

2019

Project Implementation Review (PIR)

**SCCF Bosnia&Herzegovina Vrbas River Basin**

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# Basic Data

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| **Project Information** | |
| UNDP PIMS ID | 5241 |
| GEF ID | 5604 |
| Title | Reduced climate change-related flood risks in the Vrbas River Basin, Bosnia and Herzegovina |
| Country(ies) | Bosnia & Herzegovina, Bosnia & Herzegovina |
| UNDP-GEF Technical Team | Climate Change Adaptation |
| Project Implementing Partner | BIH10 (Bosnia & Herzegovina) |
| Joint Agencies | *(not set or not applicable)* |
| Project Type | Full Size |

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| **Project Description** |
| Bosnia and Herzegovina (BiH) is a middle income country with an estimated 3.8 million inhabitants, 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. The SCCF funds will be used to enable the communities of the Vrbas basin to adapt to flood risk through the transfer of adaptation technologies for climate resilient flood management, upgrade and rehabilitation of the hydrometric monitoring network, development of a flood forecasting system and early warning system, development of emergency response plans, and provision of training in flood-specific civil protection. Importantly, the project will provide targeted training on climate-induced FRM to over 100 practitioners and decisions makers, and will develop an institutional capacity development plan for the long-term development of capability and capacity in Flood Risk Management (FRM). The project will work closely with affected communities to introduce climate resilient community-based non-structural measures and provide training to local communities in climate resilient FRM. This will include the introduction of agro-forestry, community-based early warning systems, reforestation and introduction of financial instruments such as index-based flood insurance and credit deference schemes as a means of compensating for flood damages for agriculture.    The enabling environment will be 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, including land use and spatial planning, forestry, agriculture and energy sectors. Specifically, the project will introduce floodplain management regulations that will enhance zoning of development and activities away from high risk areas.    Hence, the project will help the government of BiH and the population of the targeted region to develop adaptive capacity and embark on climate resilient economic activities. |

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| **Project Contacts** | |
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| Project Implementing Partner | *(not set or not applicable)* |
| Other Partners | *(not set or not applicable)* |

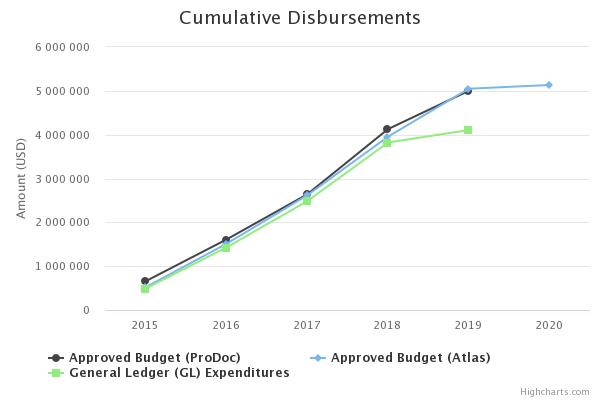
# Overall Ratings

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| Overall DO Rating | Highly Satisfactory |
| Overall IP Rating | Satisfactory |
| Overall Risk Rating | Moderate |

# Development Progress

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| **Description** | | | | | | |
| **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** | | | | | | |
| **Description of Indicator** | **Baseline Level** | **Midterm target level** | **End of project target level** | **Level at 30 June 2018** | **Cumulative progress since project start** |
| Number of new technologies transferred to BiH as part of a methodology for strategic FRM      AMAT indicator 3.1.1.1    Type of adaptation technologies transferred to the target groups. | Limited institutional capacity and technologies in use for strategic FRM in BiH | *(not set or not applicable)* | 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) | The Project has introduced 7 new technologies, as follows: 1. Hydro-meteorological network consisting of 7 hydrological, 2 meteorological and 20 rain gauges is operational. 2. Climate change model for Vrbas River Basin has been developed. 3. Hydrological and hydrodynamics models (including 2D model for the whole basin) have been completed. Hydrological modelling included climate change scenarios. 4. Hydrological and hydraulic models for flood forecasting have been completed. Setting up of flood forecasting and early warning system is in progress. 5. Vulnerability assessment, including gender segregated data, has been completed. 6. GIS based loss/damage model has been developed for housing and business sector. 7. The first set of 11 non-structural measures, have been implemented. The second set of 10 non-structural measures which will be implemented in Vrbas River Basin has been identified. | Target has been met and exceeded, and implementation activities are ongoing:  The Project has introduced 7 new technologies, as follows: 1. Hydro-meteorological network consisting of 7 hydrological, 2 meteorological and 20 rain gauges is operational. 2. Climate change model for Vrbas River Basin has been developed. 3. Hydrological and hydrodynamics models (including 2D model for the whole basin) have been completed. Hydrological modelling included climate change scenarios. 4. Hydrological and hydraulic models for flood forecasting have been completed. Flood forecasting and early warning system has been set with its testing phase starting 01 Aug 2019. 5. Vulnerability assessment, including gender segregated data, has been completed. 6. GIS based loss/damage model has been developed for housing, business and agricultural sectors. 7. The first two sets of 21 non-structural measures in 13 municipalities, have been implemented. The third set of 2 non-structural measures which will be implemented in Vrbas River Basin has been identified. |
| 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 | *(not set or not applicable)* | The VRB (i.e.12% of BiH) covered by a Hydrometric network that provides the optimal coverage required for FFEWS | This target has been fully met. 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. | This target has been fully met. 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. |
| **The progress of the objective can be described as:** | | **On track** | | | | |
| **Outcome 1**  **Key relevant development strategies/policies/legislations integrate climate change resilient flood management approaches** | | | | | | |
| **Description of Indicator** | **Baseline Level** | **Midterm target level** | **End of project target level** | **Level at 30 June 2018** | **Cumulative progress since project start** |
| 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 | *(not set or not applicable)* | 4: Policy/regulatory framework for adaptation related technology transfer have been formally adopted by the Government but have no enforcement mechanisms | This target has been partly met: while flood risk management has been introduced into Law on water and its enforcement immediately started, its introduction into spatial regulation is still pending. 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 Law on Waters, transposing EU flood directive have been adopted. Decree containing content and elements of flood risk management has been developed and adopted. Amendments to the Law on Spatial Planning to include flood maps and climate changes have been drafted and submitted to the government for their review. Draft flood zoning policy, which includes flood zoning rules, has been developed. | This target has been partly met: 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 Law on Waters, transposing EU flood directive have been adopted. Decree containing content and elements of flood risk management has been developed and adopted. Amendments to the Law on Spatial Planning to include flood maps and climate changes have been adopted. Draft flood zoning policy, which includes flood zoning rules, has been developed. |
| 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) | *(not set or not applicable)* | At least 10 guidance documents produced on Climate Resilient Flood Risk Management topics | Six guidance documents have been developed: 1. Flood risk modelling and mapping methodology has been developed and adopted by local institutions. 2. Guidance for the development of a centralized flood forecasting and early warning system has been drafted. 3. Draft operational and maintenance plan for hydrometric stations has been completed. 4. Guidance to use PGIS and geoportal has been developed. 5. Methodology for socio-economic survey to assess and quantify the value of property at the level of settlements within municipalities has been developed. 6. Guidance to develop flood depth/damage curve and loss/damage model have been developed. | Eight guidance documents have been developed: 1. Flood risk modelling and mapping methodology has been developed and adopted by local institutions. 2. Guidance for the development of a centralized flood forecasting and early warning system has been drafted. 3. Operational and maintenance plan for hydrometric stations has been completed. 4. Guidance to use PGIS and geoportal has been developed. 5. Methodology for socio-economic survey to assess and quantify the value of property at the level of settlements within municipalities has been developed. 6. Guidance to develop flood depth/damage curve and loss/damage model have been developed; 7. Guidance documents for integration of flood risk and spatial plans at local level have been prepared. 8. Draft Guidance for the development of a community-based early warning system has been prepared. |
| **The progress of the objective can be described as:** | | **On track** | | | | |
| **Outcome 2**  **Climate resilient flood risk management is enabled by transferring modern technologies and strengthening institutional capacities** | | | | | | |
| **Description of Indicator** | **Baseline Level** | **Midterm target level** | **End of project target level** | **Level at 30 June 2018** | **Cumulative progress since project start** |
| AMAT Indicator 3.2.2: Strengthened Capacity to transfer appropriate adaptation technologies | 1: Very few professional are aware of adaptation technologies | *(not set or not applicable)* | 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 | This indicator has been nearly achieved (>60%). Although identified professionals have received quality trainings in designated areas, repeating exposure through on-the-job training is continuing to ensure sustainability of the new 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. So far, more than 110 professionals have been trained in data management, use of water information system, hydrological and hydraulic modelling, torrents modelling, types of non-structural flood protection options. Training on modelling is continuing. Trainings on flood forecasting have started for professionals from hydro-meteorological institutes and water agencies. | This indicator has been nearly achieved (>70%). In addition to initial trainings, professionals from hydro-meteorological institutes and water agencies are undergoing regular on-the-job training in hydrological and hydraulic modelling, water information system, torrents modelling, types of non-structural flood protection options etc. in order to ensure sustainability of the new technologies. Initial trainings in flood forecasting for professionals from hydro-meteorological institutes and water agencies is ongoing. Professionals in hydro-meteorological institutes and water agencies have received trainings on hydrometric monitoring. Geodetic experts have been involved and trained in interpretation of LiDAR survey. Professionals from 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. So far, more than 150 professionals have been trained in data management, use of water information system, hydrological and hydraulic modelling, torrents modelling, types of non-structural flood protection options and flood forecasting. |
| No, of institutions enabled to modify risk management strategies based on introduced vulnerability, loss and damages assessment and improved hydrometric monitoring technologies | Most of the socio-economic information required to assess flood damages, losses, exposure and vulnerability is not currently available and is not collected systematically and gender-disaggregation of data not systematically done. | *(not set or not applicable)* | GIS-based flood damages, losses and vulnerability assessment tool developed for VRB and systematic socio-economic survey methods established and implemented for VRB and introduces sex-disaggregated data collection protocols and methods | This target has been partly met: GIS-based flood damages, losses and vulnerability assessment tools have been developed, but their implementation is still in progress and requires constant Project involvement. Project Spatial Data infrastructure, in line with the EU INSPIRE directive has been developed. 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 project geoportal. Socio-economic survey in the Vrbas River Basin has been completed with gender disaggregated data and it includes vulnerability assessment for women in flood risk areas in VRB. Torrents susceptibility model for has been developed for Vrbas river basin. GIS based loss/damage model has been developed for housing and business sector. Development of GIS based loss/damage model for agricultural sector is in its final stage. | End-of-project targets have been met. However, in order for GIS-based tools to become a practice and sustainable in institutions, especially in municipalities, further project engagement with municipal staff is necessary in order for GIS based tools to become an every-day practice. Project Spatial Data infrastructure, in line with the EU INSPIRE directive has been developed. 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 project geoportal. Socio-economic survey in the Vrbas River Basin has been completed with gender disaggregated data and it includes vulnerability assessment for women in flood risk areas in VRB. Torrents susceptibility model has been developed for Vrbas river basin. GIS based loss/damage model has been developed for housing, business and agricultural sectors. |
| **The progress of the objective can be described as:** | | **On track** | | | | |
| **Outcome 3**  **New technologies and approaches for enhanced flood risk management applied to increase resilience of vulnerable communities in VRB** | | | | | | |
| **Description of Indicator** | **Baseline Level** | **Midterm target level** | **End of project target level** | **Level at 30 June 2018** | **Cumulative progress since project start** |
| 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 | *(not set or not applicable)* | At least 5 technologies transferred to 13 communities in community-based adaptation measures | Five technologies have been transferred to all 13 municipalities in VRB to facilitate implementation of community based adaptation measures: participatory GIS, flood maps, torrents register, vulnerability assessment, loss/damage curves, while hydrological and hydraulic model, as well as management of water information system has been handed over hydro-meteorological institutes and water agencies, in line with their legal responsibilities. Implementation of non-structural measures has been completed in 11 municipalities. 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 and introduced to all municipalities in Vrbas river basin. Hydrological and hydraulic (1D and 2D) models for the whole basin have been developed for the purpose of flood mapping. Hydrological models, with climate modelling included, 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. Torrents susceptibility model, which includes torrents register and erosion map, has been developed for Vrbas river basin. 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 and GIS based loss/damage model has been developed. Water information system restructuring has been completed and a platform for exchange of data among water agencies is functional. Development of the community intervention plans, whose purpose is to improve local preparedness and ability of response on flood events, has been initiated for all municipalities in Vrbas river basin. | Five technologies have been transferred to all 13 municipalities in VRB to facilitate implementation of community-based adaptation measures: participatory GIS, flood maps, torrents register, vulnerability assessment, loss/damage curves, while hydrological and hydraulic model, as well as management of water information system has been handed over to hydro-meteorological institutes and water agencies, in line with their legal responsibilities. Implementation of non-structural measures has been completed/ is on-going in 13 municipalities. 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 and introduced to all municipalities in Vrbas river basin. Hydrological and hydraulic (1D and 2D) models for the whole basin have been developed for the purpose of flood mapping. Hydrological models, with climate modelling included, 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. Torrents susceptibility model, which includes torrents register and erosion map, has been developed for Vrbas river basin. 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 and GIS based loss/damage model has been developed. Water information system restructuring has been completed and a platform for exchange of data among water agencies is functional. Community intervention plans, whose purpose is to improve local preparedness and ability to respond on flood events, have been completed for 12 municipalities in Vrbas river basin, with one remaining municipal plan expected to be completed in Sept 2019. |
| 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 | *(not set or not applicable)* | 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 11 non-structural measures in 8 municipalities has been completed. These measures, which benefited app 45,000 people and protected app 1,200 ha of agricultural land, included channel cleaning, re-meandering, gabion installation, riverbed cladding, torrential streams management etc. Identification and selection of measures has been based on flood hazard and risk maps and municipal participation. Total value of these investments was 1.23 mil BAM (app USD 740,000) with 38% co-financing from municipalities. The second set of additional 10 measures has been identified following the same principle. Agro-forestation scheme which provides concrete solutions for agro-forestry measures in the basin has been completed, but high cost of identified measures holds their implementation. Development of flood insurance model applicable for Vrbas River Basin is in progress. Simulation of the developed insurance model for agricultural sector with applicable tariffs is in progress in three pilot municipalities. Terms of reference for the Flood Risk Management Plan has been developed and is awaiting approval by the relevant institutions. | The 21 non-structural measures in 13 municipalities have been identified, of which 18 have been completed and 3 will be finalized by Oct 2019. These measures, which benefited app 60,000 people, treated more than 46 km of river banks and protected app 3,200 ha of agricultural land, included channel cleaning, re-meandering, gabion installation, riverbed cladding, torrential streams management etc. Identification and selection of measures has been based on flood hazard and risk maps and municipal participation. Total value of these investments was 5.12 mil BAM (app USD 2,9 mil) with app 34% co-financing from municipalities. The third set of additional 2 measures focusing on agro-forestry has been identified following the same principle. Agro-forestation scheme which provides concrete solutions for agro-forestry measures in the basin has been completed. |
| No of communities benefitting from introduced forecasting, early warning, response and recovery technologies to support local communities at risk of flooding | FFEWS system currently disjointed and not fully electronically based | *(not set or not applicable)* | Fully integrated Flood forecasting and Early warning system implemented in VRB | Development of FF EWS is in progress. 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. Platform for flood forecasting and early warning system has been selected and its development is in progress. Flood forecasting will also include spatial component i.e. potential flood borders. Development of the FF EWS has been co-financed by two water agencies in the amount of BAM 150.000 (app USD 90,000 i.e. 35% of the total value) | This target has almost been met. Set up for FF EWS has been completed. 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. Platform for flood forecasting and early warning system has been finalized. Flood forecasting has also included spatial component i.e. potential flood borders. Development of the FF EWS has been co-financed by two water agencies in the amount of BAM 150.000 (app USD 90,000 i.e. 35% of the total value). FF EWS test phase is to start on 01 Aug 2019. Development of Protocol on data flow and issuance of warning information is in progress. Water agencies have agreed to use that platform for other three basins with similar geographical features: Bosna, Una-Sana and Drina. |
| **The progress of the objective can be described as:** | | **On track** | | | | |

# Implementation Progress



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| Cumulative GL delivery against total approved amount (in prodoc): | 82.11% |
| Cumulative GL delivery against expected delivery as of this year: | 82.11% |
| Cumulative disbursement as of 30 June (note: amount to be updated in late August): | 4,105,428 |

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| **Key Financing Amounts** | |
| PPG Amount | 150,000 |
| GEF Grant Amount | 5,000,000 |
| Co-financing | 77,260,000 |

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| **Key Project Dates** | |
| PIF Approval Date | Mar 21, 2014 |
| CEO Endorsement Date | Feb 9, 2015 |
| Project Document Signature Date (project start date): | Mar 24, 2015 |
| Date of Inception Workshop | Apr 29, 2015 |
| Expected Date of Mid-term Review | Feb 1, 2018 |
| Actual Date of Mid-term Review | Jun 3, 2018 |
| Expected Date of Terminal Evaluation | Jan 31, 2020 |
| Original Planned Closing Date | Mar 31, 2020 |
| Revised Planned Closing Date | *(not set or not applicable)* |

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| **Dates of Project Steering Committee/Board Meetings during reporting period (30 June 2018 to 1 July 2019)** |
| 2018-10-18 |
| 2019-05-16 |

# Critical Risk Management

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| Current Types of Critical Risks | Critical risk management measures undertaken this reporting period |
| Operational | Due to high cost of agroforestry measures, the project will require additional time to apply adaptive management and resolve the issue.  Implementation costs of agro-forestry measures are far above project budget e.g. the price of reforestation per hectare is approximately USD 3,000. The most efficient way of implementation of agro-forestry measures in line with project budgetary framework and in combination with other non-structural measures, has been identified with technical and financial assistance of municipalities: forest stripes will be planted within municipal owned agricultural area with most intensive production, which should provide flood risk reduction for app 1.3 ha of agricultural land. Implementation of this measure will start in Sept 2019. |

# Adjustments

**Comments on delays in key project milestones**

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| **Project Manager: please provide comments on delays this reporting period in achieving any of the following key project milestones: inception workshop, mid-term review, terminal evaluation and/or project closure. If there are no delays please indicate not applicable.** |
| N/A |

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| **Country Office: please provide comments on delays this reporting period in achieving any of the following key project milestones: inception workshop, mid-term review, terminal evaluation and/or project closure. If there are no delays please indicate not applicable.** |
| N/A |

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| **UNDP-GEF Technical Adviser: please provide comments on delays this reporting period in achieving any of the following key project milestones: inception workshop, mid-term review, terminal evaluation and/or project closure. If there are no delays please indicate not applicable.** |
| N/A |

# Ratings and Overall Assessments

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| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **Project Manager/Coordinator** | Highly Satisfactory | *- IP Rating provided by UNDP-GEF Technical Adviser and UNDP Country Office only -* |
| Overall Assessment | The Development Objective progress is rated as "highly satisfactory" because during the year 4, the Project managed to achieve its set targets and remain a flagship project for flood risk management in the country. The project has exceeded its targets as a completely new approach of dealing with flood risk management via introduction of new technologies has been set. Most of the technologies have been introduced for the first time in the country (hydrological modelling with CC scenarios, 2D hydraulic modelling, torrents susceptibility models, flood forecasting and early warning system, loos/damage modelling etc.) and have been adopted with an intention to replicate them in the rest of the country, pending funds available. It is anticipated that the Project will finalize all of its activities by the estimated time of closure i.e. March 2020. Further elaboration of activities related to the level of development objectives follows:    Outcome 1:    Following an adoption of a Decree containing content and elements of flood risk management plans (FRMP), development of FRMP was initiated. The document has been completed, presented to relevant ministries, water agency and municipalities. The draft FRMP, as a crown of transposing EU Flood Directive, has been completed and, as required by the Law, published by the government to gain comments from the public. Public discussion is planned for the second week in July 2019. http://www.vladars.net/sr-SP-Cyrl/Vlada/Ministarstva/mps/Documents/Radna%20verzija%20Plana%20upravljanja%20rizikom%20od%20poplava%20za%20sliv%20rijeke%20Vrbas%20Republike%20Srpske.pdf  In addition to structural measures (urgent, short-term and long-term), draft FRMP contains and non-structural measures such as management of agricultural and forestry land, anti-flash flood and anti-torrents measures, biological measures etc. It includes a role of hydro-power plants and accumulations in flood management, techno-economic analysis and environmental impact of all measures.    Amendments to Law on Spatial Planning to include flood maps and climate changes have been adopted by the National Assembly and is awaiting to be published in the Official Gazette. Adoption of these amendments has created a base for further discussion on draft flood zoning policy between spatial planning and water management sectors. Flood hazard and risk maps together with building codes have been made public and are available to all citizens in Vrbas river basin municipalities.  Methodologies developed within the project for torrents cadaster and susceptibility model, as well as for the development of the flood risk management plan have been adopted and will be replicated to other river basins in the country. Development of the FRMP for the rest of the country, using the same methodology will be financed by IPA 2016.    Outcome 2:    The Project has put a significant effort to overcome problems with lack of data and its quality. Data for flood mapping and flood forecasting have been brought to satisfactory level, as well as data for loss/damage modelling and torrents susceptibility model. Resolving issue with data deficiency required a lot of work not only by project team, but also from local institutions via data digitalization, interpolation, verification, desk analysis and tremendous amount of field work in gathering existing and verification of historical data. This step-by-step approach has been shared with all relevant institutions and accepted as the best practice which will be applied to other river basins in BiH.    GIS based loss/damage model, based on flood depth /damage curve, which has been developed for housing and business sector, has been used to calculate damages for each return periods (20, 100 and 500 year). These damages have been expressed in monetary and absolute values (%). Development of GIS based loss/damage models for agriculture has also been completed. This model is more complex than the one for housing and business sectors, because besides water depth, the factors such as flood duration and flood seasonality have to be considered in calculation as they have significant influence on damage level for different crops. The total agricultural flood damage in the Vrbas River Basin, assessed within the model, is the result of the sum of losses in the floodplain for the following crops: wheat, maize, barley, potatoes, apple, plum and pear, per each municipality or settlement. By multiplying the losses due to reduction in yields resulting from flooding expressed in Bosnian marks (BAM), and the surface areas of crops in floodplain (ha), the total flood damage is obtained. GIS maps with accompanying document showing agricultural flood damage in the Vrbas River Basin with return periods 500, 100 and 20 years, respectively have been developed. The maximal total damage in agriculture calculated by the model is almost 1.4mil BAM (app 715,000 Eur) for the entire basin. The model also has been validated against real flood damage in agriculture occurred in floods 2014. This comparation showed significant compliance since real assessed damage is 1.3mil BAM.    Following the Project support to the development and upgrade of the Water Information System, as well as training of the professional, water agencies took over management of the System https://isvportal.voda.ba/ , which is now available in a form of mobile application as well. It is important to note that this is still the first automatic data exchange between institutions across entities in BiH, which has, so far, proven its sustainability by water agencies taking over management of the Water Information System and even further improving it.    Outcome 3:    Based on risk class and cost-efficiency, via two public calls (in 2017 and 2018) 21 non-structural flood risk management measures have been identified in 13 municipalities of Vrbas river basin. These measures, of which 18 have been completed and 3 will be finalized by Oct 2019 are benefiting approximately 60,000 citizens, of which 49% are females and protecting app 3,200 ha of agricultural land. Only via second call which was closed in Feb 2018, 10 non-structural measures in 10 municipalities were selected, 7 of them have been completed, while works in 3 municipalities are still in progress. The third public call, following the same principle, was closed in Mar 2019. This public call was focused on torrents management and agro-forestry measures. Two non-structural measures in two municipalities have been selected.    Participatory GIS, as a means for community-based flood risk management and flood forecasting and early warning system (FF EWS), has been introduced in all municipalities and constant trainings (app every 4 months) are held with municipal staff in order for PGIS to become a routine in municipalities. In addition to flood risks, this tool can be used for reporting landslides, ecological threats etc.    Development of flood intervention plans has been completed for 12 municipalities in Vrbas river basin, with one municipality still pending its finalization. These Plans have included newly developed tools such as risk and hazard maps and newly developed information sources for flood risk management (Vrbas GeoPortal and Participatory GIS tool). Intervention plans clearly define evacuation protocols with routes and assembly areas and contain communication and raising awareness plans. The Plan includes a list with most vulnerable citizens (elderly, people with special needs etc.). Gender component is, for the first time in Bosnia and Herzegovina, covered in these plans via identification and location of single-headed female households in case of emergency. Also, assembly centers are to be supplied with female and male hygienic kits. The plans also contain names of the responsible personnel and their contact data.    In order to identify shortcomings and test developed plans, the flood simulation exercise – including drills and role play, was organized for 13 municipalities. Minor needs for improvements, mainly in evacuation plan and communication approach have been identified and corrected.    During the reporting period various trainings were organized for municipal employees and for first and second responders in flood emergencies on the following topics: planning in protection and rescue, legislative framework, reaction plans, roles and responsibilities in flood emergency situation, roles and responsibilities of local civil protection units, mobilization and evacuation, communication and awareness raising, maintenance of non-structural measures in FRM, digital tools in FRM for local level, spatial planning and zoning in context of floods, etc.  Having in mind devastating effects of floods in agricultural sector and lack of knowledge of local farmers how to improve their resilience, training of trainers for representatives of entity, cantonal and municipal agricultural extension services was held. Total of 4 trainings were organized and 130 trainers from agricultural extension services were trained in the area of climate change impact on agricultural land degradation and decrease in crop yields and measures which can be taken in agricultural practice to mitigate flood risk. As these experts from agricultural extension services cover area wider than Vrbas river basin, they will further continue passing this knowledge to approximately 40.000 agricultural workers across BiH, of which app 10.000 are in Vrbas river basin. The participants were given guidelines and recommendations on practical and desirable measures to be implemented in agricultural parcels.    Following the establishment of the institutional set-up for FF EWS, the first FF EWS platform in BiH has been created. This platform has been placed in water agencies and will serve as base for FF EWS systems which will be developed for other river basins in BiH. The FF EWS has been finalized and its test phase will start on 01 Aug 2019. Development of Protocol on data flow and issuance of warning information is in progress. The fact that Water agencies agreed to issue flood warning during testing phase with a clear note that it is in testing phase, shows how pressing this issue is.    Community Based Early Warning System (CB EWS) has been introduced in three pilot municipalities: Celinac, Bugojno and Kotor Varos. Criteria for selection of these municipalities were: a) local situation: streams and torrents with local flooding effect, but not covered by FFEWS (full FFEWS is covering Vrbas and two main tributaries: Pliva and Vrbanja) and b) strong interest and commitment of the local community. Additional equipment i.e. staff gauges have been purchased and installed at locations where water levels are easily monitored. Draft CB EWS monitoring, and information flow plan has been developed for each municipality.    One challenge that the project is facing is that the implementation costs of agro-forestry measures are far above project budget e.g. the price of reforestation per hectare is approximately USD 3,000. The most efficient way of implementation of agro-forestry measures in line with project budgetary framework and in combination with other non-structural measures, has been identified with technical and financial assistance of municipalities: forest stripes will be planted within municipal owned agricultural area with most intensive production, which should provide flood risk reduction for app 1.3 ha of agricultural land. Implementation of this measure will start in Sept 2019.    Draft Gender Action plan, with identified indicators and targets to address flood risk management has been developed and is awaiting consent from local gender centers.    Insurance models with applicable tariffs has been developed for agricultural sector. Simulation of the model is initiated in three pilot municipalities with most intensive agriculture in the basin (Laktasi, Srbac and Banja Luka). Based on the model results, insurance companies have drafted disaster insurance products for agricultural holdings. In addition, the pilot municipality will introduce a provision on conditioning agricultural subsidies in 2020 with insurance policy against natural disasters. Activities related to introduction of natural disaster insurance have gone beyond three pilot municipalities: within the project Draft version of the Terms and Conditions for Compulsory Natural Disasters insurance had been developed and agreed by all members of the Board for non-life insurance of the Association of Insurance companies. Following their approval, Terms and Conditions have been finalized and sent to brokers for determining the price and to Insurance agency (government agency) for further approval. The planned deadline for completing these activities is the end of 2019.    Project disbursement in 2018 was 90% against planned. It is expected that the Project will reach at least 80% of its 2019 disbursement target. Only delay, although unlikely, can happen if severe weather conditions interrupt implementation of infrastructural works.    During the next year, implementation of the following activities will continue: implementation of flood zoning policy, institutional capacity building activities, establishment of FF EWS protocol, adoption of FRMP, implementation of remaining selected non-structural measures, continuous trainings for the professionals in FF EWS and municipal employees in PGIS, CB EWS and flood risk management, as well as on introduction of disaster risk insurance. Special attention will be paid to implementation of identified agro-forestry measures and establishment of flood insurance model. The Project will also continue addressing MTR recommendations: on-the-job training with project beneficiaries will continue; promotion of Eco-system based approach and "making room for water" and/or "living with floods" approach; development of a financial sustainability strategy will be initiated to address among other issues sustainable maintenance of hydro-meteorological equipment; project document for the new project proposal scaling-up Vrbas project results should be completed by the end of the project; development of agroforestry measures with municipal co-financing has started; regulatory framework for development of the flood risk management plan has been completed and draft FRPM is completed; and work on insurance models is in progress. | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **UNDP Country Office Programme Officer** | Highly Satisfactory | Satisfactory |
| Overall Assessment | The DO rating is "highly satisfactory" because in its fourth year of implementation, the Project managed to implement its annual work plan and should be completed within initially scheduled project tenure of 5 years. Implementation progress rating is "satisfactory" as it is expected that the Project will disburse at least 80% of its 2019 budget and utilize all funds by the closure date. This is a flagship project in the country in the area od flood risk management, from both the institutional and technical aspects: the project has exceed its targets in a sense that most of the activities and methodologies developed within this project have been adopted for the rest of the country and there is a strong commitment from the country, pending financial resources for replication of activities such as: torrents modelling, development of flood risk management plan, flood forecasting and early warning system, flood zoning, selection and design of non-structural measures, development of flood intervention plans etc.    Due to excellent cooperation established with project board members and relevant institutions the project managed to identify risk on time and has, so far, managed to resolve issues such as development of the floor risk management plan (FRMP) and identification of agro-forestry measures. Regulatory framework for FRMP has been crated, draft FRMP developed and methodology adopted for the whole BiH. The most efficient way of implementation of agro-forestry measures in line with project budgetary framework, has been identified with technical and financial assistance of municipalities: forest stripes will be planted within municipal owned agricultural land.    Although development of the flood insurance model applicable to BiH still poses further challenges, the project has developed Terms and Conditions for Compulsory Natural Disasters which is pending approval from relevant bodies.  In its second half of implementation the project’s main focus is on building community resilience.    The main achievements during the year 4 are:    1. Policy Framework: climate changes and flood hazard and risk maps have been introduced into the local Law on Spatial Planning, which creates a base for municipal spatial regulations to also include flood maps in their plans. Draft flood zoning policy for floodplains, together with of guidance documents for integration of flood risk in spatial plans at local level has been developed. Training for municipal representatives will follow.  Vrbas FRMP is the first integrative flood risk planning document in BiH. It completely follows recently adopted Decree on content and elements of flood risk management and its finalization is expected in Jul 2019. The flood zoning policy, as well as spatial planning and construction issues with recommendations for implementation are integral part of FRMP and are recognized as one of the main nonstructural measures. Although still in draft version, this plan was used by Hydro-power plants at Vrbas to successfully guide their operations i.e. water level in accumulations during floods in May 2019.    2. Institutional Capacity: The project is continuing on-the-job training with professionals in water agencies and hydro-meteorological institutes which is crucial for activities necessary for successful establishment for the flood forecasting and early warning system. Tools established by the project were used to model floods which affected Bosnia and Herzegovina in 2019. Although model results for main watersheds and torrents were quite accurate, lack of protocol on data exchange and warning issuance was obvious. This issue will be resolved with finalization and adoption of FF EWS protocol which will involve all relevant institutions: hydro-meteorological institutes, water agencies, civil protection units, municipalities etc.  Increase in institutional capacities can also be seen via data exchange platform established among three water agencies, which has been operational and further improved by water agencies themselves which shows their commitment and sustainability of the activity;    3. Community Resilience: Following the analysis of potential vulnerability and damages from floods for each municipality in Vrbas River Basin and development of the flood loss and damage modelling for housing and business sector, flood loss/damage model for agricultural sector for 7 most represented crops has been developed, showing the maximum damage per municipality. Good loss/damage modelling is the first link between flood damage and flood depth and results of these analysis have already been used for development of the flood risk management plans and will be further used for prioritization of anti-flood measures in Vrbas River Basin.  As mentioned, so far the project has implemented / is implementing 21 flood risk management measures in 13 municipalities in Vrbas river basin, which have been co-financed by local partners with app 34% of total investment value. The project’s holistic approach, integrated flood/water management and identification of flood risk management measures based on flood risk mapping has given excellent results during Feb 2019 and May 2019 floods. All of the implemented non-structural measures served its purpose and it was recognized and highly commended by representatives of local communities, especially Srbac, Laktasi and Bugojno. Unfortunately, as witnessed again during 2019 floods, torrents still present a huge problem, not only in Vrbas river basin, but in the whole BiH and that issue certainly deserves more attention. Methodology for torrents register and modelling developed under this project has been adopted for the rest of the country.    Development of flood intervention plans, improving local preparedness and ability of respond to flood events, has been completed for 12 municipalities and for one municipality (Sipovo) is in final stage. Development of these plans was supported with constant flood awareness raising activities such as TV and radio shows, development and distribution of leaflets and ensured visibility at municipal web pages.    Local communities, together with water agencies, remain directly involved in identification and implementation of most needed non-structural flood risk management measures in their areas.    Although initially planned to focus insurance activities on three pilot municipalities, the project set an ambitious goal to institutionalize natural disaster insurance at entity level. The progress and interest from local insurance companies (private companies) was excellent. Terms and Conditions for Compulsory Natural Disasters Cover have been finalized and sent to brokers for determining the price, after which it will be sent to Insurance agency for approval.    Also, draft gender assessment and action plan for the climate change adaptation activities focused on climate resilient flood risk management for the BiH has been developed and is awaiting input from local stakeholders.    Project MTR, which was conducted during the period Nov 2017-Jun 2018 resulted in 7 recommendations and all of them are being addressed: 1. on-the-job training with project beneficiaries is continuing; 2. emphasis put on "making room for water" and/or "living with floods" has given results and is slowly being accepted by local stakeholder; 3. development of a financial sustainability strategy will start in Sept 2019 (data gathering is in progress); 4. preparation of the new project proposal scaling-up Vrbas project results is in progress; 5. development of agroforestry measures with municipal co-financing has started; 6. regulatory framework for development of the flood risk management plan has been completed and draft FRPM is completed; and 7. work on insurance models is in progress.    During the year 5, the project will continue activities related to linking spatial planning and floods, institutional capacity building activities, finalization of flood forecasting and early warning system with developed protocols on data exchange, adoption of the appropriate flood insurance models and further implementation of non-structural flood risk management measures in the Vrbas River Basin. Significant effort will also be put for activities at local level such as trainings on "making room for water" and/or "living with floods", as well as trainings for the municipal employees, first-responders to flood emergencies, utility companies etc.    The main risks which lay ahead of us in the year 5 is implementation of identified agro-forestry measures, as the implementation costs of agro-forestry are very high. We have identified a measure of planting forest stripes within municipality owned agricultural area, whose implementation is to start in Sept 2019 and requires a lot of municipal effort and preparatory work (providing staff, creating space within agricultural area etc.). Municipality is very keen on doing this and only with strong support of local administration, the project will be able to complete this agro-forestry measure.  Additional effort is also needed in finalization of flood insurance activities which will ensure sustainability and provide a base for easier replication of insurance models developed for three pilot municipalities. The project has, in close cooperation with association of insurance companies, developed draft Terms and Conditions for Compulsory Natural Disasters and will continue facilitating this activity until the document is put into force by Insurance Agencies, which is expected by the end of the year.    As mentioned above, it is expected that the Project will disburse at least 80% of its 2019 budget. Major disbursement is planned for implementation of non-structural flood risk management measures in the second half of 2019. No delay is anticipated, unless unexpected weather conditions hinder implementation of infrastructural works. | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **GEF Operational Focal point** | Highly Satisfactory | *- IP Rating provided by UNDP-GEF Technical Adviser and UNDP Country Office only -* |
| Overall Assessment | During this reporting period, the Project managed to perform as planned. It is important to mention that, unless unexpected circumstances take place, this project will complete all of its activities within initially planned duration. It happens very rarely in Bosnia in Hercegovina that projects do not seek for extension. This points out not only a hard work of the project staff, but also the fact that these types of activities are very much needed in Bosnia and Herzegovina and that floods and climate change in general are pressing issues for us.  The Project managed to become a “pioneer” project in holistic, integrated flood and water management and I am very happy to see that the relevant institutions have recognized that and are looking for ways and resources to apply that to other river basins. I must mention successful integration of environment and flood/ water management within flood risk management plan which again shows how important this issue is for all sectors.  In addition to its achievements at policy level and introduction of technologies such as flood mapping and flood forecasting which are operated by professionals, the project is also to be commended for its work at the very local level. Via its trainings for agricultural workers, implemented non-structural measures, flood simulating drills and flood intervention plans which accounted for every single person, the project showed care for the people who are in most need. The project has invested a lot of time and effort to overcome issues with lack of data and that principle should be applied to all other river basins.  The project is also building strong interdependence between institutions via information system and data exchange protocols, which is very important for sustainability of project results. Also, e.g. flood forecasting and early warning system clearly requires close cooperation among hydro-meteorological institutions, water agencies, civil protections and municipalities. It is needless to say how much Bosnia and Herzegovina needs cooperation and clear role-setting between institutions.  Although I mentioned it in the last year report, I feel obliged to point out that it is not only Sustainable Development Goal 13 (climate action) which is being represented in the project, but also other SDG’s such as management of water (SDG 6), decent work and economic growth (SDG 8), land and environmental protection (SDG 15), food security and sustainable agriculture (SDG 2), as well as gender (SDG 5) via tackling the most vulnerable groups.  Last, but not he least, Bosnia and Herzegovina had its parliamentary and presidential elections in October 2018 and governments at state and entity levels have not been formed as yet. Hopefully it will not delay Project activities, nor diminish results achieved so far. | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **Project Implementing Partner** | *(not set or not applicable)* | *- IP Rating provided by UNDP-GEF Technical Adviser and UNDP Country Office only -* |
| Overall Assessment | *(not set or not applicable)* | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **Other Partners** | *(not set or not applicable)* | *- IP Rating provided by UNDP-GEF Technical Adviser and UNDP Country Office only -* |
| Overall Assessment | *(not set or not applicable)* | |
| **Role** | **2019 Development Objective Progress Rating** | **2019 Implementation Progress Rating** |
| **UNDP-GEF Technical Adviser** | Highly Satisfactory | Satisfactory |
| Overall Assessment | The project has been performing extremely well over the past years with strong delivery, excellent stakeholder engagement and good progress against the indicators. The suggested rating for the progress towards the development objective is “highly satisfactory” and for the implementation progress – “satisfactory”. The project is well on track with the achievement of its target indicators and have already reached some of the end-target objective- and outcome-level indicators.    At the objective level, the project has two indicators. The indicator related to the expansion and upgrading of the hydro-meteorological observation network in the Vrbas River basin have been fully achieved last year with the observation network installed and fully functioning. The second indicator is related to the introduction of the modern technologies on flood risk monitoring, modeling and forecasting and vulnerability assessment. This indicator has been also met in this reporting period with state-of-the-art flood risk assessment, monitoring, forecasting and risk reduction technologies already introduced in BiH. This includes the fully integrated flood forecasting and early warning system.    Under the Outcome 1 the project is well on track with the development of policy, regulatory and guidance documents for integrated climate resilient flood risk management. Eight technical guidance documents have been developed on climate resilient flood risk management (against the end-of-project target of 10) and two more are in progress. Several legal and regulatory documents prepared by the project have been formally adopted, including amendments to the Law on Waters, a decree on flood risk management, and amendments to the Law on Spatial Planning. Draft flood zoning policy has been developed.    Under the Outcome 2 the project achieved 70% improvement in technical capacities of the national institutional partners (end-project target is 75%) by delivering technical training to over 150 professionals in data management, use of water information system, hydrological and hydraulic modelling, torrents modelling, non-structural flood protection options. The second indicator under this Outcome (GIS-based flood damages, losses and vulnerability assessment tool and systematic socio-economic survey methods) has been fully achieved last year, however, the project continues working with the local beneficiaries to secure efficient introduction of these tools into practical flood risk management.    Under the Outcome 3 the work on technology transfer at the community level is on track. Community flood risk reduction plans have been completed for 12 municipalities in VRB. The project already implemented 18 risk reduction measures in 13 municipalities protecting approximately 60,000 people and 3,200 ha of agricultural land. Fully integrated Flood Forecasting and Early Warning System has been designed. Progress have been achieved with the work on agroforestry and flood risk insurance.    Gender Action Plan has been developed and shared with stakeholders for review and endorsement. The project has been generating gender disaggregated data and has been implementing an innovative socio-economic risk modeling based on gender-sensitive vulnerability assessment.    Following the MTE conducted in the previous reporting period that resulted in Highly Satisfactory rating, the project team has addressed all MTE technical comments and implemented recommendations in line with the MTE management response. The project team is currently preparing for the Final Evaluation which will be conducted in the next reporting period.    In the reporting period UNDP-GEF RTA has met the project and the national beneficiaries at the Istanbul Regional Hub. BiH UNFCCC/GEF/GCF Focal Point again strongly commended the project relevance, quality and efficiency. The project represents one of the flagship initiatives in the framework of cooperation between BiH and UNDP. It has been reconfirmed by the Government counterparts that the project has a very strong potential for scaling up. Replication and scaling up of the SCCF project results already started. The International Sava River Basin Commission adopted Vrbas River model for the regional EWS. Water agencies have agreed to use the FFEWS platform developed by the project for other three basins with similar geographical features: Bosna, Una-Sana and Drina. The government expressed an interest in scaling up the project solutions through a follow up Green Climate Fund (GCF) project. GCF encouraged the full project development based on the submitted concept note, the GCF project development is underway. The project leveraged additional co-financing for the project activities from national counterparts.    The project team has been effectively managing emerging risks and implementation issues. The risk identified during the previous reporting period related to the reassessment of the costs of the agroforestry activities has been managed through partnerships with the other co-financiers. The project reported that agro-forestation scheme with solutions for agro-forestry measures in the basin has been completed.    One of the most challenging areas of work as highlighted in the previous PIR was the development and piloting of flood insurance scheme. The project has reported a strong progress in this area. The project developed a set of conditions for mandatory insurance against natural disasters for consideration by the Entity Government. Based on the prototype insurance model for agricultural sector designed by the project, insurance companies have developed an insurance product for agricultural households. More importantly, pilot municipalities will include disaster insurance as a prerequisite for the release of agricultural subsidies in 2020.    In terms of the operational effectiveness, the project has been performing very strongly. The project delivery has been on track (82% against the total project budget and against the 2019 annual budget). The project reporting has been timely and of high quality. The PMU is responsive and proactive in adaptive management and identifying new opportunities for the project. The project Steering Committee meetings have been effective mechanism for the coordination with stakeholders and for guiding the project.    In view of the above, the project’s progress towards its development objective is rated “highly satisfactory”. It is very likely that the project will fully achieve its end-of-the-project targets and will strengthen resilience of Vrbas communities to climate-induced floods. | |

# Gender

**Progress in Advancing Gender Equality and Women's Empowerment**

This information is used in the UNDP-GEF Annual Performance Report, UNDP-GEF Annual Gender Report, reporting to the UNDP Gender Steering and Implementation Committee and for other internal and external communications and learning.  The Project Manager and/or Project Gender Officer should complete this section with support from the UNDP Country Office.

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| **Gender Analysis and Action Plan:** *not available* |
| **Please review the project's Gender Analysis and Action Plan. If the document is not attached or an updated Gender Analysis and/or Gender Action Plan is available please upload the document below or send to the Regional Programme Associate to upload in PIMS+. Please note that all projects approved since 1 July 2014 are required to carry out a gender analysis and all projects approved since 1 July 2018 are required to have a gender analysis and action plan.** |
| [FRM Gender Assessment and Action Plan - Draft 2019.docx](https://undpgefpims.org/attachments/5241/213959/1728933/1743834/FRM%20Gender%20Assessment%20and%20Action%20Plan%20-%20Draft%202019.docx) |

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| **Please indicate in which results areas the project is contributing to gender equality (you may select more than one results area, or select not applicable):** |
| Contributing to closing gender gaps in access to and control over resources: No |
| Improving the participation and decision-making of women in natural resource governance: Yes |
| Targeting socio-economic benefits and services for women: Yes |
| Not applicable: No |

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| **Atlas Gender Marker Rating** |
| **GEN2:** gender equality as significant objective |

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| **Please describe any experiences or linkages (direct or indirect) between project activities and gender-based violence (GBV). This information is for UNDP use only and will not be shared with GEF Secretariat.** |
| N/A |

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| **Please specify results achieved this reporting period that focus on increasing gender equality and the empowerment of women.**    **Please explain how the results reported addressed the different needs of men or women, changed norms, values, and power structures, and/or contributed to transforming or challenging gender inequalities and discrimination.** |
| The project has been generating gender disaggregated data and developed community intervention plans for each municipality. These plans have addressed the different needs of males and females in terms of information sharing and needs at assembly points. Special attention has been paid to females capacity building and support to single-headed female households. Flood forecasting warnings and risk information will be tailored to the needs and capabilities of vulnerable groups, targeting women, senior citizens and persons with disabilities.  Draft Gender action plan for the climate change adaptation project focused on climate resilient flood risk management has been developed and is awaiting comments from relevant local institutions. Some of the activities in Action plan have already been implemented such as collecting gender desegregated data, developing gender sensitive community intervention plan, gender sensitive protocols for flood warning etc. If this Gender action plan is agreed upon by entity gender centers and gender agency at state level, these institutions will be in position to ensure its subsequent use i.e. after project closure, as all legal/regulatory documents need to have gender center opinion. |

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| **Please describe how work to advance gender equality and women's empowerment enhanced the project's environmental and/or resilience outcomes.** |
| Training of women on how to act and how to protect their health and property (building, cattle, crops) in case of flood risk and how to act in case of floods will help them to get back on their feet quicker and maintain economic stability as much as possible. Information on shelters available in case of disasters, as well as information on potential aid and other resources during recovery and reconstruction, will further contribute to their ability to participate in social activities and access key productive assets. In this way gender equity is promoted and women will be empowered for broader resilience. |

# Social and Environmental Standards

**Social and Environmental Standards (Safeguards)**

The Project Manager and/or the project’s Safeguards Officer should complete this section of the PIR with support from the UNDP Country Office. The UNDP-GEF RTA should review to ensure it is complete and accurate.

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| **1) Have any new social and/or environmental risks been identified during project implementation?** |
| No |

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| **If any new social and/or environmental risks have been identified during project implementation please describe the new risk(s) and the response to it.** |
| N/A |

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| **2) Have any existing social and/or environmental risks been escalated during the reporting period? For example, when a low risk increased to moderate, or a moderate risk increased to high.** |
| No |

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| **If any existing social and/or environmental risks have been escalated during implementation please describe the change(s) and the response to it.** |
| N/A |

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| **SESP:** [5241\_SCCF\_BH\_ESSP Checklist and Summary - 09Dec 14.doc](https://undpgefpims.org/attachments/5241/213959/1685442/1685723/5241_SCCF_BH_ESSP%20Checklist%20and%20Summary%20-%2009Dec%2014.doc)  **Environmental and Social Management Plan/Framework:** *not available* |
| **For reference, please find below the project's safeguards screening (Social and Environmental Screening Procedure (SESP) or the old ESSP tool); management plans (if any); and its SESP categorization above. Please note that the SESP categorization might have been corrected during a centralized review.** |
| *(not set or not applicable)* |

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| **3) Have any required social and environmental assessments and/or management plans been prepared in the reporting period? For example, an updated Stakeholder Engagement Plan, Environmental and Social Impact Assessment (ESIA) or Indigenous Peoples Plan.** |
| No |

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| **If yes, please upload the document(s) above. If no, please explain when the required documents will be prepared.** |
| N/A |

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| **4) Has the project received complaints related to social and/or environmental impacts (actual or potential )?** |
| No |

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| **If yes, please describe the complaint(s) or grievance(s) in detail including the status, significance, who was involved and what action was taken.** |
| N/A |

# Communicating Impact

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| **Tell us the story of the project focusing on how the project has helped to improve people’s lives.**  **(This text will be used for UNDP corporate communications, the UNDP-GEF website, and/or other internal and external knowledge and learning efforts.)** |
| During 2017 the works on the regulation of the torrential waterflows of Podstranac and Jularac, which flow through four Banja Luka settlements Paprikovac, Nova Varoš, Rosulje and Starčevica, were initiated. By improving, cleaning and controlling water flow damaging effects in the case of intense rainfalls were reduced for more than 25,000 residents who live in these settlements and over 35 businesses. In 2018, the Vrbas Project continued with the construction works on the regulation of the Vrbas river in the length of one kilometer between Banja Luka and Laktasi municipalities.    In May 2019, further flooding was experienced within the Vrbas river basin. These latest floods were not as devastating as in 2014, owing to the adaptation measures, which ensured that very low damage was suffered thanks to the significantly higher preparedness of local residents and authorities.    On that occasion Mayor of City of Banja Luka, Mr Igor Radojicic reminded that City authorities in cooperation with Vrbas Project regulated parts of the Vrbas river between Banja Luka and Laktasi, as well as torrential waterflows and streams within the City. &quot;It is evident that thanks to our cooperation with UNDP, these days we didn’t have the problem with torrential waterflows nor streams. In addition, with the mechanization of the Department for Civil Protection and Anti-Fire Protection we have cleaned some other watercourses, torrent streams and canals which caused problems over the past years,&quot; underlined Radojicic adding that the City of Banja Luka will continue with all preventive activities this year. |

**Knowledge Management, Project Links and Social Media**

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| --- |
| **Please describe knowledge activities / products as outlined in knowledge management approved at CEO Endorsement /Approval.**    **Please also include: project's website, project page on the UNDP website, blogs, photos stories (e.g. Exposure), Facebook, Twitter, Flickr, YouTube, as well as hyperlinks to any media coverage of the project, for example, stories written by an outside source. Please upload any supporting files, including photos, videos, stories, and other documents using the 'file lirbary' button in the top right of the PIR.** |
| • https://www.dw.com/en/flood-management-in-bosnia-and-herzegovina/av-48691961  • https://www.atvbl.com/atv/video/biznis-klub/biznis-klub-1682018  • https://www.nezavisne.com/novosti/banjaluka/Pocelo-uredjenje-korita-Vrbasa/499916  • http://www.unsa.ba/en/novosti/training-unsa-faculty-civil-engineering  • http://kucz.ks.gov.ba/novosti/direktor-kantonalne-uprave-civilne-zastite-i-njegov-pomocnik-za-mjere-zastite-i-spasavanje  • https://www.atvbl.com/vijesti/banja-luka/uredjenje-obala-i-korita-vrbasa-9-12-2018  • https://reliefweb.int/report/bosnia-and-herzegovina/vrbas-project-first-flood-simulation-exercise-organized-four  • https://www.atvbl.com/vijesti/drustvo/lokalne-zajednice-spremnije-docekaju-vremenske-neprilike-6-2-2019  • https://www.rtrs.tv/vijesti/vijest.php?id=326432  • https://www.atvbl.com/vijesti/drustvo/radio-repetitori-olaksavaju-komunikaciju-i-spasavanje-u-slucaju-poplava-13-2-2019  • http://www.glassrpske.com/banjaluka/gradske\_teme/Smanjen-rizik-od-poplava/lat/279658.html  • http://privrednik.ba/undp-za-regulaciju-sliva-vrbasa-ulozio-oko-milion-km/  • http://fena.ba/article/1071148/undp-za-regulaciju-sliva-vrbasa-ulozio-oko-milion-km  • https://www.banjaluka.com/drustvo/uredjenje-korita-rijeke-vrbas-pri-kraju-izgradnja-obaloutvrde-u-prijecanima/  • http://fena.ba/article/1074296/undp-implementira-projekt-smanjenja-poplavnog-rizika-u-slivu-vrbasa  • https://ba.ekapija.com/news/2463084/predstavljene-tehnike-ublazavanja-steta-od-poplava-na-zasadima-uskoro-izrada-plana-upravljanja  • https://www.atvbl.com/vijesti/ekonomija/domacinstva-i-privrednici-prepoznaju-potrebu-za-osiguranjem-od-prirodnih  • http://indikator.ba/Vijest.aspx?p=1&id=23265&naslov=Pola%20milijarde%20potrebno%20za%20za%9Dtitu%20od%20nepogoda  • http://www.federalna.ba/bhs/vijest/269093/implementira-undp-finansira-globalni-fond-za-okolis  • https://www.face.ba/vijesti/bih/undp-implementira-projekt-smanjenja-poplavnog-rizika-u-slivu-vrbasa/11900  • https://www.akta.ba/vijesti/preventivne-mjere-protiv-poplava-misljenje-institucija-bih-i-eu-u-raskoraku/100064  • https://www.youtube.com/watch?v=xDVAWwsI1sc  • https://www.atvbl.com/vijesti/drustvo/minimalna-materijlana-steta-projekti-dali-rezultata-27-5-2019  • http://ba.n1info.com/Video/Info/a344644/Bosankic-Mape-opasnosti-pokazuju-da-su-urbane-zone-pod-rizikom.html?fbclid=IwAR03Wnl80DQxOlkyT9v9jpFgx5f6f7CyxmwsKTA67E-vJ81wOT6uQS1iaBo  • https://banjaluka.net/civilna-zastita-krece-u-akciju-ciscenja-potoka-i-kanala/?fbclid=IwAR1J0a9Wx7YTOpa13I\_LV4ALYuURmFrG3q\_\_U1sVynpfPulZSZQSncXrChQ  • https://media.klipingmap.com/pdf/view?filePath=2019/03/18/7e6b2ccd-3ee3-4019-81d3-e06cc16a9639&language=bs&topicGroupId=8b11b255-0b19-3d6f-9f0d-0955536d7416&showHighlights=true&purpose=2  • 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https://www.facebook.com/UNDPBiH/videos/2205323793126357/  • https://www.facebook.com/pg/UNDPBiH/photos/?tab=album&album\_id=2073439106026971    • SDG goal 13 https://undp-adaptation.exposure.co/positive-sum |

# Partnerships

**Partnerships & Stakeholder Engagment**

Please select yes or no whether the project is working with any of the following partners. Please also provide an update on stakeholder engagement. This information is used by the GEF and UNDP for reporting and is therefore very important!  All sections must be completed by the Project Manager and reviewed by the CO and RTA.

|  |
| --- |
| **Does the project work with any Civil Society Organisations and/or NGOs?** |
| Yes |

|  |
| --- |
| **Does the project work with any Indigenous Peoples?** |
| No |

|  |
| --- |
| **Does the project work with the Private Sector?** |
| Yes |

|  |
| --- |
| **Does the project work with the GEF Small Grants Programme?** |
| No |

|  |
| --- |
| **Does the project work with UN Volunteers?** |
| Yes |

|  |
| --- |
| **Did the project support South-South Cooperation and/or Triangular Cooperation efforts in the reporting year?** |
| Yes |

|  |
| --- |
| **CEO Endorsement Request:** [RESUBMISSION\_PIMS5241\_SCCF\_BH\_CEO\_Endorsement\_ 21-01-15.doc](https://undpgefpims.org/attachments/5241/213959/1685458/1685739/RESUBMISSION_PIMS5241_SCCF_BH_CEO_Endorsement_%2021-01-15.doc) |
| **Provide an update on progress, challenges and outcomes related to stakeholder engagement based on the description of the Stakeholder Engagement Plan as documented at CEO endorsement/approval (see document below). If any surveys have been conducted please upload all survey documents to the PIR file library.** |
| The Project has established excellent and almost day-to-day cooperation with the most relevant ministries which are represented in project board: Ministry of Foreign Trade and Economic Relations as state ministry in charge of coordinating water management and environmental issues, entity ministries in charge of water management and UNFCCC focal point. These ministries play a significant role in establishment of regulatory framework and it is with their support that climate changes and flood mapping have been entered into water and spatial planning laws. The main project beneficiaries: hydro-meteorological institutes, water agencies and civil protection units, together with ministries in charge of water management are consistently involved in technology transfer and capacity building activities. They are all part of the Inter-agency working group which has worked on development of methodologies for flood mapping, torrents mapping, loss/damage modelling, flood risk management plan development, flood zoning policy, flood forecasting and early warning system platform etc. It is only with their assistance that all these newly transferred technologies are accepted, implemented and adopted for further replication for other river basins in the country.    Beneficiaries at local level have been heavily involved in socio-economic survey and gender sensitive vulnerability studies, development of community intervention plans containing community engagement and mobilization components, as well as in implementation of non-structural flood risk management measures. In order to assure participatory approach of the local stakeholders, via public call and based on developed flood risk maps, local municipalities were asked to identify non-structural flood risk management measures in their municipalities. Based on primarily class of risk and cost-efficiency, projects were selected as the non-structural measures which will be financed within the project. Active role in project selection was given to water agencies, which are in charge for river basin management, to ensure integral approach. Municipal employees, farmers, first-responders, vulnerable groups have been part of various trainings provided by the project.  The Project has developed a geoportal (http://vrb.pmfbl.org/) which links spatial data infrastructure and hydro-meteorological data, including real time measurements, but also via participatory GIS component allows for citizens’ participations.  Frequent and fruitful cooperation has been established with private sector: hydro-power plants (HPP) and insurance companies. HPP were involved in development of flood risk management plan (FRMP) which focused on accumulation management during flood risk and have literally put the FRMP in practice during 2019. floods. Such a reaction was highly commended by the Minister for Agriculture, Forestry and Water Management and Banja Luka Mayor. Insurance companies were directly involved in development of flood insurance models and Terms and Conditions for Compulsory Natural Disasters. In addition to our work with associations of insurance companies (one in Republika Srpska and one in Federation of Bosnia and Herzegovina), which cover all insurance companies, companies’ representatives were actively involved in development of insurance products and kept sending their representatives at our joint brainstorming meetings/workshops which resulted in the draft Terms and Conditions for Compulsory Natural Disasters.  The project is also coordinating its activities with other international initiatives such as WBIF project on flood mapping, EC and WB activities on other river basins and has provided input for IPA financing by developing necessary methodologies.  It is important to emphasize that Bosnia and Herzegovina had its parliamentary and presidential elections in October 2018 and governments at state and entity levels have not been formed as yet. Some of directors e.g. hydro-meteorological institute and water agency have been changes, but we hope it will not delay our activities, nor undermine project achievements. |

# Annex - Ratings Definitions

**Development Objective Progress Ratings Definitions**

(HS) Highly Satisfactory: Project is on track to exceed its end-of-project targets, and is likely to achieve transformational change by project closure. The project can be presented as 'outstanding practice'.

(S) Satisfactory: Project is on track to fully achieve its end-of-project targets by project closure. The project can be presented as 'good practice'.

(MS) Moderately Satisfactory: Project is on track to achieve its end-of-project targets by project closure with minor shortcomings only.

(MU) Moderately Unsatisfactory: Project is off track and is expected to partially achieve its end-of-project targets by project closure with significant shortcomings. Project results might be fully achieved by project closure if adaptive management is undertaken immediately.

(U) Unsatisfactory: Project is off track and is not expected to achieve its end-of-project targets by project closure. Project results might be partially achieved by project closure if major adaptive management is undertaken immediately.

(HU) Highly Unsatisfactory: Project is off track and is not expected to achieve its end-of-project targets without major restructuring.

**Implementation Progress Ratings Definitions**

(HS) Highly Satisfactory: Implementation is exceeding expectations. Cumulative financial delivery, timing of key implementation milestones, and risk management are fully on track. The project is managed extremely efficiently and effectively. The implementation of the project can be presented as 'outstanding practice'.

(S) Satisfactory: Implementation is proceeding as planned. Cumulative financial delivery, timing of key implementation milestones, and risk management are on track. The project is managed efficiently and effectively. The implementation of the project can be presented as 'good practice'.

(MS) Moderately Satisfactory: Implementation is proceeding as planned with minor deviations. Cumulative financial delivery and management of risks are mostly on track, with minor delays. The project is managed well.

(MU) Moderately Unsatisfactory: Implementation is not proceeding as planned and faces significant implementation issues. Implementation progress could be improved if adaptive management is undertaken immediately. Cumulative financial delivery, timing of key implementation milestones, and/or management of critical risks are significantly off track. The project is not fully or well supported.

(U) Unsatisfactory: Implementation is not proceeding as planned and faces major implementation issues and restructuring may be necessary. Cumulative financial delivery, timing of key implementation milestones, and/or management of critical risks are off track with major issues and/or concerns. The project is not fully or well supported.

(HU) Highly Unsatisfactory: Implementation is seriously under performing and major restructuring is required. Cumulative financial delivery, timing of key implementation milestones (e.g. start of activities), and management of critical risks are severely off track with severe issues and/or concerns. The project is not effectively or efficiently supported.