b>	Initial Findings	End of MTR mission: 15 Dec 2017	MTR Consultant presents to project management and the Commissioning Unit
3	<b>Draft Final Report</b>	Full report (using guidelines on content outlined in Annex B) with annexes	Within 3 weeks of the MTR mission: 30 Dec 2017	Sent to the Commissioning Unit, reviewed by RTA, Project Coordinating Unit, GEF OFP
4	<b>Final Report*</b>	Revised report with audit trail detailing how all received comments have (and have not) been addressed in the final MTR report	Within 1 week of receiving UNDP comments on draft: 15 Feb 2018	Sent to the Commissioning Unit

\*The final MTR report must be in English. If applicable, the Commissioning Unit may choose to arrange for a translation of the report into a language more widely shared by national stakeholders.

## 8. MTR ARRANGEMENTS

The principal responsibility for managing this MTR resides with the Commissioning Unit. The Commissioning Unit for this project's MTR is *UNDP Country Office*.

The commissioning unit will contract the consultants and ensure the timely provision of per diems and travel arrangements within the country for the MTR Consultant. The Project Team will be responsible for liaising with the MTR Consultant to provide all relevant documents, set up stakeholder interviews, and arrange field visits.

## 9. TEAM COMPOSITION

An independent consultants will conduct the MTR - with experience and exposure to projects and evaluations in other regions globally. The consultant cannot have participated in the project preparation, formulation, and/or implementation (including the writing of the Project Document) and should not have a conflict of interest with project's related activities.

The selection of consultants will be aimed at maximizing the overall "team" qualities in the following areas: Recent experience with result-based management evaluation methodologies;

- Experience applying SMART indicators and reconstructing or validating baseline scenarios;

- Competence in adaptive management, as applied to climate changes;
- Experience working with the GEF or GEF-evaluations;
- Experience working in UNDP RBEC region,
- Work experience in relevant technical areas for at least 10 years;
- Demonstrated understanding of issues related to gender and *GEF Focal Area*; experience in gender sensitive evaluation and analysis.
- Excellent communication skills;
- Demonstrable analytical skills;
- Project evaluation/review experiences within United Nations system will be considered an asset;
- A Master's degree in *Environmental field or related area*, or other closely related field.

## 10. PAYMENT MODALITIES AND SPECIFICATIONS

10% of payment upon approval of the final MTR Inception Report

30% upon submission of the draft MTR report

60% upon finalization of the MTR report

Or, as otherwise agreed between the Commissioning Unit and the MTR Consultant.

## 11. APPLICATION PROCESS<sup>7</sup>

### Recommended Presentation of Proposal:

- a) **Letter of Confirmation of Interest and Availability** using the [template](#)<sup>8</sup> provided by UNDP;
- b) **CV** and a **Personal History Form** ([P11 form](#))<sup>9</sup>;
- c) **Brief description of approach to work/technical proposal** of why the individual considers him/herself as the most suitable for the assignment, and a proposed methodology on how they will approach and complete the assignment; (max 1 page)
- d) **Financial Proposal** that indicates the all-inclusive fixed total contract price and all other travel related costs (such as flight ticket, per diem, etc), supported by a breakdown of costs, as per template attached to the Letter of Confirmation of Interest template. If an applicant is employed by an organization/company/institution, and he/she expects his/her employer to charge a management fee in the process of releasing him/her to UNDP under Reimbursable Loan Agreement (RLA), the applicant must indicate at this point, and ensure that all such costs are duly incorporated in the financial proposal submitted to UNDP.

All application materials should be submitted to the address [registry@undp.ba](mailto:registry@undp.ba) indicating the following reference “Consultant for *Technology transfer of climate resilient flood management in Vrbas River Basin* Midterm Review” or by email at the following address ONLY: [registry@undp.ba](mailto:registry@undp.ba) by noon **20 March, 2017**. Incomplete applications will be excluded from further consideration.

**Criteria for Evaluation of Proposal:** Only those applications which are responsive and compliant will be evaluated. Offers will be evaluated according to the Combined Scoring method – where the educational background and experience on similar assignments will be weighted at 70% and the price proposal will weigh as 30% of the total scoring. The applicant receiving the Highest Combined Score that has also accepted UNDP's General Terms and Conditions will be awarded the contract.

<sup>7</sup> Engagement of the consultants should be done in line with guidelines for hiring consultants in the POPP: <https://info.undp.org/global/popp/Pages/default.aspx>

<sup>8</sup> <https://intranet.undp.org/unit/bom/psd/Support%20documents%20on%20IC%20Guidelines/Template%20for%20Confirmation%20of%20Interest%20and%20Submission%20of%20Financial%20Proposal.docx>

<sup>9</sup> [http://www.undp.org/content/dam/undp/library/corporate/Careers/P11\\_Personal\\_history\\_form.doc](http://www.undp.org/content/dam/undp/library/corporate/Careers/P11_Personal_history_form.doc)

## 6.2 MTR evaluative matrix

Evaluative Questions	Indicators	Sources	Methodology
<b>Project Strategy: To what extent is the project strategy relevant to country priorities, country ownership, and the best route towards expected results?</b>			
Is the project design relevance to country needs?	Responsiveness to country needs, are the right problems addressed	Stakeholders	Consultation
Is the Results Framework suitable?	Is the Results Framework SMART?	Documents	Review
<b>Progress Towards Results: To what extent have the expected outcomes and objectives of the project been achieved thus far?</b>			
Is progress towards outcomes satisfactory?	Indicators as per results framework and workplan implementation	Documents (results framework, workplan) Stakeholders	Review Consultation
<b>Project Implementation and Adaptive Management: Has the project been implemented efficiently, cost-effectively, and been able to adapt to any changing conditions thus far? To what extent are project-level monitoring and evaluation systems, reporting, and project communications supporting the project's implementation?</b>			
Are management arrangements efficient?	Acceptance and understanding by stakeholders	Project management team Stakeholders	Interview Consultation
Is work planning efficient and transparent?	Acceptance and understanding by stakeholders	Project management team Stakeholders	Interview Consultation
How is project monitoring conducted?	Availability of monitoring documents (PIRs)	Project management team	Interview
Is stakeholder engagement sufficient?	Understanding and ownership of stakeholders	Stakeholders	Consultation
Is reporting sufficient?	Availability and quality of reports vs. reporting schedule	Documents	Review
Is communication sufficient?	Stakeholder satisfaction	Stakeholders Project management team	Consultation Interview
<b>Sustainability: To what extent are there financial, institutional, socio-economic, and/or environmental risks to sustaining long-term project results?</b>			

Are there financial risks to sustainability?	Available financing mechanisms and legal framework	Stakeholders Project management team	Consultation Interview
Are there socio-economic risks to sustainability?	Socioeconomic situation	Stakeholders Project management team	Consultation Interview
Are there institutional framework and governance risks to sustainability?	Institutional framework situation	Stakeholders Project management team	Consultation Interview
Are there environmental risks to sustainability?	Environmental aspects	Stakeholders Project management team	Consultation Interview



### 6.3 Example Questionnaire or Interview Guide used for data collection

Interviews were held with the approach and questions tailored to the specific position, role and expertise of the interviewed person. In general, questions used for the stakeholder interviews to understand the stakeholders involvement included (but were not limited to):

- Role in daily work
- Role and involvement in project, understanding of project
- Involvement in project development?
- Involvement in project execution?
- Transparency / communication?
- Relevance / need orientation?
- Sustainability / gaps?
- Outcome achievement? efficient project? flexible? adapted to local needs?
- Risks with the project?

## 6.4 Ratings Scales

### MTR rating scale

Ratings for Progress Towards Results: (one rating for each outcome and for the objective)		
6	Highly Satisfactory (HS)	The objective/outcome is expected to achieve or exceed all its end-of-project targets, without major shortcomings. The progress towards the objective/outcome can be presented as “good practice”.
5	Satisfactory (S)	The objective/outcome is expected to achieve most of its end-of-project targets, with only minor shortcomings.
4	Moderately Satisfactory (MS)	The objective/outcome is expected to achieve most of its end-of-project targets but with significant shortcomings.
3	Moderately Unsatisfactory (HU)	The objective/outcome is expected to achieve its end-of-project targets with major shortcomings.
2	Unsatisfactory (U)	The objective/outcome is expected not to achieve most of its end-of-project targets.
1	Highly Unsatisfactory (HU)	The objective/outcome has failed to achieve its midterm targets, and is not expected to achieve any of its end-of-project targets.

Ratings for Project Implementation & Adaptive Management: (one overall rating)		
6	Highly Satisfactory (HS)	Implementation of all seven components – management arrangements, work planning, finance and co-finance, project-level monitoring and evaluation systems, stakeholder engagement, reporting, and communications – is leading to efficient and effective project implementation and adaptive management. The project can be presented as “good practice”.
5	Satisfactory (S)	Implementation of most of the seven components is leading to efficient and effective project implementation and adaptive management except for only few that are subject to remedial action.
4	Moderately Satisfactory (MS)	Implementation of some of the seven components is leading to efficient and effective project implementation and adaptive management, with some components requiring remedial action.
3	Moderately Unsatisfactory (MU)	Implementation of some of the seven components is not leading to efficient and effective project implementation and adaptive, with most components requiring remedial action.
2	Unsatisfactory (U)	Implementation of most of the seven components is not leading to efficient and effective project implementation and adaptive management.
1	Highly Unsatisfactory (HU)	Implementation of none of the seven components is leading to efficient and effective project implementation and adaptive management.

Ratings for Sustainability: (one overall rating)		
--	--	--

4	Likely (L)	Negligible risks to sustainability, with key outcomes on track to be achieved by the project's closure and expected to continue into the foreseeable future
3	Moderately Likely (ML)	Moderate risks, but expectations that at least some outcomes will be sustained due to the progress towards results on outcomes at the Midterm Review
2	Moderately Unlikely (MU)	Significant risk that key outcomes will not carry on after project closure, although some outputs and activities should carry on
1	Unlikely (U)	Severe risks that project outcomes as well as key outputs will not be sustained

## 6.5 MTR mission itinerary

### Monday 27 Nov – meetings in Sarajevo

- Project manager
- CO representatives: Sanjin Avdic, Energy and Environment sector leader and Sukhrob Khoshmukhamedov, deputy Resident representative
- Mr. Senad Oprasic GEF operational focal point
- Mr. Bosko Kenjic, Head of Water Resources Department, Ministry of Foreign Trade and Economic Relations

### Tuesday 28 Nov - trip to and meetings in Bugojno and Banja Luka

- Trip to Bugojno
- Municipality Bugojno
- Visit to construction site
- Trip to Banja Luka
- Banja Luka municipal civil protection
- Representatives of Faculty of Natural Sciences

### Wednesday 29 Nov – meetings in Banja Luka

- Representatives of Republika Srpska Ministry of Agriculture, Forestry and Water Management
- Representatives of the Ministry of Spatial Planning, Civil Engineering and Ecology, UNFCCC and GCF focal point
- Republika Srpska Hydro-Meteo Institute
- Visit to municipality Laktasi

### Thursday 30 Nov - meetings in Bijeljina

- Trip to Bijeljina
- Water Agency
- Water Institute (private company)
- Trip to Sarajevo

### Friday 01 Dec – meetings in Sarajevo

- Federal Hydro-Meteo Institute
- Representative of NGO
- Wrap up

## 6.6 List of persons interviewed

Name	Position	Organization	Location
Raduska Cupac	Project manager	UNDP	Sarajevo
Sanjin Avdic	Sector Leader Energy and Environment Sector	UNDP	Sarajevo
Sukhrob Khoshmukhamedov	deputy Resident representative	UNDP	Sarajevo
Senad Oprasic	GEF operational focal point, Head of environment protection department	Min of Foreign Trade and Economic Relations	Sarajevo
Bosko Kenjic	Head of water resources department, PB member	Ministry of Foreign Trade and Economic Relations	Sarajevo
Mirsad Karadza	Head of Civil Protection department,	Bugojno Municipality	Bugojno
Nenad Djukic	project steering board member	Ministry of Agriculture, Forestry and Water Management, Republika Srpska	Banja Luka
Zeljko Obradovic, Mile Lazendic	Chief of operation and communication center	Civil Protection Banja Luka Municipality	Banja Luka
Svjetlana Radusin	Assistant Minister for Ecology	Ministry of Spatial planning, civil engineering and ecology	Banja Luka
Minister Srebrenka Golic	Chair of the PB, UNFCCC and GCF focal point	Ministry of Spatial planning, civil engineering and ecology	Banja Luka
Zoran Bozovic, Darko Borojevic	Director and Head of Hydrology department	Republika Srpska Hydro-meteo institute	Banja Luka
Dr Goran Trbic, Dr Davorin Bajic	lead CC expert, GIS expert	Faculty of Sciences	Banja Luka
Miroslav Babic, Milovan Cosic	Municipality employees	Celinac municipality	Celinac
Margaretta Ayoung	CTA	Consultant to UNDP	-

Dejana Markovic, Ozren Djuric, Jelena Vicanovic	Senior advisers	Water Agency	Bijeljina
Nedeljko Sudar, Vujadin Blagojevic	Director, Director Technical Issues	Water institute	Bijeljina
Almir Bijedic, Esena Kupusovic	Director and Head of Hydrology department	Federal Hydro- meteo institute of Federation of BiH	Sarajevo
Nataly Olofinskaya	Regional Technical Advisor	UNDP	Istanbul
Edin Zahirovic	Lead socio-economic expert	NGO Centre for Development and Support	Sarajevo

## 6.7 List of documents reviewed

<p>2017-PIR-PIMS5241-GEFID5604.docx</p> <p>Title: 2017 Project Implementation Review (PIR)</p>	<p>Basic Data, Overall Ratings, Development Progress, Implementation Progress, Critical Risk Management, Adjustments, Ratings and Overall Assessments, Gender, Communicating Impact , Partnerships, Grievances, Annex - Ratings Definitions</p>
<p>5241 Bosnia and Herzegovina SCCF Inception Report-Jan 2016-FINAL.docx</p> <p>Title: Inception Report, January 2016</p>	<p>Vulnerability of VRB municipalities, Project objective, outcomes and outputs, Activities preceding Project operationalization, Inception Workshop results, Description of Project organizational structure, Description of Implementation of Project activities, New development in stakeholders' coordination, Workplan. The Annex includes Inception workshop minutes, List of workshop participants, Budget revision, Technical Methodology. Terms of Reference for International Experts, Terms of Reference for Major Subcontracts, Updated Risk and Assumptions Table</p>
<p>PIMS 5241_SCCF_BH_UNDP_Prodoc 26 Feb final LPACed.doc</p> <p>Title: PROJECT DOCUMENT: Technology transfer for climate resilient flood management in Vrbas River Basin</p>	<p>Situation analysis, Project Strategy, the Project Results Framework, Total budget and workplan, Management Arrangements, Monitoring Framework and Evaluation, Legal Context.</p>
<p>PIR-2016-GEFID-PIMS5241.docx</p> <p>Title: 2016 Project Implementation Review, Nov 2017</p>	<p>Basic Project and Finance Data, Project Contacts and Links, Project Summary, Progress toward Development Objective , Annual Project Quality Assurance Assessment, Ratings and Comments on Project Progress, Project Planning , Critical Risk Management, Environmental and Social Grievances, Communicating Impact, Partnerships and Progress toward Gender Equality</p>
<p>Vrbas - PO 1 meeting - 16 10 2015 engl.</p> <p>Title: Minutes of the Project Board meeting, Oct 2015</p>	<p>Minutes of the Project Board meeting</p>
<p>Vrbas - PO 1. sastanak- 16.10. 2015.ppt engl.</p> <p>Title: Project board meeting presentation, Sep 2015</p>	<p>Project board meeting presentation</p>
<p>Vrbas - PO 2 meeting - 19 01 2016 engl.</p> <p>Title: Minutes of the 2nd Project Board meeting, Jan 2016</p>	<p>Minutes of the Project Board meeting</p>

Vrbas - PO 2. sastanak- 19 01 2016.ppt engl. Title: Project board meeting presentation, Jan 2016	Project board meeting presentation
Vrbas - PO 3 meeting - 09 06 2016 engl. Title: Minutes of the 3rd Project Board meeting, Jun 2016	Minutes of the Project Board meeting
Vrbas - PO 3. sastanak- 09 06 2016.ppt engl. Title: Project board meeting presentation, Jun 2016	Project board meeting presentation
Vrbas - PO 4. sastanak - 23 09 2016 ENG Title: Minutes of the 4th meeting of the Project Board, Sep 2016	Minutes of the Project Board meeting
Vrbas - PO 4. sastanak- 23 09 2016.ppt engl. Title: Project board meeting presentation, Sep 2016	Project board meeting presentation
Vrbas - PO 5. sastanak - 20 02 2017 - final ENG Title: Minutes of the 5th meeting of the Project Board, Feb 2017	Minutes of the Project Board meeting
Vrbas - PO 5. sastanak- 20 02 2017.ppt engl. Title: Project board meeting presentation, Feb 2017	Project board meeting presentation
Vrbas - PO 6. meeting- 20 09 2017-eng Title: Minutes of the 6th meeting of the Project Board, Sep 2017	Minutes of the Project Board meeting
Vrbas - PO 6.meeting - 20 09 2017 - final ENG Title: Project board meeting presentation, Sep 2017	Project board meeting presentation
RE-SUBMISSION_PIF - Bosnia SCCF_PIF_22Jan2014.docx  Title: Project Identification Form (PIF)	Detailed project description including indicative project description and financing as well as justification
FINAL VRBAS River Verification Mission May17.docx  Title: REPORT Verification Mission Vrbas River (92036)	Post-facto assessment of the CO Projects' adherence to the basic UNDP rules and regulations and SOPs related to operations (with a special emphasis on the areas delegated to Projects), identification of potential managerial issues and best practices as well as further enhancement of the CO operations support to and cooperation with the projects. Rating: satisfactory
Project budget balance 20 Nov.pdf  Title: Project Budget Balance	Detailed budget overview and utilization as of November 2017
CPD 2015-2019.pdf	Including project rationale, programme priorities and partnerships, programme risk



Title: Country programme document for Bosnia and Herzegovina (2015-2019)	management and monitoring and evaluation
CDR 2015 - FINAL.pdf CDR 2016.pdf CDR by Activity Jan Sept 2017 signed.pdf	Expenditure overview
Title: Combined Delivery Report by Activity	
RESUBMISSION_PIMS_5241_SCCF_BH_CC-A Tracking Tool_21-01-15.xls	Finalized GEF focal area Tracking Tools at CEO endorsement
Title: Project Tracking Tool	

6.8 Co-financing table (if not previously included in the body of the report) and co-financing letters



Co-financing report MTR- UNDP.pdf   Co-financing report - Water Agency Sava   Co-financing report RS MAFW.pdf



Co-financing report - Water Agency Sava   Co-financing report RS MAFW ENG.docx

## 6.9 Signed UNEG Code of Conduct form

### **Evaluators/Consultants:**

1. Must present information that is complete and fair in its assessment of strengths and weaknesses so that decisions or actions taken are well founded.
2. Must disclose the full set of evaluation findings along with information on their limitations and have this accessible to all affected by the evaluation with expressed legal rights to receive results.
3. Should protect the anonymity and confidentiality of individual informants. They should provide maximum notice, minimize demands on time, and respect people's right not to engage. Evaluators must respect people's right to provide information in confidence, and must ensure that sensitive information cannot be traced to its source. Evaluators are not expected to evaluate individuals, and must balance an evaluation of management functions with this general principle.
4. Sometimes uncover evidence of wrongdoing while conducting evaluations. Such cases must be reported discreetly to the appropriate investigative body. Evaluators should consult with other relevant oversight entities when there is any doubt about if and how issues should be reported.
5. Should be sensitive to beliefs, manners and customs and act with integrity and honesty in their relations with all stakeholders. In line with the UN Universal Declaration of Human Rights, evaluators must be sensitive to and address issues of discrimination and gender equality. They should avoid offending the dignity and self-respect of those persons with whom they come in contact in the course of the evaluation. Knowing that evaluation might negatively affect the interests of some stakeholders, evaluators should conduct the evaluation and communicate its purpose and results in a way that clearly respects the stakeholders' dignity and self-worth.
6. Are responsible for their performance and their product(s). They are responsible for the clear, accurate and fair written and/or oral presentation of study limitations, findings and recommendations.
7. Should reflect sound accounting procedures and be prudent in using the resources of the evaluation.

### **MTR Consultant Agreement Form**

Agreement to abide by the Code of Conduct for Evaluation in the UN System:

Name of Consultant: Georg Petersen

Name of Consultancy Organization (where relevant): n/a

**I confirm that I have received and understood and will abide by the United Nations Code of Conduct for Evaluation.**

Signed at *Sarajevo* on 27. Nov 2017

Signature:



6.10 Signed MTR final report clearance form

*To be completed by the Commissioning Unit and UNDP-GEF RTA and included in the final document*

Midterm Review Report Reviewed and Cleared By:	
Commissioning Unit	
Name: Sanjin Avdic, EE Sector LEader	
Signature: 	Date: 28 Dec 2018
UNDP-GEF Regional Technical Advisor	
Name: Natalia Olofinskaya	
Signature: _____	Date: _____

## 6.11 Audit trail from received comments on draft MTR report

#	Comment/ Feedback on the draft MTR report	MTR response
1.	The report lacks any technical analysis of the evolution of the project context, project achievements and shortcomings, required changes.	The project runs pretty much according to plan, with no big shortcomings other than the identified agroforestry, FRM plan and flood insurance aspects. See additions in the report. There are anyhow no significant adjustments or changes required from the way project management is currently handling the project, other than pushing even harder to close the identified gaps. Technically the living with floods concept as opposed to the call for defences could be strengthened as described further below.
2.	Update on the project context: currently the context section in the MTE is based entirely on the text of the project document. It would have been useful to outline the changes in the project context since the launch of the project, new challenges or new partnership opportunities emerged since then (new regulations and policy documents, new partner projects, etc.).	The ToR is what the context of the project is based on. Paragraphs have been added in the document that further describe the challenges and required changes in the project context.
3.	Project achievements: a deeper technical analysis of the project achievements is required, a more detailed description and analysis of completed activities and results so far (beyond copy/paste from the PIR)	Where activities are finalized the same status as previously is reported, where implementation is ongoing, details have been added in the report.
4.	Project shortcomings: need to be analyzed and presented with the recommendations for remedial actions. E.g. work on insurance have not been developing as fast as was expected, agro-forestry measures are more expensive than anticipated, there is no political consensus on development of FRMP. The MTE could reflect those and provide recommendations for improvement/adjustment of the approach (e.g. expansion of insurance to the national level is feasible due to economy of scale). This is the main purpose of the MTE process. The project could still have HR rating.	included in narrative as well as recommendations table.
5.	Project risks: changes in the risks to the project implementation need to be analyzed, such as potential further delays with the implementation of a parallel WBIF project on risk mapping and IPA projects on development of flood risk management plans; O&M commitments by national beneficiaries of the hydromet equipment, slow buy in from insurance sector, etc.	The points have been addressed in the report.

6.	Formal compliance with the TORs: not all the formal requirements to the MTE reports as listed in the TORs have been completed (e.g. GEF evaluative matrix has not been filled)	Assuming this refers to the tracking tool, the revised version of the tracking tool has now been received and an evaluation included into the report.
7.	The evaluator didn't outreach RTA Ms. Natalya Olofinskaya for an interview with the evaluation team. Ms. Olofinskaya is looking forward to speaking with you.	An interview with Ms. Olofinskaya has been conducted and her comments considered in the report revision.
8.	Efficiency: analysis of expenditures vs budget, delivery, compliance with approved budgets, etc. is lacking.	A budget/expenditure review has been added to the report
9.	Co-financing: there should be confirmation of co-financing released/provided to the project to-date vs. the planned amount at the project approval. I am not sure this is the case.	The project manager, Ms. Raduska Cupac, has been requested to obtain written confirmation from the cofinancing entities to be added to the MTR report.
10.	Standard rating table needs to be included	This is included in Section 6.4
11.	Potential for replication and scaling up could be strengthened / expanded.	This has been strengthened in the report.
12.	Table with recommendations should be included.	The recommendation section has been revised and strengthened in table format

## 6.12 Relevant midterm tracking tools



PIMS 5241  
Adaptation-tracking